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INTERNATIONAL MONETARY FUND

BELGIUM

Selected Issues

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Approved by the European I Department

April 8, 1997

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BELGIUM: EXPERIENCE WITH FISCAL ADJUSTMENT AND THE LONG-TERM OUTLOOK FOR THE PUBLIC FINANCES

I. Introduction

The public finances of Belgium underwent a dramatic turnaround in the 1980s and early 1990s. Faced with a public debt that was accumulating rapidly as a result of persistent budget deficits, the authorities sharply reoriented fiscal policy from 1982. As a result, the general government deficit was cut from about 13 percent of GDP in 1981 to below 3½ percent in 1996 (Chart 1); the debt ratio was set on a declining path; and the long-term interest rate differential vis-à-vis comparable German bonds fell to a negligible level.

In spite of the striking progress that has been achieved, the fiscal situation in Belgium remains serious. The debt ratio did not begin to decline significantly until 1994, and—at more than 130 percent—it remains the highest in Europe (Chart 2). Moreover, like other industrialized countries, Belgium will face a steady ageing of its population over the next half century, and this will result in serious pressures on the public finances. Further fiscal consolidation over the medium and long term is thus needed not only in the framework of European Monetary Union (EMU), under which a “Pact for Growth and Stability” is to limit budget deficits, but because of the need to avoid a renewed rise in the debt ratio or an increase in the tax burden from its already very high level.

A major accomplishment of fiscal adjustment in Belgium has been to reduce the level of primary spending, relative to GDP, by some 10 percentage points since its peak in the early 1980s. On the other hand, a review of the scale and composition of the fiscal adjustment undertaken since 1982 indicates that in order to cut the budget deficit, reliance was at times placed, at least initially, on revenue increases, on expenditure cuts of limited durability, and on one-off measures; moreover, the adjustment process was interrupted for a period in the early 1990s, and the debt ratio at that point began to rise again. The quality of the fiscal adjustment, and thus its impact on expectations, suffered to some degree from this process. Indeed, the continuing high level of private saving in the face of decreased public dissaving—particularly in the early 1980s and early 1990s—raises the possibility that the credibility of the fiscal adjustment may only recently have become firmly established: a somewhat greater offset in private saving behavior would be suggested by experience in other countries and, over a longer period, in Belgium.

With the Government’s long-standing goal of a 3 percent deficit now within reach, it appears timely to review this experience with fiscal consolidation and assess possible lessons for the future. The second section of this paper therefore discusses the composition and scale of the fiscal adjustment, and the extent to which it has exerted a durable impact on the public finances. Section III of the paper offers a quantitative analysis of the interaction between fiscal policy and developments in saving and investment, with a view to contributing to reflection on desirable policy priorities in the future. Against this background, Section IV of the paper

CHART 1
BELGIUM

Fiscal Indicators
(In Percent of GDP)

Source: IMF, World Economic Outlook.

CHART 2
BELGIUM

General Government Finances of EU Countries in 1995
(In Percent of GDP)

Source: European Commission (as provided by the Belgian authorities).

Countries are: AUT=Austria, BEL=Belgium, DNK=Denmark, FIN=Finland, FRA=France,
DEU=Germany, GRC=Greece, IRE=Ireland, ITA=Italy, LUX=Luxembourg, NLD=Netherlands,
PRT=Portugal, ESP=Spain, SWE=Sweden, GBR=United Kingdom.

discusses the possible impact of different policy options in the areas of social security and tax reform—as well as continuing structural reform in the labor and product markets—in the context of designing policies for fiscal consolidation that will encourage fuller employment and higher growth.

II. EXPERIENCE WITH FISCAL ADJUSTMENT¹

Fiscal adjustment in Belgium has not proceeded at a uniform pace, and can be discussed in terms of several episodes. During the 1980s, a substantial fiscal effort was undertaken to reduce public sector dissaving and arrest the spiraling public debt and debt-service burden: major programs were initiated in 1982 and 1986. Subsequently, following a temporary setback in 1991, a further adjustment effort was launched in 1992, which aimed to achieve a reduction of the public deficit to a level low enough to set the stage for Belgium to participate in the first round of EMU.

A. Initial Conditions, 1980-81

At the start of 1980s, the Belgian economy was experiencing severe macroeconomic imbalances, which had build up during the two previous decades and greatly worsened following the second oil crisis. The productive structure of the domestic economy in the 1960s and 1970s failed to adapt adequately to the evolving pattern of domestic and foreign demand, and the rise in wage costs in industries exposed to foreign competition was excessive compared to the increase in productivity.² The resulting loss of competitiveness eroded profitability—leading to a reduction in output, a fall in investment, and a substantial rise in unemployment: in 1981, the unemployment rate reached 10 percent (Table 1). The rise in unemployment was addressed in part by a policy of maintaining employment and supporting growth, which led to a large increase in government spending from 42 percent of GDP in 1973 to over 60 percent in 1981.

To cover the cost of growing public expenditure, the government resorted to increased taxation—particularly higher personal taxes, corporate taxes and social security contributions. However, the increase in revenues did not suffice to prevent a rapid deterioration in government finances, and the overall budget deficit rose from 3½ percent of GDP in the 1970s to about 13 percent in 1981. Consequently, total government debt increased rapidly, reaching close to 93 percent of GDP in 1981, and the differential between interest rates in Belgium and in international markets widened, increasing the financial burden of debt service on firms and

¹Prepared by Ousmane Doré.

²The use of the exchange rate as a nominal anchor was effective in dampening price rises, but exacerbated the competitiveness problem since the rise in costs was reflected in a substantial appreciation of the real effective exchange rate.

Table 1. Belgium: Selected Economic Indicators

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Real domestic demand	-4.6	0.9	-2.5	2.1	0.0	2.5	3.7	4.9	3.7	4.5	1.0	2.0	-1.8	1.3	1.6
Public consumption	0.6	-1.3	0.2	0.3	2.5	1.8	0.3	-0.9	-1.1	-0.4	2.2	0.1	1.4	1.4	1.0
Private Consumption	-0.5	1.6	-1.7	0.9	1.6	1.9	3.0	3.3	3.1	3.7	2.5	2.4	-1.3	1.3	1.3
Gross fixed investment	-17.7	-1.7	-4.2	1.9	0.7	4.4	5.6	15.7	11.6	12.0	-5.0	1.8	-5.0	0.3	2.9
External balance 1/	3.1	0.8	2.4	0.1	0.3	-0.8	-1.2	0.6	-0.8	0.1	0.2	-0.2	0.2	0.8	0.4
Exports of G&S	2.8	1.5	2.8	5.2	1.1	5.5	6.1	8.5	7.5	3.8	3.1	3.6	1.8	9.2	5.0
Imports of G&S	-2.6	0.1	-1.3	5.6	0.7	7.4	8.5	8.0	9.1	3.8	2.8	4.0	1.8	8.3	4.8
Real GDP	-1.6	1.7	0.1	2.2	0.8	1.6	2.0	4.9	3.4	3.7	1.6	1.7	-1.4	2.3	1.9
Potential	1.8	1.8	1.8	1.8	1.8	1.9	2.0	2.1	2.2	2.1	2.0	1.9	1.9	1.9	1.9
Output gap (% of potential)	-0.1	-0.3	-1.6	-1.3	-2.2	-2.7	-2.7	-0.1	1.1	2.3	2.5	2.5	-1.1	-0.8	-0.8
Inflation															
GDP deflator	4.7	7.1	5.6	5.2	6.1	3.8	2.3	1.8	4.8	3.0	3.1	3.6	3.8	2.5	1.4
Consumer prices	7.6	8.7	7.7	6.4	4.9	1.3	1.5	1.2	3.1	3.5	3.2	2.4	2.8	2.4	1.5
Earnings and Employment															
Employment	-1.8	-1.3	-1.0	-0.2	0.6	0.7	0.5	1.5	1.6	1.5	0.1	-0.4	-1.4	-0.7	0.3
Unemployment rate (%)	10.2	11.9	13.2	13.2	12.3	11.6	11.3	10.3	9.3	8.7	9.3	10.3	12.0	13.0	13.0
Manufacturing															
Hourly compensation	6.4	7.9	8.4	7.7	5.5	5.2	4.6	3.7	2.6	6.6	7.5	5.8	3.6	2.7	1.6
Productivity	5.4	8.5	8.7	4.5	3.3	1.6	2.8	5.7	4.2	0.8	1.9	2.8	1.6	6.3	2.8
Unit labor costs	1.0	-0.6	-0.3	3.0	2.2	3.6	1.8	-1.9	-1.6	5.7	5.6	2.9	2.0	-3.4	-1.2
Exchange rate (Bf/US\$)	37.13	45.69	51.13	57.78	59.38	44.67	37.33	36.77	39.40	33.42	34.15	32.15	34.60	33.46	29.48
Current account balance	-4.4	-2.8	0.4	-0.1	0.9	2.8	2.0	2.4	2.3	1.9	2.5	3.0	5.3	5.4	5.3

Source: World Economic Outlook.

1/ Contribution to growth.

on the public sector. Increased interest payments on a rising public debt set off a pernicious spiral of interest payments and further borrowing. In parallel with this deterioration in the public finances, the external current account deficit worsened to 4½ percent of GDP in 1981: financial confidence weakened, and this was reflected in an outflow of short-term capital and strong downward pressure on the exchange rate.

B. Fiscal Adjustment in the 1980s

By 1982, it had become clear that a drastic change of policy was unavoidable, given the seriousness of the imbalances in the economy. As a first step, priority was accorded to restoring firms' competitiveness and profitability. This had become necessary in order to break out of the vicious circle in which Belgium was caught, in which high unemployment, large twin deficits in the budget and the external current account, and the lack of external competitiveness reinforced each other. The newly-formed coalition government thus decided in early February 1982 to devalue the Belgian franc within the EMS, and to suspend temporarily the indexation of real wages—a marked departure from the two traditional pillars of economic policy.

A stringent budgetary policy was also introduced to dampen domestic demand; indeed, it was during this period that the foundations for subsequent fiscal adjustment were laid down. Government spending was cut by making savings in public sector investment and in purchases of goods and services, while stabilizing total spending on wage and salaries (relative to GDP), and holding down the growth of transfer payments. On the revenue side, social security contributions were raised, mainly following the removal of the "ceiling" on such contributions, and the taxation of benefits such as unemployment compensation was increased. The aim of policy was to restore external balance by 1984; and, in the event, the external current account recovered fairly rapidly.

The magnitude of the budget deficit was cut from double to single digits by the mid-1980s, but it remained quite high, at some 9 percent of GDP in 1985. The rise in the public debt thus continued unabated, with the debt ratio reaching about 120 percent in 1985—and the trend in the debt ratio was widely considered to jeopardize the financial stability of the economy. In May 1986, the authorities therefore embarked on a further determined program of fiscal consolidation, which relied mainly on stricter control of government spending. The share of public spending, which had risen to over 60 percent of GDP in 1981, fell to just above the 50 percent mark, in spite of steeply rising interest payments on the government debt (Table 2).

A remarkable feature of the overall fiscal adjustment achieved in 1982-90 is that the deficit reduction was mainly achieved through a decline of **primary expenditure** by 10 percentage points of GDP (for a comparison with experience in selected other countries, see Chart 3). The growth of public consumption slowed sharply, as public sector wages declined

Table 2. Belgium: General Government Finances (1)
(In percent of GDP)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996 1/	1997 2/
Total revenue	46.3	47.0	48.9	48.4	49.4	49.4	48.3	48.6	46.9	45.5	45.8	45.9	45.9	46.6	47.9	47.5	47.7	47.4
Direct taxes	18.4	18.4	19.8	19.1	19.6	19.6	19.1	18.8	18.0	16.8	16.9	16.5	16.5	16.5	17.8	18.3	18.2	18.3
Households	15.8	16.3	17.3	16.7	17.1	16.9	16.3	16.1	15.2	13.9	14.5	14.1	14.3	14.1	14.9	15.1	14.9	14.9
Corporations	2.6	2.1	2.5	2.4	2.5	2.6	2.8	2.7	2.8	2.9	2.5	2.4	2.2	2.5	2.9	3.2	3.2	3.2
Indirect taxes	12.3	12.4	12.6	12.7	12.4	12.2	11.8	12.3	12.0	12.1	12.1	12.1	12.1	12.4	12.8	12.4	12.6	12.6
Social security contributions	12.8	13.0	13.0	13.6	14.5	14.8	15.0	15.3	14.9	14.6	14.7	15.2	15.4	15.6	15.2	15.1	14.8	14.6
Capital taxes	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4
Nontax revenue	2.4	2.8	3.1	2.7	2.6	2.5	2.1	2.0	1.7	1.7	1.7	1.8	1.7	1.7	1.7	1.4	1.7	1.4
Total expenditure	55.1	59.9	59.8	60.0	58.8	58.4	57.7	56.3	54.0	51.9	51.4	52.5	53.1	54.0	53.0	51.7	51.1	50.3
Primary expenditure	49.0	52.0	50.6	50.6	49.0	47.8	46.6	45.6	43.8	41.5	40.8	42.2	42.3	43.2	42.9	42.6	42.5	41.7
Public consumption	15.0	15.4	14.9	14.4	14.1	14.1	13.9	13.3	12.3	11.7	11.3	11.6	11.4	11.7	11.7	11.6	11.5	11.8
Wages and salaries	11.3	11.6	11.3	10.8	10.6	10.5	10.4	9.8	9.1	8.9	8.8	9.0	9.0	9.3	9.4	9.4	9.2	9.5
Goods and services	3.7	3.8	3.6	3.6	3.5	3.6	3.5	3.5	3.2	2.8	2.5	2.6	2.4	2.4	2.3	2.2	2.3	2.3
Social expenditure	24.2	26.2	26.1	26.7	26.2	25.6	25.2	25.2	24.3	23.8	23.6	24.5	24.8	25.3	24.9	25.0	25.1	24.3
Pensions	8.7	9.3	9.3	9.5	9.3	9.2	9.1	9.0	8.8	8.5	8.4	8.7	8.7	9.0	8.9	9.1	9.1	8.8
Health care	4.1	4.3	4.4	4.5	4.5	4.5	4.5	4.9	4.7	4.6	4.7	5.1	5.4	5.4	5.3	5.4	5.7	5.2
Unemployment insurance	2.1	2.7	2.7	2.9	2.7	2.6	2.5	2.5	2.2	2.0	1.9	2.1	2.1	2.3	2.3	2.1	2.1	2.0
Early retirement	0.5	0.7	0.8	1.0	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.8
Family allowances	2.9	3.0	2.9	2.8	2.6	2.5	2.4	2.4	2.3	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0
Other	5.8	6.3	6.0	6.1	6.1	6.0	5.8	5.6	5.5	5.7	5.6	5.7	5.7	5.7	5.6	5.6	5.5	5.5
Capital expenditure	5.4	5.6	4.9	4.4	3.9	3.6	3.2	2.9	2.9	2.2	2.1	2.2	2.4	2.6	2.7	2.4	2.3	2.3
Public investment	3.6	3.5	3.2	3.0	2.6	2.2	2.0	1.8	1.9	1.3	1.2	1.3	1.3	1.4	1.5	1.3	1.3	1.3
Capital transfers	1.7	2.1	1.7	1.4	1.3	1.4	1.1	1.1	1.1	0.9	0.9	1.0	1.1	1.2	1.1	1.1	1.0	1.0
Other primary expenditure	4.5	4.8	4.8	5.2	4.9	4.5	4.4	4.2	4.3	3.8	3.7	4.0	3.7	3.7	3.7	3.6	3.6	3.5
Subsidies	3.0	3.2	3.0	3.4	3.2	2.9	2.8	2.5	2.6	2.2	2.2	2.3	2.1	2.1	2.0	2.1	2.1	2.0
Transfers abroad	1.5	1.6	1.8	1.8	1.7	1.6	1.6	1.7	1.7	1.6	1.5	1.7	1.6	1.6	1.7	1.5	1.5	1.5
Interest expenditure	6.1	7.9	9.2	9.4	9.8	10.6	11.2	10.6	10.1	10.4	10.6	10.2	10.8	10.8	10.1	9.1	8.6	8.6
Balance	-8.8	-12.9	-11.0	-11.6	-9.5	-9.0	-9.5	-7.7	-7.0	-6.4	-5.6	-6.5	-7.2	-7.5	-5.1	-4.1	-3.4	-2.9
Of which: primary balance	-2.7	-5.1	-1.8	-2.3	0.4	1.6	1.7	2.9	3.1	4.0	5.0	3.7	3.6	3.3	4.9	5.0	5.2	5.7
Structural balance	-10.7	-13.0	-10.9	-10.5	-8.6	-7.5	-7.6	-5.8	-6.7	-7.2	-7.4	-8.3	-8.7	-6.9	-4.6	-3.6	-2.6	-2.3
Structural primary balance	-4.6	-5.1	-1.6	-1.1	1.3	3.2	3.7	4.9	3.5	3.3	3.3	2.0	2.1	3.9	5.5	5.5	6.1	6.2
Gross consolidated debt ("Maastricht")	77.6	92.0	101.9	112.7	117.4	121.4	126.1	130.3	130.9	127.6	127.2	129.0	130.3	136.8	134.8	133.5	130.0	127.1

Source: Data provided by the authorities.

1/ Staff estimates.

2/ Projections.

CHART 3
BELGIUM

International Comparisons: Public Finances
(In Percent of GDP)

Source: IMF, World Economic Outlook.

in real terms and the growth of government employment was reduced substantially (Table 3).³ Social expenditures fell in relation to GDP: spending on health, pension schemes and unemployment each declined by about 1 percentage point of GDP. Thus, the per capita purchasing power of retirement and survivors' pensions fell more than per capita real wages in both the private and the public sector; the replacement ratio of unemployment benefits dropped sharply; and demographic trends led to reduced outlays for family allowances. Overall social security expenditures fell from over 26 percent of GDP in 1983 to about 23 percent in 1990. Subsidies to business also declined as a percentage of GDP, but only after 1986. A major share of the reduction in primary expenditure was also accounted for by public investment, which declined from close to 4 percent of GDP at the beginning of the decade to some 1¼ percent in 1990. Interest expenditure, meanwhile increased from some 6 percent of GDP in 1980 to over 10 percent in 1990; indeed the cumulative interest payments of the 1980s were equivalent to more than half of the public debt—which had risen to about 130 percent of GDP—at the end of the decade.

On the **revenue side**, after some initial tax increases, there was a marked reduction in revenue ratio, which declined by 4 percentage points of GDP during 1985-1990. An initial tax program in 1984 provided for a special 2 percent levy on wages and transfer incomes for each of the years 1984 to 1986, and for an increase in the withholding tax on income from savings was raised to 25 percent in 1984. However, an overall tax reform (the "Maystadt" reform) was introduced in 1989 to cut the burden of direct personal taxation, bringing it closer to the European average (see Table 4 and Section IV below).

The impact of these policy measures on the fiscal position was substantial (Chart 1). The general government deficit declined from a peak of 13 percent of GDP in 1981 to some 5 percent of GDP in 1990. However, on a cyclically-adjusted basis the deficit reduction was somewhat less impressive: the structural component of the deficit declined by only 5 percentage points over the decade, to stand at 7.5 percent of GDP in 1990 (Table 2). Moreover, at the end of decade, the conditions for stabilizing the debt ratio were not yet in place: the structural primary balance, which moved into surplus in the mid-1980s, did not improve sufficiently to offset the effect of high interest payments on the public debt.⁴ These estimates are, of course, very sensitive to assumptions about potential growth and the output gap, which are surrounded by significant margins of error (Box 1).

³However, the share of public in total employment rose by 1 percentage point during the 1980s.

⁴ This, in spite of a "double norm" adopted by the government in 1988, stipulating that the increase in central government primary expenditure must never exceed inflation and that nominal deficit must never exceed that of the previous year.

Table 3. Belgium General Government Finances (2)
(In real percentage change)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Total expenditure	5.0	-0.1	-1.2	-1.0	1.2	2.7	0.2	1.2	0.4	2.6	3.5	4.2	1.4	0.5	-0.7	0.1
Primary expenditure	2.4	-2.7	-1.5	-2.3	-0.6	1.2	0.8	1.3	-1.2	1.9	5.0	3.0	1.8	1.7	1.0	1.1
Public consumption	-0.7	-3.3	-4.4	-1.4	2.3	2.4	-1.8	-2.4	-0.5	-0.2	3.9	1.0	2.4	2.0	1.7	0.3
Wages and salaries	-0.9	-2.7	-5.6	-1.0	1.4	2.4	-3.1	-1.9	2.6	1.6	4.0	2.9	3.0	3.2	1.9	-0.6
Goods and services	0.1	-5.1	-0.8	-2.9	5.3	2.3	2.2	-3.9	-9.3	-5.9	3.5	-5.5	0.3	-2.8	0.7	4.1
Social expenditure	4.8	-0.7	0.9	-0.8	-0.6	2.3	2.9	1.7	1.9	3.2	5.5	4.0	1.4	1.1	2.2	1.5
Pensions	3.3	0.0	0.0	-0.5	0.2	3.2	1.2	3.0	1.6	2.2	4.7	3.4	2.9	1.7	3.7	1.3
Health care	0.8	1.2	2.0	0.7	0.8	5.2	11.5	0.4	4.5	5.1	9.5	8.1	0.3	0.6	4.1	5.8
Unemployment insurance	24.3	1.3	4.8	-2.9	-3.8	0.0	1.1	-5.2	-3.9	-1.3	10.6	4.2	8.8	-0.5	-4.0	1.5
Early retirement	19.1	18.8	20.5	-3.4	-3.5	3.0	-2.4	10.2	-1.0	6.4	1.8	2.5	-4.9	-2.3	2.4	-1.3
Family allowances	0.0	-1.7	-5.8	-5.1	-3.2	0.5	2.3	0.2	2.0	-2.5	1.0	1.5	0.6	-0.4	1.3	-0.5
Other	4.0	-5.4	0.5	1.0	0.1	0.4	0.7	3.2	2.8	6.6	3.6	2.6	-1.2	2.2	0.9	-1.5
Capital expenditure	1.1	-12.8	-11.2	-11.6	-4.6	-9.4	-3.7	5.2	-20.8	-0.7	5.1	11.2	9.3	4.5	-9.7	-0.8
Public investment	-6.1	-8.1	-9.2	-13.6	-11.4	-6.0	-6.3	8.0	-27.5	-4.0	6.4	9.1	6.6	9.9	-12.4	-1.3
Capital transfers	16.1	-20.8	-15.1	-7.6	8.7	-14.7	0.7	0.7	-9.1	3.8	3.5	14.0	12.8	-2.0	-6.1	-0.2
Other primary expenditure	1.6	0.0	4.8	-4.2	-5.7	-0.1	0.3	8.1	-7.0	1.7	5.6	-2.3	-2.5	3.8	-1.0	2.2
Subsidies	1.5	-4.6	8.9	-3.7	-7.1	-1.8	-7.4	9.6	-9.8	4.2	2.0	-2.5	-4.5	0.7	4.4	2.6
Transfers abroad	1.8	9.1	-2.2	-5.1	-2.9	2.9	14.1	6.0	-2.8	-1.7	10.8	-2.0	0.2	7.7	-7.3	1.7
Interest expenditure	25.5	16.7	0.2	6.1	10.0	9.4	-2.4	0.7	7.4	5.3	-2.3	8.9	-0.4	-4.4	-7.9	-4.6

Source: Data provided by the authorities

Table 4. Belgium: Principal Measures Affecting Public Finances

	Description	Revenue Measures	Expenditure Measures
1984-1987	Three years fiscal adjustment plan. The aim was to reduce the deficit to 7 percent of G.P. in 1987	Increased social sec. Contributions by 2 percent in 84, 85 and 87.	Saving in public consumption Curbing social transfers
1985 The "Grootjans" reform of personal taxes	A reform of direct taxation, implemented between 86 and 89, to be compensated by increases in indirect taxes.	The minimum taxable income was raised. Tax thresholds were indexed to the CPI; marginal rates were lowered. Increases in indirect taxes.	
1986-87 St Anna package	Measures concentrated in 1987. The aim was to reduce the deficit to 8 percent of G.P. in 1987, reaching 7 percent in 1989.		Significant cuts in social spending affecting unem-ployment compensation, pensions, health care and education. Public investment and capital transfers to public utilities were reduced.
1988 Devolution of powers to regions and communities	Fundamental overhaul in the distribution of powers between the various levels of central government.		Aggregate spending of regions and communities increased from 1/10 to 1/3 of central government.
1989 The "Maystadt" reform of personal taxes	Lowering of personal tax rates to be partially compensated by lower tax expenditures on personal and corporate taxes.	Lower marginal tax rates, complete indexation of tax brackets; income splitting of married couples. Higher excise duties.	
1990-92 Double norm	(i) A zero real growth for primary spending, and (ii) no increase in the nominal deficit.		
1992-96 Convergence programme	Plan to reduce the deficit to 3 percent of G.D.P. in 1996. Provide framework for public finance policies.	Deductions for corporate taxes were reduced. Overhaul of VAT rates; normal rate is set to 19.5% (April 1992), replacing the previous system of three taxes (17, 19,25). Increases in excise duties on fuel (April and Sept. 92). Increase social sec. contribution by 1%.	Limited reductions in spending. Management contracts signed with public utilities: SNCB, Belgacom, and the Post, freezing nominal subsidies.
1993 "Furthering" of the Federal structure	Devolution of additional powers to regions and communities. Belgium became formally a Federal State. Communities and regions assemblies will be elected directly.		
1993 "Global Plan"	The aim was to (i) balance social sec. accounts in the 94/96 period, (ii) promote employment creation and (iii) safeguard competitiveness.	VAT rate increased from 19.5 to 20.5%. Increases in excise duties. Selective reductions of employers contributions.	Capping of real spending on health care to 1.5% per year between 94-96. Wages, rents and public transfers to households to be indexed on the "Health index". Real wage freeze in the private sector for the period 1995-96.

Box 1: Potential Output Growth and Cyclical Output Gap

The measurement of productive potential and the identification of the current position of output in relation to potential (i.e., the output gap) are important elements in evaluating the stance of monetary and fiscal policies. However, their assessment is subject to a relatively considerable margin of uncertainty arising in part from the difficulty of estimating the non-accelerating-inflation rate of unemployment (NAIRU).

One approach to estimating potential GDP growth is the segmented trend approach, which assumes that potential output evolves along a relatively stable trend, which is mainly shifted by major shocks (such as the oil shocks of the 1970s). From this perspective, potential output is estimated as the fitted value of a regression of actual output on a time trend. Estimates by the staff based on this method put the potential GDP growth rate of the Belgian economy in 1996 at 2 percent, implying a cyclical output gap of some 1.4 percent. An alternative approach based on an HP filter, by the Bureau du Plan, yields a potential GDP growth of 1.8 percent during 1991-96, with an output gap of 0.2 percent in 1996.

Potential output can also be estimated based on a production function. According to OECD calculations based on this approach, potential output growth averaged about 2.5 percent during 1991-95 with a cyclical output gap of about 3.2 percent in 1996. OECD estimates of potential output vary considerably from year to year, because the capital stock is assumed to adjust rapidly.

In this paper, where the output gap is used to estimate the underlying or structural fiscal balance, the estimates by the staff based on a time trend have been used; these estimates result in a more conservative assessment of the fiscal situation than the production function approach, but are consistent with other indications that there was a significant margin of cyclical slack in the economy, with—correspondingly—some cyclical unemployment.

C. Fiscal Adjustment in the 1990s

The process of fiscal consolidation suffered a setback in 1991. While the slowdown in economic activity was partially responsible for the deterioration that occurred in the public finances, there was also a sense of adjustment fatigue. The fiscal position weakened sharply as a result of a rapid increase in public spending, in part linked to political tensions, and general elections in the fall of that year. Another explanation for the lack of fiscal progress during this period might have to do with the increasingly federalized nature of the government. The growth of primary expenditure accelerated to 5 percent in real terms, compared to 1 percent in 1990 (see Table 3). This was mainly driven by an increase in social security spending, particularly on pensions and health care.⁵ Despite the mitigating effect of lower interest rates, the overall deficit widened by nearly 1 percentage point relative to GDP (Table 2).

The deterioration of the public finances in 1991 led policy makers to adopt a new fiscal adjustment program with a medium-term perspective. This approach was formalized in a multi-year Convergence Programme presented by the new Government in the spring of 1992. The aim of the 1992-96 program was to achieve during this period two objectives for the public finances related to the Maastricht Treaty: a general government deficit of no more than 3 percent of GDP, and a sufficient downward trend in the public debt ratio. To help ensure this, three general norms were introduced. First, the social security system was to be in equilibrium; second, fiscal receipts should display "unit elasticity", increasing in line with GDP; and third, primary expenditure by the Federal Government must not increase in real terms. Given the need to create sufficient room for manoeuvre to meet the long-term fiscal challenge of an ageing population, an additional norm was introduced in September 1994: that the primary surplus must remain above 6 percent of GDP in the period beyond 1996.

A sharp weakening of economic activity in 1992-93 greatly hindered the implementation of the Convergence Programme, and the planned deficit path was twice revised upward. However, the goal of a deficit of 3 percent of GDP by 1996 was not changed, and became a cornerstone of the Government's financial policies. The general government deficit has thus continued on a downward path since 1992, despite difficult economic circumstances. Fiscal measures with a large combined yield were thus taken by the Federal Government in 1993-96, raising the ratio of revenue to GDP to a very high level (Chart 4) and progressively containing the real growth of Federal and social security spending. Initially in 1993-94, reliance was

⁵A law allowing for early retirement for male as well as female workers between age 60 and 65 became effective at the beginning of the year.

CHART 4
BELGIUM
Public Revenue Burden
(1992-1994, Average)

Source: OECD, Analytical Database.

1/ Social security taxes in percent of gross income from dependent employment.

Countries are: BEL=Belgium, CAN=Canada, DNK=Denmark, FRA=France, DEU=Germany, ITA=Italy.

placed on revenue increases, while spending restraint by the Federal Government and in the social security system was outweighed by the expansion of spending by the Regions and Communities.⁶

The revenue measures implemented in 1993 and 1994 led to a rise in the ratio of revenue to GDP by two percentage points, although the ratio subsequently declined by nearly ½ percentage point in 1995.⁷ A striking feature was the shift in the relative importance of different categories of receipts as a result of government policy (Chart 5). The "Global Plan" adopted in 1993 emphasized reliance on tax-based ("alternative") financing of social security expenditure, in order to reduce non-wage labor costs and promote employment. Social security contributions fell by 0.9 percentage points of GDP by 1996, as employers' contributions were lowered to narrow the high wedge of taxes and social charges in the labor market.⁸ To compensate for these revenue losses, certain direct and indirect taxes were increased and earmarked for social security under provisions of the Global Plan.⁹ 1994 thus witnessed a peak in the revenue share for the early 1990s at approximately 48 percent of GDP. In 1995, a decrease in the shares in GDP of labor income and of private consumption, both of which are relatively highly taxed, accounted for a decline in the revenue ratio of 0.4 percent of GDP. Increases in corporate taxation and in the average rate of taxation of labor income—due to the effect of continuing measures such as the suspension of indexation of income tax brackets—provided partial compensation, as did the impact of revised tax assessments by local authorities.¹⁰ Subsequent revenue measures, in 1996 and 1997, have similarly been aimed

⁶Until 1994, the Regions and Communities were not bound by any deficit norms; their spending grew relatively rapidly.

⁷The measures were wide-ranging, and included suspension of income taxation brackets (from the beginning of 1993); imposition of an income and withholding tax surcharge of 0.3 percent (July 1993); and rises in the withholding tax on interest income from 10.3 percent to 13.39 percent, and in the normal VAT rate from 19.5 to 20.5 percent at the beginning of 1994.

⁸Measures to reduce employers' contributions amounted to 0.6 percent of GDP by 1995, with reductions targeted toward young and long-term unemployed and those receiving the lowest salaries.

⁹These earmarked revenues amounted to 1.3 percent of GDP in 1995, compared to 0.1 percent in 1992.

¹⁰Nontax revenues fell in 1995 because the previous year had seen exceptional revenues from privatization and the sale of a lottery concession (each accounting for 0.2 percent of GDP).

CHART 5
BELGIUM
Taxation Trends
(In Percent)

Source: Data provided by the authorities.
1/ In percent of GDP.

at shoring up, rather than increasing, the revenue share.¹¹ The recently announced federal budget for 1997 also includes some revenue measures, including the introduction of a tax on bearer securities and passbook savings, and higher excise taxes. Despite these new measures, the revenue ratio in 1997 is projected to decline slightly.

Expenditure-reducing measures during 1993-94 at the Federal Government level and in Social Security included actions to slow the growth in public health care spending, and a nominal freeze of the defense department budget and of subsidies to the post office and railroad (from 1993 onward). Transfers—excluding earmarked taxes—from the federal government declined by 0.5 percentage points of GDP between 1993 and 1995 as they were largely frozen in nominal terms. Expenditure restraint by these levels of government limited the overall rise in public spending to less than 1 percentage point of GDP in 1993, and paved the way for a subsequent decline in the ratio of primary spending to GDP. In 1995, the success in restraining growth of general government primary expenditure to a moderate pace was maintained. The pronounced slowdown in social expenditure can be ascribed to the many corrective measures taken by the Government, notably under the "Global Plan". For example, the introduction of a "health index" for prices favorably influenced the growth of expenditures on wages and transfers (mainly pensions).¹² Expenditure measures adopted in 1996 totaled more than 0.5 percent of GDP, and consisted of reductions in subsidies to public enterprises and in departmental operating costs, cut-backs in health care (by some 0.2 percent of GDP), continued nominal freezes of defense spending, subsidies to the railroad and post office, and a tighter application of unemployment benefits (including cancellation in certain cases of lengthy unemployment). The package included one-off measures amounting to about 0.5 percent of GDP, which were replaced in the 1997 budget by more durable measures, including cuts in health expenditures (reduction in drug prices, medical fees, and hospital outlays) and cuts in the family allowance for the first child.

¹¹The 1996 budget included revenue measures in the form of the sale of mobile phone licenses and buildings, an increase in the normal VAT rate from 20.5 percent to 21 percent, continued suspension of the indexation of income tax brackets, an increase in the tax on diesel car registration, a surcharge on workers' social security contributions, and a rise in the withholding tax on interest income from 13.39 to 15 percent.

¹²Other measures which contributed to holding down spending increases included a modest reduction in the number of unemployment beneficiaries (reflecting the improved state of the economy, and a tightening of the eligibility criterion for graduates); a moderation of investment growth by local authorities related to the electoral cycle; and a reduction in transfers to the European Union. Finally, interest payments, most of which are the responsibility of the Federal Government (its share of total public debt is almost 90 percent), have dropped sharply since 1992 as a result of a decline in interest rates on the debt; this decline in market rates was also accompanied by a very active debt management policy in 1994.

While the fiscal measures discussed above refer to “Entity I” of the general government (Federal Government and Social Security), an important element of the Belgian fiscal situation has been the devolution of powers to **Regions and Communities** from the beginning of 1989, which put these entities on a comparable footing with the Federal government (see SM/94/289). In July 1994, the problem of the growth in their spending was tackled: a specific agreement was reached between the different entities on the permissible deficits for each of them, and since then the Regions and Communities have contributed considerably to the consolidation effort. More recently, in 1997 the measures taken in the Federal Government budget and the Social Security system have been matched by a renewed commitment of Regions and Communities to eliminate their deficits progressively over the period 1997-99 (an adjustment of about ½ percent of GDP), thus extending the favorable track record established in 1993-96.

Overall, as a result of the revenue and expenditure policies implemented since 1993, the primary surplus rose from some 3½ percent of GDP in 1992 to 5.3 percent of GDP in 1996 (Table 2 and Chart 6) and over 5½ percent of GDP in 1997, while the structural primary surplus is estimated to have risen from some 2 percent of GDP in 1992 to a projected 6.2 percent of GDP in 1997—one of the highest among industrial countries (see Chart 2). The overall deficit, meanwhile, is projected to have been reduced to just under 3 percent of GDP, while the debt ratio has declined continuously since 1993.

D. Scale, Composition, and Impact of Adjustment Episodes

The fiscal adjustment undertaken in Belgium since 1981 has transformed the fiscal situation—and it is striking in this connection that the latest phase of fiscal adjustment has been achieved in a setting of relatively weak economic activity in the economies of Belgium and its main trading partners. However, the debt level still remains very high, while the revenue ratio is among the highest in the industrial world, with the burden of taxation falling heavily on labor income (Chart 4). Drawing on the recent literature regarding successful and unsuccessful fiscal adjustments in industrial countries, this section of the paper seeks to assess the quality of fiscal adjustment in Belgium by examining the nature of various phases of the adjustment. (Section III of the paper aims to shed light on these issues by a complementary approach, through a quantitative assessment of trends in saving and investment.)

Recent studies have pointed not only to the size, but also to the nature and composition of fiscal adjustment initiatives as key elements in their success. The question of what constitutes a “successful” fiscal consolidation is inevitably open to different interpretations. Following Alesina and Perotti (1996), a successful fiscal adjustment is defined here as a period of tight fiscal stance such that the gross debt/GDP ratio falls at least by 3 percentage points two years later. Because the change in the debt ratio depends in a definitional sense upon the primary balance, the cyclically-adjusted primary balance could be used as a reference measure

of the fiscal impulse.¹³ A tight fiscal stance could thus be defined as "one in which the structural primary balance as a ratio to GDP improves by at least 1½ percentage points over two years and does not decrease in either of the two years".

In the analysis that follows, both the 1980s and 1990s episodes are broken into two sub-periods of fiscal consolidation with a view to highlighting the shift in fiscal strategy that occurred during both sub-periods. For instance, as shown in Table 2, during 1982-85 the fiscal adjustment effort relied mainly on reductions in primary expenditure, with the revenue ratio virtually constant. In the second half of the decade, the revenue ratio declined in tandem with further cuts in primary expenditure. During the 1990s, the adjustment relied initially on revenue increases (1993-94) but subsequently shifted to cuts in primary expenditure (1995-97).

Scale of Consolidation

The scale of fiscal consolidation is clearly a key factor for the success of an adjustment program: a weak fiscal initiative is more likely to fail than a strong one.¹⁴ The magnitude of the fiscal impulse in all four adjustment sub-periods under consideration using various fiscal indicators is shown in Tables 5, 6, 7, and 8.¹⁵

If the overall deficit measure is used, all four of these sub-periods can be characterized as episodes of tightness in the sense that the deficit was at least 3 percentage points lower two years after the adjustment. However, on a cyclically-adjusted basis, the 1987-88 episode cannot be considered as a "tight adjustment": while the primary balance improved by 2.7 percentage points of GDP, the structural primary surplus actually fell in the following two years. Moreover, although the debt ratio declined by some 3 percentage points after the adjustment period, the fiscal consolidation was not sizable enough to set it durably on a downward trend; once allowance is made for favorable effects of the business cycle, spending was not curtailed sufficiently to finance the cuts in taxation. By contrast, in the 1982-85, 1993-94, and 1995-96 episodes, there was a substantial improvement in the structural primary balance and structural deficit. Not only did the structural primary surplus improve over the period: it did not decline in any of the years.

¹³This is indeed quite relevant for Belgium where expenditure is particularly sensitive to cyclical fluctuations given the high level of unemployment protection that is provided.

¹⁴This may be partly due to a nonlinear relationship between fiscal policy and output growth, whereby small reductions in budget deficits may reduce aggregate demand while large adjustments may revive confidence so that growth is given a boost.

¹⁵In these Tables, and the discussion below, the term "before" refers to the yearly average of the two-year period before the fiscal adjustment, while "after" denotes the yearly average of the two-year period after the adjustment; "during" indicates the yearly average of the two-year adjustment period (in this case, 1982-85, 1987-88, 1993-94, and 1995-96).

CHART 6
BELGIUM

Comparisons of Fiscal Performance
(In Percent of GDP)

Source: IMF, World Economic Outlook.

Despite the magnitude of the fiscal consolidation during 1982-85, the public debt ratio continued to rise, possibly casting doubts on the credibility and durability of the adjustment. During the 1990s, by contrast, the debt ratio has declined significantly in each year since the peak of 1993: the consolidation efforts in the 1990s were sizable enough to set in motion a declining trend in the debt ratio.

Table 5. Belgium: Scale of Fiscal Adjustment, 1982-85

	1982-85			Adjustment		
	Before	During	After	During	After	Total
Net borrowing requirement	-12.9	10.2	-9.4	2.7	0.8	3.5
Primary balance	-5.1	-0.5	1.7	4.6	2.2	6.8
Structural balance	-13.0	-9.3	-7.6	3.7	1.7	5.4
Cyclically-adjusted primary balance	-5.1	0.5	3.7	5.6	3.2	8.8
Gross debt ratio	92.0	113.5	126.1	21.5	12.6	34.1

Source: Data provided by the authorities and staff calculations.

Table 6. Belgium: Scale of Fiscal Adjustment, 1987-88

	1987-88			Adjustment		
	Before	During	After	During	After	Total
Net borrowing requirement	-9.2	-7.4	-6.0	2.0	1.0	3.0
Primary balance	1.8	3.0	4.5	1.4	1.5	2.7
Structural balance	-7.5	-6.2	-7.3	1.3	-1.1	0.2
Cyclically-adjusted primary balance	3.5	4.2	3.3	0.7	-0.9	-0.2
Gross debt ratio	123.7	130.6	127.4	6.9	-3.3	3.6

Source: Data provided by the authorities and staff calculations.

Table 7. Belgium: Scale of Fiscal Adjustment, 1993-94

	1993-94			Adjustment		
	Before	During	After	During	After	Total
Net borrowing requirement	-6.8	-6.3	-3.8	0.5	2.5	3.0
Primary balance	3.6	4.1	5.2	0.5	1.1	1.6
Structural balance	-8.5	-5.7	-3.1	2.8	2.6	5.4
Cyclically-adjusted primary balance	2.0	4.7	5.8	2.7	1.1	3.8
Gross debt ratio	129.7	135.8	131.8	6.1	-4.0	2.1

Source: Data provided by the authorities and staff calculations.

Table 8. Belgium: Scale of Fiscal Adjustment, 1995-96

	1995-96			Adjustment		
	Before	1995	1996	1995	1996	Total
Net borrowing requirement	-6.3	-4.1	-3.4	2.2	0.7	2.9
Primary Balance	4.1	5.0	5.3	0.9	0.3	1.2
Structural Balance	-5.7	-3.6	-2.6	2.1	1.0	3.1
Cyclically-adjusted primary balance	4.7	5.5	6.1	0.8	0.6	1.4
Gross debt ratio	135.8	133.5	130.0	- 2.3	-3.5	-5.8

Source: Data provided by the authorities and staff calculations.

Nature and composition

The quality of fiscal adjustment can also be assessed in terms of the nature and composition of the fiscal packages. A high quality and credible consolidation program is considered here to be one that relies mainly on cuts in expenditure—particularly primary expenditure—because these measures may be less prone to be reversed than tax increases (particularly where the initial revenue ratio is already high). However, merely reducing primary expenditure is not enough for an adjustment program to be successful. The types of spending and sources of revenues greatly matter. The lion's share of deficit cuts in successful adjustments appears to have been concentrated in spending on transfers and government wages, while in unsuccessful adjustments there has tended to be virtually no reduction in these categories but heavy reliance on either tax increases or cuts in public investment. Also, in successful adjustments, tax increases appear to have been concentrated on business and on indirect taxes, while taxes on households did not increase at all, and social security contributions were also spared almost completely. By contrast, tax increases in unsuccessful adjustments appear to have been widely spread over all components of income as well as expenditures.¹⁶

Some salient features of the four sub-periods of fiscal adjustment considered in this paper are summarized in Tables 9, 10, 11, and 12. In the 1982-85, and 1987-88 episodes, the burden of adjustment was strongly placed on the spending side, with the primary expenditure declining by about 5¾ percentage points of GDP two years after each of the adjustment periods. However, it is noticeable that capital expenditures bore a large bulk of the cuts, declining by some 60 percent in real terms over the decade (Table 2). Increases in social security contributions also accounted for an increase in the revenue ratio during 1982-85. The favorable composition of the overall fiscal adjustment during these two episodes—leaving

¹⁶Alesina and Perotti (1996), in explaining why the composition of fiscal adjustment matters, emphasize the expectation effect, the political credibility effect, and the labor market effect.

aside the issue of its magnitude—is nonetheless highlighted by the substantial decline in the revenue ratio over this period as a whole. With the exception of indirect taxes, which rose by some 0.2 percentage point of GDP, all components of tax revenues declined two years after the 1987-88 adjustment period. While virtually all non-interest expenditure items were reduced over the decade of the 1980s, the adjustment was unsustainable; both revenue and expenditures started increasing again in 1991, and the debt ratio resumed its upward trend following a two-year decline.

Overall, the interruption of the adjustment of the end of the 1980s cannot be ascribed to the composition of the measures that had been adopted, but rather appears to have reflected three elements:

- the fact that the structural primary balance declined rather than rose over the latter adjustment episode;
- the fact this was masked by the favorable effect of the business cycle on the overall fiscal balance; and
- the inherent difficulty of sustaining an adjustment effort of this size over a lengthy period, against the background of broader political issues that also came to the fore at this time.

Table 9. Belgium: Composition of Adjustment 1982-85¹

	Before	During	After	Difference	
	(1)	(2)	(3)	(2)-(1)	3)-(1)
Primary expenditures	52.0	49.5	46.6	-2.5	-5.4
Transfers	26.2	26.2	25.2	0.0	-1.0
Government wages	11.6	10.8	10.4	-0.8	-1.2
Non-wage public consumption	3.8	3.6	3.5	-0.2	-0.3
Public investment	3.5	2.8	2.0	-0.7	-1.5
Revenues	47.0	49.0	48.3	2.0	1.4
Taxes on households	16.3	17.0	16.3	1.3	0.0
Taxes on business	2.1	2.5	2.8	0.4	0.7
Indirect taxes	12.4	12.5	11.8	0.1	-0.6
Social security taxes	13.0	14.0	15.0	1.1	2.1

Source: Data provided by the authorities and Staff calculations.

¹In this table, "Before" refers only to 1981, and "After" to 1986.

Table 10. Belgium: Composition of Adjustment, 1987-88
(In percent of GDP)

	Before (1)	During (2)	After (3)	Difference	
				(2)-(1)	(3)-(1)
Primary expenditures	47.2	44.7	41.2	-2.5	-6.0
Transfers	25.4	24.8	23.6	-0.7	-1.8
Government wages	10.5	9.5	9.0	-1.0	-1.5
Non-wage public consumption	3.5	3.5	2.7	0.0	-0.8
Public investment	2.1	1.8	1.4	-0.3	-0.7
Revenues	48.8	47.8	45.7	-1.0	-3.1
Taxes on households	16.6	15.8	14.3	-1.2	-2.3
Taxes on business	2.8	2.8	2.7	0.0	-0.1
Indirect taxes	12.1	12.3	12.1	0.2	0.0
Social security taxes	14.9	15.1	14.8	0.2	-0.1

Source: Data provided by the authorities and staff calculations.

Table 11. Belgium: Composition of Adjustment, 1993-94
(In percent of GDP)

	Before (1)	During (2)	After (3)	Difference	
				(2)-(1)	(3)-(1)
Primary expenditures	42.2	43.0	42.5	0.8	0.2
Transfers	24.6	25.1	25.0	0.5	0.4
Government wages	9.0	9.4	9.3	0.4	0.3
Non-wage public consumption	2.5	2.3	2.2	-0.2	-0.3
Public investment	1.3	1.4	1.3	0.1	0.0
Revenues	45.9	47.3	47.6	1.4	1.7
Taxes on households	14.2	14.5	15.0	0.3	0.8
Taxes on business	2.3	2.7	3.2	0.4	0.9
Indirect taxes	12.1	12.6	12.5	0.5	0.4
Social security taxes	15.3	15.4	14.9	0.1	-0.4

Source: Data provided by the authorities and staff calculations.

Table 12. Belgium: Composition of Adjustment, 1995-96
(In percent of GDP)

	Before (1)	During (2)	After ¹ (3)	Difference	
				(2)-(1)	(3)-(1)
Primary expenditures	43.0	42.6	41.7	-0.4	-1.3
Transfers	25.1	25.0	24.3	-0.1	-0.8
Government wages	9.4	9.3	9.5	-0.1	0.1
Non-wage public consumption	2.3	2.2	2.3	-0.1	0.0
Public investment	1.4	1.3	1.3	-0.1	-0.1
Revenues	47.3	47.6	47.4	-0.3	-0.1
Taxes on households	14.5	15.0	15.0	0.5	0.5
Taxes on business	2.7	3.2	3.2	0.5	0.5
Indirect taxes	12.6	12.5	12.6	-0.1	0.0
Social security taxes	15.4	14.9	14.6	-0.5	-0.8

Source: Data provided by the authorities and staff calculations.

¹1997 (staff projection) only.

With regard to the nature and composition of the adjustment effort since 1993, this has, in essence, restored the control over primary expenditure that had been achieved in the 1980s. During both the 1993-94 and 1995-96 episodes, the growth of primary expenditure slowed considerably in real terms (Table 13). There were, however, striking differences between these episodes in the composition of spending and revenue changes. First, during 1993-94, the fiscal adjustment relied mainly on tax increases, with the revenue ratio rising by some 1.5 percentage point of GDP on average over the preceding period. The only component of primary expenditures that fell was non-wage public consumption, cuts in which may tend to be temporary in nature. Overall, primary expenditure was 0.8 percentage point of GDP above its 1991-92 level. By contrast, adjustment efforts since 1994, when the revenue ratio peaked, have been mainly focused on expenditure reduction. Most of the cuts in spending fell on transfer programs and non-wage public consumption, whereas on the revenue side, there was a significant decline in social security contributions.

Table 13. Belgium: Real Expenditure Growth 1982-1996
(Cumulative percentage change in period)

	1982-85	1987-88	1989-90	1991-92	1993-94	1995-96
Total expenditure	-1.1	1.4	3.0	7.7	1.9	-0.6
Primary expenditure	-7.0	2.1	0.7	8.0	3.6	2.1
Public consumption	-6.8	-4.2	-0.6	4.9	4.4	2.0
Social expenditure	-1.2	4.6	5.1	9.5	2.5	3.7
Capital expenditure	-40.3	-1.5	-21.5	16.3	13.8	-10.5
Other expenditure	-5.0	8.5	-5.3	3.3	1.2	1.2

Source: Table 3.

Macroeconomic developments

Another way of assessing the quality of fiscal adjustments is through their macro-economic effects—to the extent that these can be disentangled from the impact of other factors. It is increasingly recognized that successful fiscal consolidation can be less contractionary, particularly for countries with large government debts and deficits, where consumer and business confidence might be depressed because of the fiscal problem and where financial markets may be imposing a large premium on interest rates.¹⁷ Alesina and Perotti (1995) found that in a number of fiscal adjustments where the ratio of debt to GDP was successfully set on a declining path, real GDP tended to accelerate and the unemployment rate tended to decline. Real short-term interest rates tended to fall in successful consolidation cases, but to increase in the unsuccessful cases. (Real long-term interest rates tended to decrease in both successful and unsuccessful cases, although perhaps for differing reasons.)

Some key economic indicators before, during, and in the immediate aftermath of two recent adjustment periods in Belgium are set out in Table 14. Prior to 1987, and prior to 1993, the growth rate was below the average of its main partner countries (Germany, France, and Netherlands). The 1987-88 adjustment took place in a more favorable economic environment than that of the 1990s, when the Belgium economic growth was still below the average

¹⁷This literature goes back to Giavazzi and Pagano (1990) who point to the "consumption puzzle" as evidence that fiscal contractions can have strong expectational effects. On the other hand, Bartolini, Razin, and Symansky (1995) in their study of the macroeconomic effects of the fiscal restructuring undertaken in the 1990s in the G-7 countries found that fiscal consolidation leads to output losses initially, followed by recovery; however, they also found that those countries that rely primarily upon increases in indirect taxes and expenditure cuts face steeper short-run output losses, but can expect a quicker recovery and greater output benefits within a decade.

rate of partner countries (Chart 7). Macroeconomic conditions did not noticeably improve in the following two years after the 1987-88 adjustment. Economic growth dipped below the average rate of partner countries. Both private consumption and investment grew at a rapid rate in the two years during and after the adjustment period, fueling an increase in the CPI, which stood well above the average inflation rate in partner countries two years thence. There was a decline in short and long-term interest rates during the two-year adjustment period, but they rose in the following two years and remained at high levels. The external current account improved only slightly. Following the launching of the latest fiscal initiative in 1993, the growth rate of the economy was somewhat above the average rate of partner countries in 1995-96.

Table 14. Belgium: Macroeconomic Conditions and Fiscal Adjustment

	1987-88			1993-94		
	Before	During	After	Before	During	After ¹
Real GDP						
Belgium	1.1	3.4	3.4	2.0	0.3	1.9
Partners	2.5	2.5	4.1	2.2	0.9	1.7
Inflation rate						
Belgium	3.1	1.3	3.3	2.8	2.6	1.5
Partners	2.1	1.2	2.6	3.2	3.0	1.8
Unemployment rate						
Belgium	12.0	10.8	9.0	9.8	12.5	13.0
Partners	9.0	8.6	7.4	7.5	9.4	9.5
Consumption	1.8	3.0	3.4	2.6	0.0	1.3
Investment	2.5	10.5	11.2	-0.7	-3.1	2.9
Current account surplus	1.8	2.2	2.1	2.8	5.5	5.6
Interest rate						
Short-term	8.8	6.9	9.2	9.4	7.0	5.5
Long-term	9.8	8.1	9.3	9.0	7.5	7.8
Exchange rate	52.0	37.0	36.4	33.1	34.0	9.5
Unit labor costs	1.9	0.0	2.0	4.2	-0.7	1.2

Source: World Economic Outlook.
¹1995.

Given the openness of the Belgian economy, the close integration with activity in its main trading partners, and the fact that in recent years underlying monetary conditions have reflected those prevailing throughout the core ERM, it is difficult to reach conclusive judgments about the impact of fiscal policy on economic growth. Four relevant observations can be made, however:

- One measure of the potential contribution of fiscal adjustment in Belgium to investment and the potential growth rate is the **decline in the risk premium** in the capital market. The long-term interest rate differential declined markedly in recent years—most notably from 100 basis points in the early 1990s to only about 10 basis points in late 1996.

CHART 7
BELGIUM

Growth and Inflation

Source: IMF, World Economic Outlook.

- A striking feature of the 1990s episode is the sharp improvement in the **current account**, which stood at over 5.5 percent on average during 1995-96. While the underlying causes of this large saving surplus are difficult to isolate, fiscal consolidation was a key element.¹⁸
- The **output gap** in Belgium was not wider than in France and Germany, on average, during the early 1990s. Both consumption and investment increased during the two-year period following the tight policy, as interest rates fell dramatically from their levels two years before the adjustment began. The output gap was, however, somewhat wider than in the Netherlands.¹⁹
- A question remains whether the **saving-investment balance** in Belgium is somewhat distorted by a lack of full credibility in the process of fiscal adjustment. There are two aspects to this, first a general concern about future tax levels (hence a need to save in order to smooth consumption, and a reticence about domestic investment because of uncertainty about future post-tax rates of return); and second, uncertainty about the bankability of future social security entitlements—which could lead to the government and the households both saving to meet the same future needs. (These issues, *inter alia*, are discussed in Section III of this paper.)

Debt dynamics

Finally, the success of a given fiscal policy can be measured by its sustainability in terms of debt dynamics. Persistent budget deficits may result in a growth path for public debt that is simply not sustainable. Debt sustainability depends on the interest rate, the growth rate of the economy, and the ratio of the primary balance to GDP.²⁰ Table 15 shows the sustained

¹⁸Also, indicators of competitiveness show marked improvements in the 1990s. For example, relative unit labor costs have fallen by a cumulative 2 percent since the adjustment began in 1993. See Section III of this paper.

¹⁹This may reflect the less cyclically-sensitive structure of exports in the Netherlands, or possibly, the extent to which, in that country, an uninterrupted process of fiscal adjustment and a strong emphasis in the 1990s on containing current public expenditure—together with significant labor market reforms—contributed to confidence and the steady growth of income from employment

²⁰As long as the rate of interest on the public debt exceeds the economy's nominal growth rate, public debt will tend to grow faster than GDP unless a country runs a primary surplus. The larger the wedge between the interest rate (r) and the nominal growth rate (g), the larger the primary surplus (pb) needed to stabilize the debt to GDP ratio (D). The debt dynamics are best captured by the following budget identity:

(continued...)

improvements in primary balances that would be required for the net public debt ratios in the industrial countries *to return from 1995 levels to their average in 1978-80*. These mechanical calculations assume that interest rates and nominal GDP growth rates remain constant at their average 1993-95 levels.

Table 15. Industrial Countries: Primary Balances and Debt
(In percent of GDP)

	Net Debt		Primary Balance	Required Change Primary Balance
	1978-80	1995	1995	
Belgium	62.7	127.9	4.7	4.3
France	-0.6	35.1	-2.0	5.7
Germany	11.0	49.1	-0.3	4.2
Ireland	71.6	86.3	2.3	-1.7
Italy	54.4	108.9	3.3	6.0
Netherlands	21.9	60.5	0.8	3.6
United Kingdom	46.3	40.8	-2.5	3.0
United States	25.6	56.4	0.5	2.0

Source: World Economic Outlook, May 1996.

In a strategy for reducing the public debt ratio over the medium-term, the Conseil Supérieur des Finances (CSF) noted in 1996 that a primary surplus of no less than 6 percent of GDP would be required in order to achieve a *credible reduction* in the public debt ratio. It argued that if kept at this level for a prolonged period, regardless of the economic cycle, it would set in motion a reverse snowball effect which would progressively reduce interest payments, the overall deficit and the debt ratio. Calculations by the National Bank of Belgium based on a nominal GDP growth rate of a little less than 5 percent and an effective interest rate of 7.5 percent (the average level of the last 10 years) also show that, if the current primary surplus of 6 percent of GDP is maintained for a prolonged period, the debt/GDP ratio would fall below 60 percent by the year 2020. It is notable that, by 1997, the structural primary surplus—excluding one-off measures—exceeded both the threshold values of 4.3 percent and 6 percent of GDP.

²⁰(...continued)

$$D_t = pb + [(1+r)/(1+g)] D_{t-1}$$

This budget identity can be used to calculate budget targets that would achieve specific debt objectives such as the stabilization or the reduction of the debt to GDP ratio.

The current budget deficit and the debt ratio are, however, only part of the fiscal story: governments also face explicit and implicit liabilities that are likely to shape future budgetary positions, such as promises to pay public pensions and health care benefits to retirees. With the expected aging of the population, these future liabilities will considerably add to the so-called invisible debt problem.²¹ In light of this, reducing the debt ratio will require further substantial efforts. In a recent study of the fiscal outlook in Belgium, Delbecque and Bogaert (1994) introduced the concept of a recommended primary balance defined as the primary surplus that will lead to a more sustainable path of the debt ratio taking into account the ageing of the population. For various values of the gap between interest rates and growth rates, they derive a minimum and a recommended primary surplus in order to durably reduce the debt ratio (Table 16). While the calculations reported in Table 15 suggested that under prudent assumptions a primary surplus of 4¼ percent of GDP would be adequate, projections that take account of the ageing of the population suggest that, on prudent assumptions, a surplus of about 7½ percent of GDP by 1997 would be recommended (Table 16).

Table 16. Belgium: Debt Sustainability with Demographic Pressures

Interest rate/Growth Gap (In percent)	1.5	2.0	2.5	3.0	3.5
	(In percent of GDP)				
Minimum required primary surplus (for 1994)	2.9	3.5	4.2	4.9	5.6
Recommended primary surplus (for 1997)	6.9	7.2	7.6	8.0	8.4

Source: Delbecque and Bogaert (1994).

Such projections, however, depend very much on assumptions about the extent of future social security reforms that would limit the impact of demographics on spending, and about the impact of other structural policies on employment and growth. For a discussion of longer-term trends in non-pension social spending, and various long-term fiscal scenarios, see Section IV of this paper.

In conclusion, it can be said that, over a series of adjustment episodes and some setbacks, the fiscal effort in Belgium has been sustained, has brought down interest premia,

²¹The impact of demographic changes on pension expenditure in Belgium was explored in SM/96/31.

and has recently has set the debt ratio on a declining trend. This improvement in risk perceptions should be of benefit to economic performance both by encouraging investment and by directly reducing vulnerability to future shocks. The quality of the fiscal adjustment has been improved over time, overcoming a fall in the structural primary surplus in the late 1980s, a pause in overall adjustment in 1991-92, and a mainly revenue-based program in 1993-94. The next section of this paper, which focuses on trends in saving and investment, discusses possible indications that this progressive strengthening of the quality of fiscal adjustment, provided it is sustained, could help improve the prospects for economic growth and employment.

III. TRENDS IN SAVING AND INVESTMENT, 1980-1995²²

Introduction

Since the early 1980s, Belgium's current account has been steadily improving, switching from a deficit of some 4 percent of GDP in 1980 to a surplus of almost 5 percent of GDP by 1996.²³ This general trend since the early 1980s notwithstanding, three rather distinct stages can be identified. Thus, during the first half of the 1980s the current account improved sharply; this trend was roughly in line with the Belgian franc's substantial real effective depreciation, which was associated with movements of non-European currencies, notably the U.S. dollar, but also with the franc's 1982 downward realignment within the ERM. During 1986-90, with the real effective exchange rate roughly constant, the current account surplus stabilized at some 2 percent of GDP. Finally, since 1990, the widening of the current account surplus resumed, even as the real effective exchange rate displayed an appreciating trend.

These trends have their counterpart in the paths of saving and investment during the period under consideration. In particular, while the saving rate rebounded strongly from the cyclical trough of the late 1970s and early 1980s, the rise of the investment-to-GDP ratio was much more moderate. As a result, the national saving surplus rose steadily, with both the public sector and the private sector contributing positively to this development. This section of the paper will examine a number of potential factors that could account for the above trends. Particular attention will be paid to the role of fiscal policy in affecting the private sector (mainly household) saving surplus, and to the impact of relative demand shifts on the production side of the economy and hence on the saving surplus of the business sector. In

²²Prepared by Ioannis Halikias.

²³Recently, the National Bank of Belgium has revised downward the current account balance by some 1 percent of GDP. Since historical data have not been similarly revised, however, the old series used for the purposes of this chapter. This should not affect the relevance of the empirical results, as the revision does not appear to have materially affected the overall trends of the current account balance.

discussing this latter factor, an attempt will be made to gain some insight into the extent to which the postulated effects reflect changes in factor proportions relating to technological features of the various sectors, as well as the importance of product market distortions in depressing business investment (and possibly boosting business saving). To the extent that such distortions do indeed turn out to be important, a case can be made that there is scope for welfare-improving structural policies.

Background

Since the early 1980s, the Belgian current account has exhibited trends that diverge to a significant extent from those of the 1970s (Chart 8, upper panel). Whereas the 1970s witnessed a steady deterioration of the current account, a sharp reversal of this trend occurred since the early 1980s. Thus, the current account balance swung from a deficit of 4 percent of GDP in 1980 to a surplus of some 5 percent of GDP by 1996. Both the public and the private sector contributed to the steady current account improvement (Chart 1, lower panel). After 1981, Belgium embarked on a course of fiscal consolidation, reducing the budget deficit from some 13 percent of GDP in 1981 to a little over 3 percent of GDP by 1996. While part of the load of the consolidation process was borne by public investment and capital transfers, the current budget balance also improved, so that government dissaving fell by some 6 percentage points of GDP during this period.

On the private sector side, the household saving surplus, while exhibiting some fluctuations, did not display any marked trend during the period under consideration. In all, and despite the substantial fiscal consolidation since the early 1980s, the household saving surplus was on average at around its level of the 1970s. On the other hand, the corporate saving balance exhibited a strong upward trend during this period, switching from a substantial deficit throughout the 1970s to a surplus during most of the period since the early 1980s, as both its saving and investment components behaved quite differently relative to the 1970s (Chart 9). Thus, improved business profitability has led to a substantial increase in corporate saving since 1980. By comparison, the recovery of business investment was much more moderate: business investment did not start rising until 1987, and remained significantly below business saving during most of the period under discussion. As a result, the ratio of business investment to business saving fell from some 160 percent in 1980 to around 80 percent in 1987, before rising somewhat to around 95 percent by 1995.

The stylized trends discussed above point to two rather puzzling questions, which are the main focus of this chapter. In the first place, what could account for the very limited impact of the substantial fiscal consolidation since the early 1980s on household saving behavior? Second, what factors could explain the very asymmetric recovery of business saving and business investment during the same period?

CHART 8
BELGIUM

External Indicators and Saving Surpluses
(In Percent of GDP)

Source: National Accounts.

CHART 9
BELGIUM
Corporate Saving and Investment
(In Percent)

Source: National Accounts.

The role of fiscal policy

The discussion that follows examines the impact of fiscal policy on the saving-investment balance and the current account. In principle, the fact that fiscal adjustment on a scale experienced by Belgium since the early 1980s would be accompanied by an improvement of the external current account should not be surprising. While "Ricardian equivalence" models of the Barro (1974) type suggest that an increase in government saving, by lowering the expected future tax burden in economic agents' intertemporal budget constraints, should be fully offset by a decrease in the private saving rate, leaving the external current account unchanged, this postulated "full offset" has been consistently rejected on empirical grounds. On the other hand, research on this question has confirmed the existence of a **partial** offset, with the estimated offset coefficient in the range of 50 to 60 percent for most industrial countries, implying that an increase in government saving by 1 percent of GDP tends to be accompanied by a reduction in private saving of the order of ½ percent of GDP.²⁴

While the qualitative direction of the impact of deficit reduction on the current account since the early 1980s for the case of Belgium is therefore broadly in line with the empirical findings for other industrial countries, what **does** appear surprising is the magnitude of the effect. To form a quantitative assessment of the problem at hand, one approach is to regress the current account as a percent of GDP (CURRACC) on the government saving surplus as a percent of GDP (SAVSURPUB) over the period 1970-1994. The estimation results are as follows (t-statistics in parenthesis):

Period: 1970-1994

$$\text{CURRACC} = 3.519 + 0.511 \text{ SAVSURPUB}$$

(3.30) (3.10)

$$R^2 = 0.30$$

$$\text{DW} = 1.3$$

$$\text{SE} = 2.032$$

$$F(1,23) = 9.6$$

The estimation results suggest that the coefficient of the government saving surplus variable is positive and statistically significant at conventional significance levels, implying that an increase in the government saving surplus indeed results in an improvement in the current account. With regard to the magnitude of the effect, the results suggest that an increase in the government saving surplus by 1 percent of GDP can be expected to result in a widening of the current account surplus (or a reduction of the current account deficit) by 0.51 percent of GDP, very much in line with the findings for other industrial countries.

²⁴See, for example, Masson, Bayoumi, and Samiei (1995).

On the other hand, restricting the sample period changes the picture considerably. We present below the estimation results of the same equation for the period 1980-1994 (t-statistics in parenthesis):

Period: 1980-1994

$$\text{CURRACC} = 7.707 + 0.990 \text{ SAVSURPUB} \\ (3.76) \quad (3.67)$$

$$R^2 = 0.51 \qquad \qquad \qquad \text{SE} = 1.913 \qquad \qquad \qquad F(1,13) = 13.5 \\ \text{DW} = 1.7$$

The estimation results over the later sub-period point to a coefficient of the government saving surplus variable virtually identical to 1, implying a one-to-one relationship between deficit reduction and external current account improvement. Moreover, the estimated constant term for the 1980-1994 sub-period is significantly higher than that estimated over the 1970-1994 period as a whole, implying that, for the same level of the government deficit, one would expect a higher current account surplus in the later sub-period.

The point made above can be illustrated in entirely equivalent terms by regressing the private sector saving surplus, again as a share of GDP, SAVSURPR, on SAVSURPUB.²⁵ The estimation results are as follows (t-statistics in parenthesis):

Period: 1970-1996

$$\text{SAVSURPR} = 3.519 - 0.489 \text{ SAVSURPUB} \\ (3.30) \quad (2.96)$$

$$R^2 = 0.28 \qquad \qquad \qquad \text{SE} = 2.032 \qquad \qquad \qquad F(1,23) = 8.7 \\ \text{DW} = 1.3$$

Period: 1980-1994

$$\text{SAVSURPR} = 7.707 - 0.012 \text{ SAVSURPUB} \\ (3.76) \quad (0.04)$$

$$R^2 = 0.00 \qquad \qquad \qquad \text{SE} = 1.914 \qquad \qquad \qquad F(1,13) = 0.0 \\ \text{DW} = 1.7$$

²⁵In the remainder of the chapter we shall refer interchangeably to the impact of government saving on the current account or the degree of offset of government saving by private saving.

The results in this specification suggest that, whereas in the full period an increase in the government saving surplus is estimated to be offset by 49 percent by a reduction in the private sector saving surplus, in the 1980-1994 sub-period an increase in the government saving surplus receives no offset from the private saving surplus—the relevant coefficient is virtually zero and statistically insignificant. In fact, over the later sub-period, it turns out that the government sector saving surplus has no explanatory power whatsoever with regard to the private sector saving surplus.

The estimation results presented above point to a major asymmetry as regards the response of private saving to fiscal policy between different sub-periods. Specifically, whereas the usual (partial) Ricardian offset can be documented for the 1970s—a period of substantial fiscal expansion, such an effect appears totally absent since the early 1980s—a period of substantial fiscal contraction. Thus, it would appear that, at least for a major part of the fiscal consolidation period, deficit reduction did not lead economic agents to appreciably revise their intertemporal budget constraint, and hence adjust their saving behavior. This in turn raises the question of whether certain aspects of fiscal policy may have rendered fiscal consolidation less than fully credible during (at least part of) the period since the early 1980s. In what follows, an attempt will be made to formulate certain hypotheses regarding some fiscal policy features of this type, as well as to test their empirical relevance.

The evolution of some of the major fiscal variables during the fiscal consolidation period was illustrated in Chart 1. As the chart makes clear, while deficit reduction was consistently pursued throughout this period, the composition of the fiscal adjustment varied considerably.²⁶ In the first place, during a large part of the period under consideration, fiscal consolidation relied mainly on **revenue increases**, rather than **current expenditure reductions**. This failure to bring expenditure under control may have kept private agents' expectations of their future tax burden at a high level, as the government's intertemporal budget constraint is essentially driven by the path of public sector expenditure. This factor may have become more pertinent in the specific case of Belgium, in view of its already very high revenue ratio and the prospect of increased tax competition in the context of the EU single market: in this setting, the persistence of a high expenditure-to-GDP ratio may have raised the perceived likelihood of an abandonment of fiscal consolidation in the short-term, thus further raising expected future tax liabilities. Under these conditions, private agents with a sufficiently long horizon may have been induced to keep their saving rate high, the steady deficit reduction notwithstanding.

Casual inspection of the trends depicted in Chart 1 would suggest that these considerations could indeed be empirically relevant. Thus, during the first half of the 1980s (the period of the sharpest reduction of the budget deficit), as government expenditure remained high as a share of GDP, deficit reduction appears to have resulted into a virtually one-for-one

²⁶For a more detailed discussion of the "quality" of fiscal adjustment, see Section II of the paper.

improvement of the external current account balance. On the other hand, with the expenditure ratio entering a firm downward path in the second half of the decade, the current account virtually stabilized, suggesting a much higher degree of offset to the increase in government saving by private sector saving. Finally, with the expenditure ratio entering a renewed upward path during 1990-93, the current account surplus once again widened sharply.

Second, and somewhat related, the unchecked growth of **social security transfers** could have raised doubts about their sustainability. This would have been more pronounced with regard to those areas of social security that are particularly sensitive to demographic developments, notably pensions, in view of the projected aging of the population during the first half of the next century.²⁷ Doubts over the ability of the government to satisfy in full its pension obligations in the future may have created a precautionary motive for saving on the part of the private sector.

Third, the substantial pile-up of **government debt** during the period under consideration, and the concomitant rise in the ratio of **interest expenditure** to GDP, could also be a relevant factor accounting for the negligible private sector offset to the increase in government saving. On the one hand, the increase in the share of government revenue effectively earmarked to the servicing of government debt could have underscored the perception on the part of private economic agents of likely higher tax liabilities in the future, implying little change in their intertemporal budget constraint and hence their saving behavior. In addition, the rising share of interest payments in GDP could have entailed a substantial shift in the patterns of income distribution.²⁸ To the extent that government paper is predominantly held by upper-income households, with a higher propensity to save, such a redistribution of disposable income in their favor may have raised the overall private saving rate relative to what it would otherwise have been. Once again, the trends depicted in Chart 1 would suggest that these considerations may indeed be empirically relevant, with near-zero private sector offset to increases in government saving coinciding with periods of rapid debt accumulation.

Some of the hypotheses developed above are tested empirically below. It should be emphasized at the outset that this exercise entails considerable difficulties and inherent limitations. From a strictly econometric perspective, the small size of the sample period and associated degrees of freedom precludes specifications that include several variables simultaneously. More fundamentally, the testing of hypotheses that entail changing perceptions of private agents regarding the credibility or sustainability of macroeconomic policies is not a straightforward exercise. In particular, even if the underlying intuition is valid, it is unlikely that any set of observable macroeconomic variables can perfectly capture such changing

²⁷On the impact of aging on pension benefits, as well as other categories of social security outlays, see Section A of Chapter IV of the paper.

²⁸In this regard, the fact that the bulk of government debt is domestically held is particularly relevant.

perceptions. Accordingly, the variables to be considered for the purposes of this section of the paper should at best be regarded as imperfect proxies for relevant considerations that underlie private agents' decision making and expectations formation.

With these caveats in mind, and in line with the hypotheses developed above, the following explanatory variables were included alongside the government saving surplus in specifications involving the external current account as dependent variable. To capture the importance of expenditure reductions versus revenue increases, the change in government expenditure as a share of GDP (DEXP), the share of expenditure reduction in overall budget deficit reduction, both expressed as shares of GDP, (EXPDEF), and, equivalently, the ratio of expenditure reduction to revenue increases (EXPREV) were included. In addition, the share of interest payments in GDP (INT) was included as an additional explanatory variable.²⁹ What one should look for in the equations to be estimated, apart from the sign and significance level of the coefficients of the additional variables, is the impact of their inclusion on the magnitude of the estimated coefficient of the government saving surplus variable: if the intuition of the previous paragraphs is correct, then inclusion of the additional variables should tend to lower the estimated coefficient of SAVSURPUB.

The tabulation on the following page (Table 17) presents the estimation results in specifications involving the current account as the dependent variable, with the government saving surplus and the additional fiscal variables discussed in the previous paragraph (in various combinations) as explanatory variables. The estimation results of Table 17 are generally consistent with the hypotheses advanced in the previous paragraphs. In particular, the coefficients of the additional explanatory fiscal variables are correctly signed and statistically significant at conventional significance levels, with the exception of the EXPDEF coefficient in equation (2) and the EXPREV coefficient in equation (3).³⁰ Among the additional fiscal variables, the interest payments variable turns out to have the greatest explanatory power with respect to the external current account: its estimated coefficient is large and strongly significant, and its inclusion raises considerably the regression's R^2 . Unfortunately, at this level of aggregation, it cannot be determined whether the impact of the INT variable reflects primarily the expectation of higher future tax liabilities to finance the debt service cost or income distribution effects.

²⁹On the other hand, the debt ratio itself was not included. It can be argued that, as far as private agents' intertemporal budget constraints are concerned, all the relevant information contained in the debt ratio is already contained in the time path of interest payments. In addition, as previous research in this area has tended to confirm, the debt ratio has tended to be associated with changing perceptions regarding the credibility of other aspects of macroeconomic policies, notably exchange rate policy, and inflationary expectations. The impact of these factors on saving behavior is highly ambiguous.

³⁰The EXPDEF coefficient, however turns out statistically significant when equation (2) is regressed over the entire 1970-1994 period.

Table 17. Belgium: Fiscal Policy and the Current Account
Dependent Variable: CURRACC
Estimation Period: 1980-1994

Equation	Explanatory variables						R ²
	Constant	SAVSURPUB	DEXP	EXPDEF	EXPREV	INT	
1	6.134 (2.67)	0.856 (2.85)	0.219 (2.12)				0.58
2	7.357 (3.49)	0.910 (3.17)		0.252 (1.62)			0.54
3	7.539 (3.47)	0.928 (3.45)			0.012 (1.37)		0.46
4	5.875 (2.12)	0.684 (3.28)				1.175 (4.12)	0.77
5	4.180 (1.91)	0.713 (3.44)	0.251 (2.27)			1.315 (4.17)	0.83
6	3.710 (1.48)	0.698 (3.43)		0.181 (2.01)		1.147 (4.01)	0.81

t-statistics in parenthesis

Inclusion of the additional explanatory fiscal variables also tends to lower the estimated coefficient of the government saving surplus variable, which ranges from some 0.9 when the INT variable is not included to some 0.7 when the INT variable is included. Together with the sign and statistical significance of the coefficients of the additional variables, this effect indeed suggests that the features of the fiscal adjustment captured by the variables in question have played a significant role during a large part of the period since the early 1980s in boosting private saving above (and reducing private consumption below) its welfare optimum level.³¹ These aspects of fiscal policy thus appear to account to some extent for the apparent

³¹The observation that during much of the period since the early 1980s the current account path was above its optimum level on welfare grounds does not of course imply that private agents were themselves not optimizing during this period. In terms of the intertemporal model of the current account, the effect in question can be described as an increase in the consump-
(continued...)

lack of (even partial) Ricardian offset to the increase in the government saving surplus during the period under consideration.

The empirical results of this section thus appear to carry two main policy implications regarding the composition of fiscal consolidation, so as to put consumption and saving on a welfare improving path relative to their trends since the early 1980s. In the first place, opting for a deficit reduction strategy that relies mainly on expenditure reduction, rather than revenue increases, would avoid the oversaving (and underconsumption) that were evidenced during the adjustment effort of the past decade and a half. Secondly, emphasis on steady debt reduction and hence a reduction in the debt service burden (what is sometimes referred to in Belgium as the "reverse snowball effect") would appear to carry welfare benefits that go well beyond building the case for EMU participation. In that sense, it is encouraging that both these aspects have come to constitute important priorities of Belgian fiscal policy in recent years.

While the aspects of the composition of fiscal consolidation discussed in this section do appear to have been an important factor accounting for the almost one-to-one relation between budget deficit reduction and external current account improvement during the period since the early 1980s, it appears equally clear that this was not the whole story. In the first place, while controlling for these aspects does reveal some offset to a rise in government saving by private sector saving, the coefficient of the government saving surplus variable in a specification involving the external current account as the dependent variable falls to some 0.7 at best, about halfway between unity and the estimate of the corresponding coefficient obtained for the 1970-1994 period, and significantly above the estimate for other industrial countries. Secondly, from an analytical standpoint, the framework employed in this section, emphasizing issues of fiscal policy credibility from an intertemporal perspective, cannot readily account for the trends of business saving and business investment, which during the period since the early 1980s have exhibited considerable divergence relative to the previous decade. Rather, it would appear that a fuller explanation for these trends should be sought in the production side of the economy, which intertemporal models emphasizing consumption smoothing cannot easily accommodate. These issues are explored below.

The role of relative demand shifts

The discussion that follows seeks to explore to what extent shifts between the various sectors of the Belgian economy could account for the trends in business saving and business investment during the period under consideration, resulting in a steady widening of the corporate saving ratio, and thus contributing to the improvement in the external current account balance. The importance of such sectoral shifts is reflected in the long-term trends in relative

³¹(...continued)

tion-smoothing component of the current account, rather than as a positive deviation of the actual current account from this consumption-smoothing component.

prices. In particular, Belgium has experienced a trend rise in the relative price of nontradable relative to tradable goods throughout the period under consideration, an experience very much shared by most other industrial countries. Thus, between 1980 and 1994 the overall increase in the price of nontradable goods was 77 percent; during the same period, the increase in the price of tradables was only 25 percent.

For the purposes of this section, determining the origin of these relative price changes is crucial. In particular, the implications for the corporate saving surplus would be quite different depending on whether supply side or demand side shocks have been at the origin of these relative price trends. Supply-side modeling in this area, pioneered by Harrod (1938) and formalized by Samuelson (1964) and Balassa (1964) rests on the assumption of faster productivity growth in the tradable goods sector relative to the nontradable goods sector, and predicts a rise in the relative share of tradables along with a decline in their relative price over time. To the extent that such supply-side factors had been the main driving force behind the observed relative price trends, their implication would probably be a decline in the economy-wide business saving surplus during the period under consideration, given that the tradable goods sector (principally manufacturing) is much more capital-intensive relative to the nontradable goods sector (essentially services). This would of course be the reverse of the trend experienced by Belgium since the early 1980s.

Recent research, however, has found evidence that in a number of countries, including Belgium, an increase in the relative price of nontradables has been accompanied by a rise of their relative share in total value added. Thus, in the case of Belgium, the share of nontradable goods in total real value added rose steadily from 70 percent in 1970, to 72 percent in 1980, to 78 percent in 1994. This would suggest that a demand shift toward nontradables could be at least as important a part of the relative price story described above. In recent years, considerable attention has been devoted to the study of the determinants of such relative demand shifts, with the share of government spending in GDP and per capita income emerging as the strongest explanatory variables for most countries.³²

There is some evidence that a relative demand shift towards non-tradable goods can have a strong and persistent effect on the saving-investment balance and the current account.³³ This effect can be thought to work via two rather distinct channels. The first, more direct channel concerns factor proportions. As services production is significantly less capital-intensive than manufacturing production, a demand shift towards tradable goods can be expected to have a negative impact on capital accumulation. While such a relative demand shift may not have much of an impact on the investment rate in the long run, it can be

³²Examples of theoretical modeling and empirical investigation in this area include De Gregorio, Giovannini, and Krueger (1993), Micossi and Milesi-Ferretti (1994), and De Gregorio, Giovannini, and Wolf (1994).

³³See Halikias (1996) for a discussion of these issues for the case of the Netherlands.

expected to lead to a short- to medium-term reduction in the investment rate, as the economy adjusts to a lower capital-labor ratio. In fact, given the sluggishness of the adjustment of the capital stock towards its equilibrium level, well-documented in the empirical literature, this effect could prove quite persistent.

The second link between relative sector demand and the business saving surplus is some what more subtle, and much more difficult to test empirically. While the tradable goods sector, being exposed to international competition, can be generally thought of as conforming to the perfect competition paradigm, it could be argued that the non-tradable goods sector is less than perfectly competitive. In the case of Belgium, it could be argued that licensing requirements, and the rather complicated foreign investment approval procedures, may have been responsible for creating barriers to entry in certain sectors.³⁴ Moreover, institutional features of the labor market could have played at least as important a role in this regard. In particular, the well-documented insider-outsider nature of collective bargaining, and legal extension of collective agreements to all firms in a sector, may have encouraged strategic behavior to set wages high enough to deter entry of new firms.

The presence of these distortions in the sheltered sector, especially via entry deterrence, may act as a strong impediment on investment in the event of a relative demand shift towards non-tradable goods, thus entailing a depressing impact on the investment rate for the economy as a whole, and biasing the business saving surplus and the current account surplus upwards. This impact could conceivably be reinforced by a distortion on the saving side. To the extent that monopoly rents are important in the sheltered sector, a relative demand shift towards nontradables could bias overall business profitability, and hence business saving, upwards.

To evaluate empirically the relevance of these considerations, one needs to model simultaneously the demand and supply sides of the economy since, as discussed above, these two sets of factors are likely to jointly determine relative prices. The theoretical model underlying the empirical work of the remainder of this section³⁵ postulates constant returns to scale, Cobb-Douglas production functions for tradable and nontradable goods, while allowing for differences in factor shares and total factor productivity growth between the two sectors. In addition, the law of one price is assumed to hold in the traded goods sector, and the price of capital is assumed to be exogenously given to domestic producers (in both sectors) by international capital markets. Under perfect competition in both sectors, the change in the relative price of nontradables relative to tradables (P) can be shown to be completely supply-determined in the long-run, and to depend only on the difference in total factor productivity

³⁴The economic impact of product market regulations of this nature has been recently studied by Koedijk and Kremers (1996).

³⁵The model is a close variant of that in De Gregorio, Giovannini, and Wolf, (1994).

growth, weighted by the relative factor shares in the two sectors, in line with the Samuelson-Balassa hypothesis:

$$D(P) = [(a_N/a_T) D(A_T)] - D(A_N) , \quad (1)$$

where a_N and a_T stand, respectively, for the labor share in the nontradable and tradable goods sector, and A_N and A_T for total factor productivity in the nontradable and tradable goods sector, while D denotes the rate of change.

Relaxing the assumption of perfect competition in the sheltered sector would allow demand factors to have a role in the determination of relative prices as well. While the authors referred to above were mainly interested in identifying the main determinants of a demand shift towards nontradables, however, the main focus of this chapter is on the macroeconomic impact of the relative demand shift itself. In this regard, the formal model referred to above provides a valuable insight as regards a potential proxy for this relative demand shift. Specifically, for the purposes of the empirical work of this section, the extent and impact of a relative demand shift towards nontradables is proxied here by a variable (DEMAND) which captures the extent to which the short-run change in the actual relative price of nontradables was higher than warranted by relative productivity differentials:

$$DEMAND = D(P) - [(a_N/a_T) D(A_T) - D(A_N)] .$$

For the purposes of the empirical implementation of the test described above, a practical question relates to the definition of the tradables and nontradables sectors, given that for most commodities no definitive dividing line as regards their international tradability can be drawn in practice. In this chapter, two alternative breakdowns were considered as the operational definition of the two sectors: the traditional one between goods and services, and one which groups transportation with the tradable goods category.³⁶ As the estimation results under the two definitions were virtually identical, the results presented below relate to the goods/services breakdown.

To test for the contribution of relative demand shifts in explaining the trends of Belgium's current account during the period under consideration, the demand shift variable (DEMAND) described above was included as an explanatory variable alongside varying combinations of the fiscal variables of the preceding section, in specifications with the current

³⁶The latter breakdown follows the De Gregorio, Giovannini and Wolf (1994) methodology. The authors based the distinction to the actual degree of tradability (defined as the share of value added that is exported). They found that, while all categories of goods qualified as tradables, all service categories, with the exception of transportation, qualified as nontradables.

account as the dependent variable. The estimation results for one such specification, estimated over 1976-1992,³⁷ are presented below (t-statistics in parentheses):

$$\text{CURRACC} = -1.308 + 0.528 \text{ SAVSURPUB} + 0.177 \text{ DEXP} + 0.593 \text{ INT} + 0.238 \text{ DEMAND}$$

(0.74)
(2.79)
(1.97)
(3.15)
(2.68)

$$R^2 = 0.87 \quad SE = 1.017 \quad F(4,14) = 12.6 \quad DW = 1.99$$

The estimation results suggest that a relative demand shift towards nontradable goods was an important factor in accounting for the widening of the current account surplus since the early 1980s. The estimated coefficient of the relative demand shift variable itself turns out statistically significant and has the expected sign, and the inclusion of this variable raises the explanatory power of all explanatory variables taken as a whole in terms of R^2 . In addition, while remaining statistically significant (albeit in the case of the DEXP variable marginally so), the coefficients of the fiscal variables turn out significantly lower compared to the estimation results of the preceding section.³⁸ Finally, with regard to the government saving surplus, its estimated coefficient falls to some 0.5 after the inclusion of the demand shift variable, implying that an increase of the government saving surplus by 1 percentage point of GDP can be expected to result, **other things equal**, in a reduction of the private sector's saving surplus by about half a percent of GDP. Such an estimate of this "Ricardian offset" coefficient is very close to estimation results obtained for other industrial countries, and is also consistent with the experience of Belgium during periods prior to the one under consideration.

While the estimation results presented above point to the importance of relative demand shifts in explaining the size of the business saving surplus, it is very difficult to test directly to what extent this effect operates via the impact of factor proportions, rather than reflecting the impact of distortions in the nontradable goods sector. However, the implications of the underlying model suggest a simple test that could lead to a useful international comparison. It should be recalled that the benchmark case of perfect competition suggests that in the long run relative prices should be independent of demand-side factors. In that sense, on the assumption of similar relative demand shifts across countries,³⁹ the extent of the increase in the

³⁷Choosing an earlier sample starting point relative to the preceding section was dictated by the need to safeguard degrees of freedom, in view of the additional variable included, but also of the unavailability of all the required sectoral data beyond 1992.

³⁸It is also noteworthy that inclusion of the relative demand shift variable renders the constant term insignificantly different from zero.

³⁹This assumption can be justified on the basis of the findings of De Gregorio, Giovannini, and (continued...)

relative price of nontradables net of relative productivity developments, over a long enough period, could proxy the extent of deviation from perfect competition in the sheltered sector.

De Gregorio, Giovannini and Wolf (1994) plot a best-equation fit of the relation between total factor productivity growth and the average annual rate of increase in relative prices for a sample of OECD countries between 1975 and 1990, a period overlapping to a large extent with the period under consideration in this section (see Chart 10). In terms of this chart, Belgium's experience during this period stands out: after controlling for relative sectoral productivity developments, it can be calculated that the average annual growth of the relative price of nontradables in Belgium was more than 1 percent higher than would be predicted on the basis of the industrial countries sample, with Belgium exhibiting the second largest positive such deviation among the countries in the sample.⁴⁰ This would suggest that extent of distortions in Belgium's sheltered sector may be significantly higher relative to its main trading partners. This in turn underlines the importance of structural policies aimed at strengthening competition in the sheltered sector for lowering the business saving surplus, by raising business investment and (possibly) lowering business saving.

Quite apart from the issue of potential distortions, however, the empirical results of this section carry implications for fiscal policy. It should be recalled that government, in directly producing a range of nontradable commodities, ranging from public safety to health care, accounts for a large component of the demand for nontradables. In that sense, our findings would suggest that the composition of fiscal consolidation can be expected to have strong macroeconomic implications. Specifically, consolidation based primarily on deficit reduction would entail a relative demand shift away from nontradables, raising investment and lowering the saving surplus. Thus, the conclusions of this section reinforce those of the previous section regarding the importance of the "quality" of fiscal consolidation.

Concluding remarks

This chapter explored a number of factors that could explain the sharp reversal in the trends of the Belgian current account since the early 1980s. These trends pose two important questions. First, what could account for the very limited impact of the substantial fiscal consolidation since the early 1980s on the private sector's saving surplus? Second, why did

³⁹(...continued)

Wolf, (1994). Recall that the authors found the share of government consumption expenditure and per capita GDP to be the main determinants of the relative demand shifts. Since the early 1980s, the increase in both of these variables in the case of Belgium was certainly not out of line in relation to its main trading partners.

⁴⁰In fact, the country exhibiting the largest positive deviation, Japan, is clearly an outlier in this regard.

Chart 10

Belgium

Differential Factor Productivity Growth and Relative Price of Nontradables

(In percent)

Source: De Gregorio, Giovannini and Wolf (1994).

business investment fail to keep pace with the rebound in business saving during the same period?

With regard to the first question, the empirical results of this chapter suggest that the composition of fiscal adjustment during a large part of the period under consideration was particularly important. Specifically, the fact that government expenditure remained high during a prolonged part of the adjustment process appears to have raised doubts about the credibility (and sustainability) of fiscal consolidation. At the same time, the empirical evidence suggests that the rising debt ratio and the concomitant rise in the interest burden may have induced the private sector to expect higher future tax liabilities.

On the second question, the empirical results of this chapter suggest that a relative demand shift toward nontradable goods explains to a large extent the asymmetry between the trends of business saving and business investment. While this effect may partly be attributable to technological factors, namely a lower capital intensity of nontradables, it appears that non-competitive features in the nontradables sector also have played a role. This points to the relevance of intensified structural and labor market policies aimed at strengthening competition in the sheltered sector.

As regards macroeconomic policy, the results of this chapter suggest that increased attention over the composition of fiscal adjustment is particularly relevant. In particular, fiscal consolidation based on expenditure reduction will tend to strengthen confidence in the consolidation effort, while at the same time boosting investment by raising relative demand toward tradable goods.

IV. THE LONG-TERM FISCAL OUTLOOK

A. Social Security Expenditure⁴¹

Introduction

This section provides some illustrative long-run projections of social security expenditure in Belgium. After a brief discussion of the structure of the social security system, the key reforms that the government has introduced during the past 15 years are reviewed. Long-term simulations for pensions and health care expenditures during 2000-2050 are then reported and combined with estimates from the Bureau du Plan for the other components of social security to arrive at a consolidated projection of the main trends in social security spending in the coming decades.

⁴¹ Prepared by Bart Turtelboom.

An overview of the Belgian social security system

The Belgian social security system encompasses health care, pensions, family allowances, and the coverage of professional risks. The **health care** system is organized by the government. A compulsory health insurance covers the expenditures of medical care provided by semi-private or private organizations and doctors.⁴² Doctors, specialists, and government-run and private sector hospitals provide care for the population, which is fully insured for all major and minor health risks.⁴³ All workers have to join one of the five mutual cooperatives which provide insurance for the worker and his dependents. These mutualities pay for the bulk of the expenses, but patients have to provide copayments for most treatments. Dental care, outpatient treatment, physiotherapy, and medicine are all covered under the general health care insurance scheme.

Pensions are paid through three different schemes, for civil servants, private sector employees, and the self-employed. The pension scheme for civil servants, which, *stricto sensu* is not a part of the social security system since those pensions are paid directly from the general government budget, is the most generous. Their pensions are calculated on the basis of salary during the last five years of career, indexed fully to prices, and subject to a very high ceiling; they also benefit from the system of “*peréquation*”, which indexes the pension received by current pensioners to the salary of their working-age counterparts of the same rank. Pensions for private sector employees are substantially less generous: they are calculated on salaries during the whole career, indexed to prices but not to wages, and subject to a low ceiling.⁴⁴ The pension for the self-employed is basically a minimum income scheme that provides a small pension, unrelated to life-time earnings.⁴⁵ Survival and disability pensions are also paid to widows and the disabled, respectively. In addition to the above-mentioned state-run pension schemes, wage earners can save for their retirement through pension and insurance schemes provided by the private sector. Although some of those savings receive a favorable tax treatment, pension schemes provided by the private sector are not very widespread.

⁴² SM/96/31 (Supplement 1), on which this section is based, provides more detail on the Belgian health care system.

⁴³ The self-employed have the option to self-insure against minor risks.

⁴⁴ Pensions for private sector employees can be increased in real terms following a decision by the government; this last occurred at the beginning of the 1990s.

⁴⁵ For an in-depth overview of the pension system in Belgium, see WP/96/74. Claeys, Geeroms, Rigo, and Delgado (1995), Englert, Fasquelle and Weemaes (1994a,b), and Weemaes (1995) also provide long-term pension projections.

Unemployment benefits are paid to those workers who have been fired, and to new entrants on the labor market who cannot find employment.⁴⁶ Benefits are based on salary, marital status, and household status if married; are indefinite although gradually declining over time; but can be subject to removal in case of abnormally long spells of unemployment when compared to the regional average duration of unemployment.⁴⁷ **Early retirement schemes**, though separate from the unemployment benefits, serve a similar purpose for the aging unemployed. In addition to the basic unemployment benefit, those schemes often provide for additional income support. A feature of the Belgian unemployment system is the strong involvement of the unions in its administration: although there is a government agency that pays unemployment benefits, the bulk is paid by the unions, who receive a fee for its administration. Although this *de facto* requires that the unemployed are member of a union, they, for the most part, do not take part in the decision-making process within the unions.

Family allowances are paid to employees, the self-employed and the unemployed with children. The amounts paid are independent of the income, increase for additional children and with the children's age, and are higher for the unemployed and pensioners than for workers.

The main **source of financing** for social security expenditures is employer and employee contributions, calculated on the basis of labor income. In addition, social security expenditures have been financed by earmarked direct and indirect taxes—the so-called alternative financing. In 1996, revenue from this source amounted to 10 percent of the social security contribution. While certain benefits are capped (i.e., pensions for private sector employees), there is no limit on social security contributions. Income from social security, with generous replacement rates and lenient eligibility criteria, is generally taxed more favorably than ordinary wage income. For instance, family allowances are not taxed at all, while incomes from pensions and early retirement benefits are taxed at a lower rate.

Recent reforms

In order to cope with the problems of a large public debt and of substantial unfunded liabilities in the social security system, the Government has taken a number of measures over recent years to contain health care expenditures, and has recently also enacted a first stage of reform of the pension system.

Health care

Since the early 1980s, the government has initiated several reforms of the Belgian health care system:

⁴⁶ New entrants on the labor market receive benefits after a waiting period of nine months.

⁴⁷ A head of household, however, can never have his unemployment benefits terminated.

- Overhaul of the reimbursement systems for ambulatory care, drugs, and hospitals in the early 1980s.
- Reduction of the total number of hospital beds: the number of beds could not exceed the 1982 level and no new hospital could be opened without closing another one; incentives for reducing the number of beds were also introduced.
- A global budget system for hospitals: each hospital was given a budget and quota of days with adjustments for the case-mix.
- Automatization of billing procedures in hospitals in the late 1980s, linking hospital expenditures and medical fees.
- The introduction of a US-developed classification system of illnesses, which allows for the calculation of average treatment costs at the level of the hospital.
- The introduction of standardized financial and clinical records with the purpose of constructing a database which will permit analysis of expenditure and treatment trends at the micro level.
- Review of reimbursement procedures for the health insurance companies, with the ultimate goal of increasing their financial responsibility.
- A substantial increase in copayments (1993).

In addition to these structural measures, the Government has also tried to limit health care expenditures more directly as part of the annual budget exercises. Since early 1993, the overriding goal and operational target has been to limit growth of health care expenditures to 1½ percent annually in real terms. This can be considered an ambitious target since health care expenditures, measured as a percent of GDP, are already lower than in the Netherlands, France and Germany. The main components are a reduction of expenditures on drugs, limits on the indexation of doctors' honoraria, a reduction of certain hospital-related expenditures and other technical measures.⁴⁸

⁴⁸ Despite these measures, the Government has recently found that health care expenditures have again been growing excessively. In order to address this problem, the Government has taken emergency measures in December 1996 amounting to 0.1 percent of GDP. These measures include a temporary reduction of honoraria for hospital patients by 3 percent, a reduction of payments for the institutional care of certain patients, and an introduction of a one-percent levy on the turnover of drugs.

Pensions

In October 1996, the Government altered several aspects of the pension scheme for private sector employees.⁴⁹ The main ingredients of the reform, which will become effective in mid-1997, can be summarized as follows:

- The benefit formula used for the calculation of women's pensions is made less generous: the pension for women working in the private sector has been based in the past on a career of 40 years, and this is being raised gradually to 45 years, the required career length for men.
- A minimum pension right is instituted: for every year of at least part-time work, the right to a minimum pension will be accrued for all private sector employees who have worked at least 15 years; this measure aims to offset the negative influence on their pensions of the partial careers that many women had in the past.
- The system of revalorization coefficients is being phased out over the next nine years: these revalorization coefficients were used to adjust wages before 1975 for inflation and, partially, nominal wage growth.
- The flexibility of the retirement age is maintained between 60 and 65 years of age, but a minimum career length requirement to retire is introduced; this requirement will rise gradually from 20 years in 1997 to 35 years in 2005.
- Several provisions relating to the treatment of years spent in schools and career breaks are being relaxed.
- In addition to an adjustment for inflation, the ceiling on pensions for the private sector will be increased every two years, on the basis of the margin for real wage increases, but the exact increase will be determined by the Council of Ministers.

The impact of the different reforms will have an ambiguous impact on pension expenditures in the long run. The less generous calculation base for women's pension will lower expenditures in the long run but have little impact in the short run since it is being phased in only gradually; however, as an increasing number of women work full-time for more years, the impact of this measure will increase over time. While the introduction of a minimum pension right will increase expenditures over the medium term, its effect will gradually decline over time in light of the higher participation rates for women in all age cohorts. The

⁴⁹ So far, the pension scheme for civil servants has not been reformed but the Prime Minister has publicly stated the Government's intention to tackle this issue in early 1997.

elimination of the revalorization coefficients will also limit expenditures in the medium term without a significant impact in the long term. The impact of an increased career length requirement in order to retire will limit expenditures, since it conceivably will require most women to work until age 65 to receive a full pension.

Under the present framework, a decision to fully adjust the ceiling on private sector pensions to nominal wages rather than prices—if the law were implemented in this manner in practice—could have a large and structural impact on expenditures. During the past 15 years, the ceiling on private sector pensions has *de facto* been indexed only to prices. With continuing real wage growth, this implies that over time a larger fraction of the new retirees are “bumping” against this ceiling and have their pension capped—indeed, if the ceiling were not adjusted to nominal wage developments at all, the state pension system would become a basic pension scheme in the very long run. The Government’s decision to create a mechanism that provides for adjustment of the ceiling to nominal wages could thus result in substantially larger outlays than anticipated before the reform. This effect would increase with the aging of the population—more pensions need to be paid out per employee—but it is independent of demographic developments: it continues to have a positive impact on expenditures even after aging tapers off in 2030. Since the practice of the past 15 years of indexing the ceiling on the pension of private sector employees only to prices might not be sustainable from the perspective of providing an equitable income for the elderly, section IV.C., provides, in addition to the baseline scenario, an alternative scenario where—at the opposite extreme—the ceiling is *fully* indexed to wages. This section also explores the long-term fiscal impact of putting the pension scheme for private sector employees broadly on the same footing as the scheme for civil servants; this scenario would not only index the *ceiling* to wages but also let existing pensioners *throughout their retirement* share in real wage growth throughout their retirement.

Long-term simulations for social security expenditures

This section provides some illustrative simulations for social security expenditures for 2000-2050. The macroeconomic assumptions underlying the pension and health care expenditures are the same as in de Callatay and Turtelboom (1996), which provides detail on the simulations. The main features are that productivity growth is assumed to average 1.5 percent annually, inflation is 2 percent, and the real interest rate is 3.5 percent.

The simulations are based on new demographic projections developed by the National Institute for Statistics. Compared to the previous population projections, the new figures assume lower fertility, higher life expectancy, and different migration patterns. The new fertility figure is 1.75 children per woman, compared to 1.85 children per woman in the previous projections which substantially worsens the long-term demographic outlook. However, immigration also has a different age structure. This explains the apparent anomaly that the absolute number of people over 65 years is lower than in the 1992 projections, despite the increased life expectancy. Hence, from the perspective of pension system sustainability, the improved demographic outlook depends on an increase in the number of young immigrants

and a decrease in the number of older immigrants. While this adjustment brightens the demographic outlook until 2030, it does not improve the very long-term outlook. Even if immigrants were to leave the country upon retirement, they could still be entitled to their pension benefits.

Health care expenditures

This section presents some illustrative simulations on the impact of aging and technological progress on health care expenditures. The demographic assumptions are similar to those underlying the pension projections in the previous section and the methodology is based on previous work by the Bureau du Plan. Due to the lack of sufficiently disaggregated and comprehensive data on health care expenditures per age cohort in Belgium, French data on the distribution of health care expenditures over different age cohorts are combined with demographic developments in Belgium.

Generally, the impact of aging on medical consumption is not yet fully understood, and any long-term simulations of this impact need to be approached with caution. Moreover, the available data for OECD countries tend to show a wide variation on the age distribution of medical expenditures. In the following simulations, per capita health care expenditures within each cohort are assumed to grow at the rate of GDP growth plus technological progress. This exogenous parameter capturing technological progress in health care is very difficult to pinpoint with any degree of precision; OECD estimates have broadly implied a growth of ½ percent to 1 percent annually on account of technological progress. Table 18 presents the simulation results assuming an impact of technological progress of ½ percent annually.

As can be easily seen, primary health care expenditures rise gradually from 5.3 percent of GDP to 6.5 percent in 2030 and 7.0 percent in 2050. With primary revenue kept constant at the 1995 level consistent with financial balance in health care in 1995, the implicit “debt burden” created by technological progress and aging rises gradually to around 36 percent of GDP in 2030, growing to close to 100 percent of GDP in 2050.

Table 18. Belgium: Health Care Projections During 2000-2050
(In percent of GDP)

	2000	2010	2020	2030	2040	2050
Primary revenue	5.0	5.0	5.0	5.0	5.0	5.0
Primary expenditure	5.3	5.7	6.1	6.5	6.8	7.0
Primary balance	-0.2	-0.7	-1.1	-1.5	-1.8	-2.1
Net interest receipts	0.0	-0.3	-0.9	-1.8	-3.2	-5.1
Balance	-0.3	-1.0	-2.0	-3.3	-5.0	-7.1
Net asset position	-0.8	-6.1	-17.3	-35.8	-62.3	-98.3

Source: Staff simulations.

Pension expenditures

The simulation results for the pension system, shown in Table 19, are based on the new demographic projections, and incorporate the extended career for women to 45 years. These projections maintain the assumption that the ceiling for pensions of private sector employees is indexed to price inflation. On this basis, the outlook improved slightly from previous estimates. At the peak of aging in 2030, primary pension expenditures for private sector employees stand at 6.2 percent of GDP; pensions for civil servants will amount to 3.8 percent of GDP. The main qualitative results from previous work by the staff still hold: (i) pension expenditures grow strongly over the next 35 years; (ii) pension expenditures for private sector employees grow more slowly than those for their counterparts in the public sector; (iii) the system of indexing pensions of civil servants to wages after they have retired, the so-called perequation, leads to a continuing rise in their pension expenditures beyond the aging peak in 2030; and (iv) there is a substantial decline in the replacement rate for private sector employees. Despite the improved demographic outlook, however, the problem remains very serious. If all shortfalls in the system were to be funded through debt, the additional "debt burden" implied by increased pension expenditures, taken in isolation, would likely stand at close to 200 percent of GDP in 2050.

Table 19. Belgium: Pension Projections, 2000-2050
(In percent of GDP)

	2000	2010	2020	2030	2040	2050
1. Revenue						
Private sector	4.6	4.6	4.6	4.6	4.6	4.6
Public sector	2.0	2.0	2.0	2.0	2.0	2.0
TOTAL	6.6	6.6	6.6	6.6	6.6	6.6
2. Primary expenditures						
Private sector	4.7	5.1	5.8	6.2	5.8	5.4
Public sector	2.5	2.9	3.2	3.8	3.9	4.1
TOTAL	7.2	8.0	9.1	9.9	9.8	9.5
3. Primary balance						
Private sector	-0.1	-0.5	-1.3	-1.6	-1.3	-0.9
Public sector	-0.4	-0.9	-1.2	-1.8	-1.9	-2.0
TOTAL	-0.6	-1.4	-2.5	-3.3	-3.2	-2.9
4. Pension Debt						
Private sector	-0.4	-3.6	-15.3	-35.3	-59.7	-86.4
Public sector	-0.7	-8.3	-21.5	-42.2	-71.4	-110.0
TOTAL	-1.2	-12.0	-36.9	-77.6	-131.1	-196.4

Source: Staff simulations.

A number of policy-related variations on this baseline could be constructed. One such alternative scenario that could be the basis of future government policy for private sector pensions is presented in Table 20. This table quantifies the potential impact of a decision to index the ceiling on private sector pensions to nominal wages rather than prices: the rate of increase is not automatic, and requiring a Ministerial decree every two years, so the additional expenditures for pensions in the private sector shown in Table 20 are based on such adjustments being made in full—admittedly an extreme hypothesis. The cost of this measure, while limited in the short-term, increases gradually and reaches almost 2 percent of GDP by

Table 20. Belgium: Indexation of Pension Ceiling to Wages
(In percent of GDP)

2000	2010	2020	2030	2040	2050
0.0	0.3	1.0	1.9	2.6	3.3

Source: staff simulations.

Note: This table presents the fiscal impact of indexing the ceiling for pensions paid to private sector employees to wages compared to a baseline with indexation of the ceiling to prices only.

2030. After 2030, the impact continues to grow, independent of improving demographic developments. The reason for this continuing rise after 2030 can be seen intuitively: when the ceiling is indexed to wages, the average pension will evolve with the average wage in the private sector, both of those corrected for demographic developments. In sum: without any indexation of the ceiling to wages, the pension scheme would become a minimum pension scheme in the long run; however, maintaining the insurance component of the pension scheme for private sector employees fully by indexing the ceiling to wages would come at a very high cost indeed. Any decision to increase pensions *beyond* the more favorable calculation of the ceiling shown in Table 20 could have a further similar impact. For instance, if retirees continued to share in real wage growth after they have ended their working life, this would have an impact of roughly the same order of magnitude as indicated in Table 20. Finally, it should be noted that these scenarios do not incorporate a possible reform of the civil service pension scheme, which could achieve significant savings.

Overall social security expenditures

This section presents an illustrative projection of long-term overall trends in social security expenditures in Belgium over the next half century. It combines the above-mentioned estimates of health care and pension expenditures with Bureau du Plan estimates for the other components of social security.⁵⁰ The assumptions on the evolution of structural unemployment and labor market participation imply significant progress with structural reforms of the labor and product markets. Pension expenditures are taken from the baseline simulation with the new demographic data, an increased retirement age and less generous benefit formula for women, and the old (i.e., price-based) indexation practice for the ceiling of private sector pensions (Table 21). Those components of social security expenditures which are paid

⁵⁰ Since the interest rate assumption is slightly different in the Bureau du Plan and our simulations, no debt dynamics are calculated.

Table 21. Belgium: Long-Term Trends in Social Security Expenditures
(In percent of GDP)

	1995	2000	2010	2020	2030	2040	2050
Pensions 1/							
Private sector	5.9	6.1	6.6	7.5	8.1	7.5	7.0
Civil servants	2.7	3.3	3.8	4.2	4.9	5.1	5.3
Total	8.6	9.4	10.4	11.7	13.0	12.6	12.4
Health care	5.0	5.3	5.7	6.1	6.5	6.8	7.0
Unemployment	2.3	2.0	1.7	1.3	0.8	0.8	0.7
Early retirement	0.7	0.6	0.7	0.6	0.5	0.4	0.3
Family allowances	1.8	1.7	1.5	1.3	1.1	1.0	0.8
Total	18.4	19.0	20.0	21.0	21.9	21.6	21.2

Source: Staff simulations (pensions and health care) and Bureau du Plan projections.

1/ Including survival and disability pensions.

proportionally more to the older segment of the population grow rapidly. Pensions and health care combined grow from 13½ percent of GDP in 1995 to 20 percent in 2030. While pension expenditures decline slightly afterwards, health care expenditures continue to grow, and the two combined continue to absorb close to 20 percent of GDP until 2050. However, an aging population will significantly reduce pressures on the labor market over the long-term. Even with an increase in the participation rate for women, unemployment will fall and unemployment benefits will decline as a share of GDP: such benefits amount to 2.0 percent of GDP in 2000, while the projections for 2030 indicate a decline to 0.8 percent of GDP. For similar reasons, early retirement schemes will be used by fewer employees and expenditures for this category will, after a further rise in 1995-2010, decline by about 0.1 percentage point of GDP each decade. The lower fertility rate does not only lead to a larger fraction of old persons in the population, it also implies a decline in the absolute number of young people. This will save around 0.6 percent of GDP between 2000 and 2030.⁵¹ Despite these offsets

⁵¹ This table only looks at social security and excludes other government expenditures that will
(continued...)

(amounting to close to 2 percent of GDP) in early retirement expenditures, unemployment benefits and family allowances, overall social security expenditures are expected to rise from 19 percent of GDP in 2000 to 22 percent of GDP in 2030, even on the assumption of price indexation only for pensions—and on the basis discussed earlier that continuing structural reforms take place in labor and product markets.

Conclusion

In conclusion, this Section of the paper highlighted some key reforms in social security in Belgium over the past 15 years. While substantial progress has been made in containing health care expenditures, aging will impose a heavy burden on future generations of workers in Belgium. On pension reform, recent reforms will slow expenditures only if indexation of the pensions and their ceilings in the private sector is to be kept a minimum above prices. In addition, the pension scheme for civil servants, which is substantially more generous than the scheme for private sector employees, has not yet been reformed.

Moreover, it needs to be stressed that the projections are “central” scenarios for economic growth, labor market dynamics, and demographic projections which are subject to substantial risk. In this regard, three particular uncertainties come to mind. First, the decline in unemployment and early retirement, while driven by underlying demographic trends, will require *further reforms of the labor market*; in particular, in the absence of such reform, economic growth could be lower than projected and the savings from reduced unemployment and early retirement expenditures, could fail to materialize. Second, the current demographic projections are based on fertility assumptions which are well above those observed in recent years and rely on a sustained immigration of young people. Third, while the absence of reliable data prevents a conclusive assessment of aging on medical expenditures, the current assumptions could very well be too optimistic since they put medical consumption of the very old only slightly above the consumption of new retirees. Since the ranks of the very old will grow rapidly, aging could very well have a significantly stronger impact on health care than currently anticipated. Moreover, health care spending measured as a percent of GDP is lower than in many other industrialized countries. To the extent that this reflects a successful government policy to contain medical expenditures and eliminate unnecessary spending, there is less of a cushion in Belgium to offset the effect of aging by streamlining the health care system than in other countries.

⁵¹(...continued)

be affected (i.e. education expenditures, the minimum income for the elderly, and other assistance programs for the elderly).

B. Aspects of the Tax Structure⁵²

The discussion above indicated that one important priority in order to address Belgium's long-run fiscal problem is to ensure that the growth in social security entitlements is contained as the population ages. It also indicated the importance of further structural reforms, especially in the labor market. In this connection, it is worth examining the scope for action on the revenue side of the budget. Clearly, given the already high level of revenue to GDP ratio, it is difficult to envisage further rises in taxation of labor income without further jeopardizing employment.⁵³ On the other hand, however, the high priority of reducing the debt load—and the danger of provoking a re-emergence of a significant risk premium on the government debt—appear to exclude substantial overall cuts in the tax burden in the near future. A possible course of action, therefore, would be to combine expenditure restraint with a policy of tax reform to cut the tax burden on labor income.

Over the past decade, there have been several episodes of tax reform in Belgium. The first significant reform was the so-called "Grootjans Law" in August, 1985, which was a four-year personal tax reduction plan which completely indexed the tax schedule to inflation, cut marginal rates by 2¼ percentage points, increased the basic annual deduction by 26 percent and allowed more favorable income-splitting for couples. Another major tax reform "the Maystadt reform" was introduced in 1989 (a revised form of the preliminary draft reform formulated in 1987 under the "Eyskens reform"). The changes included significantly more liberal income splitting for married couples, a reduction in the number of brackets from 13 to 7 and in the top rate (for central government) from 72 percent to 55 percent; a further 30 percent increase in the standard deduction for unmarried taxpayers; and the generalization of inflation indexation to all the deductions in the personal income tax code. The lowering of the personal tax rate was partially compensated by a broadening of the base of personal and corporate taxes through the elimination of tax expenditures and higher excise duties.

The process of tax reform was subsequently extended to corporate taxation. With the Law of December 22, 1989, the standard rate was cut from 43 percent on 1989 income to 41 percent for 1990 and 39 percent for 1991; (although due to budgetary exigencies, various other base broadening changes were effected so as to make overall, a positive revenue contribution). Also, withholding tax on capital income (interest, but not dividends) was cut

⁵²Prepared by Ousmane Doré, with Caroline Van Rijckeghem.

⁵³In this connection, it is also interesting to examine the relationship between revenues and expenditures in the framework of Granger causality. If causality is found to be running from revenues to expenditures, then fiscal adjustment through revenue increases could lead to expenditure increase too, implying also that the deficit may not be reduced unless the causal link is broken. In his empirical analysis of EU countries budgets, Belessiotis (1995) finds evidence of uni-directional causality running from revenues to expenditures for some countries, including Belgium.

from 25 percent to 10 percent in February 1990. Although these reforms moved in the direction of lowering rates and broadening the personal tax base, the system remained complex and the key features of high rates and a narrow base did not change fundamentally.

Belgium thus entered the 1990s with a system of tax and social security contributions which, in some respects, has a negative impact on economic decision making, and in particular weighs on average very heavily on labor (Table 22). Moreover, the personal income tax rate of over 58 percent (including local taxes) is one of the highest among industrial countries, but because of the narrow base, the yield has remained mediocre. The tax code features generous basic and family deductions and significant write-off possibilities for employment-related expenses, as well as for various kinds of saving, including life-insurance premiums, pension-plan contributions and purchase of equity in one's employer. The corporate tax system also continues to suffer from a number of anomalies, including relatively high rates, attractive avoidance possibilities, and a tax administration that needs to be strengthened and better-equipped.

Table 22. Belgium: Unemployment and the Statutory
Tax Rates of Social Security, 1993

	Unemployment rate	<u>Social security and payroll taxes</u>		
		Total	Employee	Employer
Belgium	13.0	47.3	13.1	34.3
France	11.6	56.3	19.0	37.3
Germany	9.4	38.2	18.4	19.8
Ireland	13.2	27.0	4.0	23.0
Italy	12.0	22.2	8.8	13.5
Luxembourg	2.8	35.0	17.5	17.5
Netherlands	8.4	54.7	41.4	13.3
United Kingdom	8.2	15.6	11.0	4.6
United States	6.9	21.5	7.7	13.9
OECD countries	7.8	30.2	10.4	19.8

Source: Zee (1996).

From a macroeconomic perspective, the single most important handicap of the current tax system is its adverse effect on employment. With social security contributions essentially based on wage income, the resulting "tax wedge" has been an important impediment to employment creation. The relatively high tax wedge for private sector workers (see Chart 4) provides a compelling argument against any increase in contributions, and indeed forms an additional argument to scale back future benefit growth. In light of the poor labor market conditions, which have been characterized by the lack of net employment creation over the past 25 years, emphasis has been laid on lowering employers' social security contributions and switching the financing of social security more toward alternative tax-based financing. As in a number of industrial countries, the adjustment of social security has taken the form of

reductions targeted to unskilled workers.⁵⁴ The 1991 Maribel Operation lowered employers' contributions on the manual workers wages by an amount equivalent to 1 percent of GDP, which was compensated by an equivalent rise of the VAT. The "Global Plan" adopted in 1993 also featured cuts in employers social contributions while relying on alternative financing, including a shift to indirect taxes.⁵⁵ At the level of the minimum wage, social security contributions were reduced by 10 percent and further changes are envisaged for 1997.

To shed theoretical light on the possible policy effects of further measures in this direction, a general equilibrium model developed by the staff was used in order to assess the impact on employment of across-the-board and targeted reductions in employer social security taxes (see Box 2). Tables 23 and 24 summarize the results of staff simulations involving reductions in selected taxes.

In essence, it appears that targeted reductions in employer social security taxes have the most powerful impact on overall employment and also make the largest positive contribution to the budget in the long run (Table 23). Global reductions in employer social security taxes on the other hand result in slightly stronger employment and after-tax wage growth for skilled workers than reductions in other taxes. A striking finding is that all types of tax reductions appear to have positive effects on the budget in the long run (at least on the assumptions about responses in the private sector in these projections). However, in the case of Belgium, given the high level of public debt and the potential for a renewed rise in the risk premium, a strategy of "self-financed" tax cuts would not be prudent in the short run. Simulations were therefore made involving combinations of tax reductions and tax increases that are budgetarily neutral in the short run (Table 24): it is striking that even on this basis overall employment increases by 0.1 percent in the short run and by four to five times as much in the long run for each point reduction in social security tax under both the targeted and global reforms.

⁵⁴The United Kingdom, the Netherlands, and France have also introduced social security tax exemptions for low-income workers. In the case of the Netherlands and France these exemptions amount to reductions in labor costs of 5 and 12 percent (and more for part-time and long-term unemployed), respectively, at the level of the minimum wage. Germany has focussed on providing temporary exemptions from social security taxes to the long-term unemployed.

⁵⁵Under the Global Plan, during 1993-94, firms hiring workers of less than 26 years of age and fully unemployed for at least 6 months benefited from a reduction in contributions for these workers of 100 percent in the first year, 75 percent in the second, and 50 percent in the third (Plan d'embauches des jeunes) during 1993-94.

Box 2. Social Security Reform and Unemployment: A CGE Model for Belgium

A forthcoming paper by the staff uses a general equilibrium model to simulate the employment effect of various social security tax reforms in Belgium.¹ The simulations of tax reductions without offsetting financing indicate that, in the long run, **targeted** reductions in **employer** social security taxes have the most powerful impact on overall employment, output, and also make the largest positive contribution to the budget over the longer run. **Global** reductions in **employer** social security taxes involve slightly stronger employment and after-tax wage growth for skilled workers than reductions in other taxes. Reductions in **employee** social security taxes involve substantially stronger after-tax wage growth for unskilled workers, but lower overall income growth, taking into account the much smaller increase in employment of skilled workers. A striking finding is that all types of tax reductions have positive effects on the budget in the long run. This finding of a form of **self-financing** results as much from lower unemployment insurance outlays—an aspect which has not received much attention—as from higher tax revenues.²

The paper also examines various combinations of taxes which are budgetarily neutral in the **short run**. The results indicate that a one point reduction in **targeted employer** social security tax rates offset by broad-based income taxation has the following effects. In the **short run** (i.e., before capital adjusts), overall employment increases by 0.1 percent, while unskilled employment increases by 0.4 percent for each point reduction in the social security tax. Skilled employment declines slightly, while the net-of-tax rate of return on capital increases. In the **long run**, employment grows by 0.4 percent and the tax reform makes a positive contribution to the budget. This employment increase is associated with a slight reduction in after-tax wages of unskilled workers. Returns to skills (as measured by the after-tax income differential between skilled and unskilled workers) decline, on account of higher employment probabilities for the unskilled. The employment effect of this targeted reduction is of similar magnitude as that of a reduction in **global** employer social security taxes, even though it covers only 30 percent of employees. **Employee** social security tax reductions financed by a broad-based income tax, on the other hand, have a negative effect on employment in the long run, as higher taxes on income from capital act as a disincentive to investment, while labor costs of unskilled workers are not reduced. In the **short run**, employment increases by 0.1 percent. The after-tax rate of return on capital declines substantially. In the **long run**, employment declines by 0.2 percent and the tax reform has a negative impact on the budget.

¹ The model is a computable General Equilibrium (CGE) model, which assumes an open, one-sector, price-taking economy, with three factors of production (skilled labor, unskilled labor, and capital), involuntary unemployment, and capital mobility; the paper is by Van Rijckeghem and Doré. See also SM/96/249 for the case of France.

² This result is sensitive to the assumption that wages are not very responsive to unemployment.

Table 23. Belgium: Response to Selected Tax Reductions
(In percentage change)

	Response to Tax Reductions Costing One Percent of GDP in the Short-Run			
	Short-Run Response		Long-Run Response	
	Global Cuts	Targeted Cuts	Global Cuts	Targeted Cuts
Total employment	0.88	1.74	3.83	8.29
Skilled employment	0.76	0.01	2.64	2.42
Unskilled employment output	1.17	5.74	6.61	21.97
Output	0.56	0.72	3.38	6.06
Surplus (in percent of GDP)	-1.0	-1.0	1.24	2.91

Source: Van Rijckeghem and Doré, 1996 (forthcoming).

Table 24. Belgium: Response to Selected Tax Reductions
with a Revenue Offset Budgetarily
(In percentage change)

	Response to the Reduction One Percent of GDP in the Short-Run			
	Short-Run Response		Long-Run Response	
	Global Cuts	Targeted Cuts	Global Cuts	Targeted Cuts
Total employment	0.18	0.10	0.50	0.42
Skilled employment	0.08	-0.04	0.17	0.02
Unskilled employment	0.41	0.42	1.26	1.37
Output	0.10	0.03	0.28	0.25
Surplus (percentage of GDP)	-	-	0.17	0.16

Source: Van Rijckeghem and Doré, 1996 (forthcoming).

C. Long-Term Fiscal Scenarios⁵⁶

Introduction

The discussion that follows seeks to draw together a number of the issues addressed earlier in this paper, and to illustrate possible policy options by the development of some long-term simulations of the overall fiscal position. Over the long-term, against the background of the currently still very high debt ratio, the main challenge to policy makers is posed by the projected adverse demographic developments (which parallel those in most industrial countries). In this setting, an appropriate fiscal strategy would consist of aiming at a strong reduction of the debt ratio now, while the demographic situation is still relatively favorable. This must generate sufficient saving of debt service costs to provide room to finance the increased spending in age-sensitive areas of social security in the period of rapid ageing of the population without having to resort to tax and social contribution increases—indeed, preferably, to allow some reduction over time in the present very high revenue-to-GDP ratio. The appropriate pace of debt reduction needs to be assessed, however, in light of the extent of reforms to the social security system that will moderate the age-related growth in spending, and other structural reforms that might improve economic performance.

Demographic developments of the type projected for Belgium during the first half of the next century affect fiscal policy outcomes via two distinct channels. In the first place, as described earlier in this Section, ageing of the population entails higher expenditure in a number of important areas of social security, notably pensions and health care. Demographic-related expenditure increases in these areas can be estimated to significantly exceed demographic-related reductions in other areas, mainly family allowances and early retirement. Second, the ageing of the population entails a negative labor supply shock (given the labor force participation rate), resulting in a deceleration of output growth, in turn lowering the amount of debt reduction that can be achieved for a given ratio of the budgetary balance to GDP.

This chapter first explores the fiscal implications of alternative scenarios regarding the evolution of pension benefits, for a given general government balance and a given labor force participation rate. The choice to focus on pensions does not reflect a judgment that this is the only area of social security where such uncertainties exist. Indeed, as indicated above, considerable risks exist with regard to the central projections of the evolution of health care benefits as well. What distinguishes pensions, however, is that the scale of such risks is transparently policy-related, in the sense that they mainly derive from future policy decisions regarding the implementation of certain key indexation rules. The simulation results reported in this section suggest that the choice of indexation practices does indeed carry strong implications about the long-term evolution of the fiscal burden in Belgium—and the effect of

⁵⁶Prepared by Ioannis Halikias.

such changes would be even more striking if a reform of the civil service pension scheme were also factored in.

The discussion then focuses on the potential fiscal implications of structural and labor market policies aimed at raising labor force participation and reducing structural unemployment. The simulation results suggest that such a strategy would carry important benefits in terms of achieving a durable reduction of the overall fiscal burden. Still, it may be judged that the resulting reduction of the revenue-to-GDP ratio is not sufficient, especially in view of the implications of possible tax competition within the EU single market. Under these conditions, and also in view of the inevitable upward risks regarding the evolution of social security benefits, it would appear advisable to complement such a strategy with an effort to lower primary, non-social security expenditure relative to GDP over the longer term, as has indeed been achieved in recent years.

Overall fiscal policy framework

This section summarizes the main assumptions regarding fiscal policy in the medium and longer term at the general government level, on which the simulations of this chapter are based. The medium-term projections are based on a policy scenario involving an unchanged structural primary surplus after 1997. In qualitative terms, fiscal policy is assumed to continue to aim at reducing the debt ratio well beyond the projected attainment of monetary union in Europe. In the first place, sustained debt reduction should be an important priority in its own right in order to avoid the re-emergence of significant interest rate premia, even in the context of a monetary union.⁵⁷ Second, debt reduction, at least while demographics are still relatively favorable, would be indispensable in order to provide sufficient interest savings to meet the ageing challenge, without resorting to a further increase in the revenue ratio or generating an explosive path for the debt ratio as demographic developments become adverse. Finally, from an institutional perspective, the EMU Stability and Growth Pact is likely to result in additional constraints in this direction.

Specifically, the policy of targeting the primary surplus at its current structural level⁵⁸ is assumed to continue beyond the horizon of the latest convergence plan announced by the authorities, for as long as a general government deficit remains. During that time, the revenue ratio is assumed to remain constant; the general government primary expenditure ratio is assumed to remain constant as well, with non-social security primary spending adjusted to

⁵⁷The relevance of such interest rate premia, which in the context of a perfectly credible monetary union would reflect sovereign credit risk, is strengthened not only by the "no bail out" clause of the Maastricht treaty, but also by the retention of taxation powers, including over taxation of capital income, by individual member states.

⁵⁸By 2002, the output gap is assumed to close; beyond that point, the actual revenue, expenditure, and budget balance are equal to their respective structural component.

offset projected net increases in social security primary spending. Under these conditions, the debt ratio continues to decline, and deficit reduction is entirely driven by the so-called "reverse snowball effect" of lower interest payments.

On the assumption of an unchanged labor force participation rate, this strategy is projected to yield budget balance by the year 2008. Beyond that point, the fiscal strategy is assumed to change, switching from targeting the primary balance to maintaining the overall budget balanced, thus in effect allowing the overall primary surplus to fall. In addition, primary, non-social security expenditure is assumed to remain constant as a share of GDP after the general government budget is balanced. Under these conditions, general government revenue is determined as a residual; in particular, a reduction in general government revenue as a share of GDP can occur only to the extent that interest savings from debt reduction outweigh the projected increases in social security spending. In fact, in this setting, alternative fiscal scenarios can be evaluated in terms of the sustainable reduction in the revenue ratio that they can support.

The assumption of maintaining the general government budget in balance on average throughout the period under consideration partly reflects the constraints assumed to be imposed by the EMU Stability and Growth Pact, in addition to the desirability (from an intertemporal perspective) of bringing the debt ratio down substantially before the adverse demographic shock hits the Belgian economy. On the assumption of a ceiling for the deficit at the Maastricht number of 3 percent of GDP, a zero structural balance could well be judged sufficient to meet this ceiling while providing adequate automatic stabilization in the face of adverse shocks. At all events, it should be emphasized in this connection that, with the loss of the monetary policy and exchange rate instruments under monetary union, it becomes increasingly important to safeguard the stabilizing potential of fiscal policy to deal with such asymmetric shocks. Nothing in the foregoing implies that it would be inappropriate in Belgium to aim on average for an overall budget surplus. For expositional simplicity, however, it is assumed that—politically, at least—the argument in favor of reducing the tax burden become persuasive at the point where overall balance has been securely achieved.

Alternative pension indexation scenarios

In this section, the implications of alternative indexation rules for the state pensions of private sector employees are examined. The recent reform of the scheme, which is described in Section A of this Chapter, while improving several aspects of the private sector pension system, has left a number of crucial issues to be resolved by policy makers in the future. In particular, the new legislation offers considerable latitude with the indexation rule for the pension ceiling, as well as for the overall pension. It would thus appear important to gain a sense of the magnitude of the impact, in terms of fiscal outcomes, of choosing one set of rules rather than others.

In order to quantify the fiscal implications of alternative indexation rules, three scenarios are considered. **Scenario A**, the baseline scenario, entails indexing both the pension ceiling and the overall pension only to prices. This scenario corresponds to Table 19 in Section A of this Chapter, but incorporates survival and disability pensions. **Scenario B**, while maintaining indexation of the overall pension only to prices, entails indexing the pension ceiling to market wages. Finally, **Scenario C**, in addition to wage indexation of the pension ceiling, entails indexing the *overall* pension to one half of real wage growth (on top of price indexation).

The projected implications of each of these scenarios for the path of private pension benefits are presented in the tabulation below:

Table 25. Belgium: Private Sector Benefits from State Pensions 1/
(In percent of GDP)

	1995	2000	2010	2020	2030	2040	2050
Scenario A	5.9	6.1	6.6	7.5	8.1	7.5	7.0
Scenario B	5.9	6.1	7.0	8.8	10.6	10.9	11.3
Scenario C	5.9	6.7	8.0	9.9	12.4	12.7	12.7

Source: Staff calculations.

1/ Including survival and disability pensions.

As should be expected, Scenario A, with its more restrictive indexation clauses, yields a lower overall path for private sector pension benefits relative to the other two scenarios. What is perhaps somewhat less obvious is that the trends (as opposed to the levels) of pension benefits under the three scenarios are significantly different as well: thus, pension benefits under Scenario A closely track demographic trends, peaking at the old age dependency ratio peak around 2030 and declining thereafter; by contrast, pension benefits under the other two scenarios keep rising past the demographic peak. The main underlying rationale for this asymmetry is that, with only price indexation of the pension ceiling, the ceiling would become binding for an increasing number of retirees over time under Scenario A; this effect is, however, absent under Scenarios B and C.

Charts 11, 12, 13, 14, 15, and 15A present the projected paths of the general government deficit, the general government debt, and general government expenditure, broken down into various categories, for each of the three scenarios over the period 1995-2050. At the start of the period under consideration, with the structural primary surplus and

GDP growth the same across scenarios, the paths of the deficit and the debt are identical. During this period of primary surplus targeting, the debt ratio declines sharply, falling to 90 percent by 2008, when the budget comes into balance. Beyond 2002, fiscal policy switches to maintaining a general government balanced budget; during this period, the debt ratio continues to decline, albeit more slowly, falling below the 60 percent level by 2019.

With regard to general government expenditure, the path of three different categories are displayed in Charts 15 and 15A for each scenario: interest payments, social security expenditure, and non-social security primary expenditure. On social security, apart from pensions, the paths of the various sub-categories follow closely the projections included in Table 21 of Section A of this Chapter.⁵⁹ During the period of primary surplus targeting, i.e. up to 2008, with the revenue ratio constant, social security expenditure evolving as described above, and interest payments driven by the debt ratio, primary non-social security expenditure is determined as a residual. Beyond 2008, when the deficits reaches balance and fiscal policy switches to targeting the balance rather than the primary deficit, primary non-social security expenditure is assumed to remain constant as a share of GDP; in order to ensure comparability across scenarios, we impose the same level of this type of expenditure in all three scenarios, chosen at the projected level of 22.2 percent of GDP in 2008 under Scenario A, the baseline scenario.

With the other fiscal variables evolving as discussed above, general government revenue is determined as a residual in the period of balanced budget beyond 2008.⁶⁰ Chart 11 presents the projected paths of the general government revenue ratio for each of the three scenarios under consideration.⁶¹ As the chart makes clear, the choice of indexation rule for the ceiling and the overall pension in the private sector pension scheme matters a lot in terms of fiscal outcome. Thus, the revenue ratio under Scenario A remains virtually flat until the peak in the old age dependency ratio around 2030, and then starts to decline moderately. Under Scenarios B and C, on the other hand, the revenue ratio keeps rising steadily until 2030, and

⁵⁹The only exception is unemployment benefits, where for the purposes of this chapter we are assuming a somewhat higher path relative to that presented in Section A. The reason for this difference is that Section A builds into its assumption some structural and labor market reform that reduces the structural component of unemployment over time. On the other hand, for the purposes of this section, we are ruling out such policies so that the NAIRU remains at its current level, estimated at just under 10 percent.

⁶⁰It should be recalled that during the period of primary surplus targeting the revenue ratio was kept constant across scenarios by assumption.

⁶¹The jump in the revenue ratio after 2008 reflects the switch to a balanced budget rule and the imposition of identical paths for primary non-social security expenditure across scenarios. Up to that time, constancy of the primary surplus and the revenue ratio implies a lower share in GDP of this type of expenditure under more generous pension indexation rules.

then effectively stabilizes during the remainder of the period under consideration; by the end of the simulation period, it stands at just under 50 percent and at over 51 percent, respectively, in both cases significantly above its current level.

Even the relatively more favorable fiscal outcome under the strict indexation clauses of Scenario A cannot be judged as satisfactory, however. In particular, the revenue ratio under this scenario essentially remains at its current very high level as late as 2030, and its subsequent decline is very slow, bringing it only some 2 percentage points below its 1997 level by the end of the simulation period. It could be argued that such a high level of the revenue ratio may prove particularly difficult to sustain over time without risking a significant contraction of the tax base. Thus, the simulation results of this section thus suggest that, while careful pension indexation would be indispensable to avoid a rise in the fiscal burden over time, such limited pension indexation cannot by itself fully meet the challenge posed by the projected adverse demographic developments—and this is true even if these policies are coupled with a reform of the civil service pension scheme. The next section will explore to what extent improved labor market performance can help in this area.

The impact of structural and labor market policies

This section explores to what extent structural policies and labor market reforms aimed at raising employment⁶² can complement a fiscal policy framework aimed at debt reduction and strict indexation rules on pension benefits to bring about a more attractive fiscal outcome. Once again, the relevant criterion to judge the impact of the policies under consideration will be its success in bringing about a sustained reduction of the revenue ratio over time, in the context of the fiscal policy framework described above.

The Belgian economy is currently characterized by one of the lowest labor force participation rates in the industrial world, at some 64 percent of working age population, and a high structural unemployment, estimated at some 10 percent of the labor force. These features would suggest that there is considerable scope to improve the performance of the Belgian labor market. For the purposes of this simulation, it is assumed that appropriate policies are put in place to raise the participation rate to the EU average, at just under

⁶²Such policies could include targeted reductions in taxes on labor, such as those studied in Section B of this Chapter (for the purposes of the present Section, only “balanced budget” versions of such policies would appear relevant, i.e. cuts in taxes on labor that are fully compensated by other revenue increases). However, they need not be limited to such demand-side policies; they could also include policies aimed at improving incentives at the supply side of the labor market, e.g., cuts in (or the taxation of) social benefits.

70 percent, and to lower the NAIRU to some 7 percent of the labor force, over the 10-year period 2002-2012.⁶³

The impact of an increase in participation and a reduction of structural unemployment on the fiscal outcomes considered in this Section operates via two rather distinct channels. In the first place, by boosting economic growth during the transition period of an increasing employment rate, it accelerates the pace of debt reduction for a given level of the general government balance, thus resulting in greater savings on interest payments. Secondly, by raising the level of potential output, it lowers the share of the various categories of social security outlays in GDP, thus effectively dampening the magnitude of the demographic shock on public finances.

To quantify the impact of the increase in the labor force participation rate and the reduction of the NAIRU on economic activity, an estimated aggregate production function of the Belgian economy was used (the same production function was used to derive endogenously the path of GDP that underlies the simulations of the previous section). In particular, a constant returns to scale, Cobb-Douglas production function was estimated, with capital and labor as factors of production. The estimation results⁶⁴ suggested a labor elasticity of 0.6 and a capital elasticity of 0.4; total factor productivity growth was estimated at some 1.4 percent per annum, a figure very similar to the results of empirical work on other industrial countries.

The production function parameter estimates were then used together with the assumed path for the labor force participation rate and structural unemployment, as well as with the projected demographic developments, to derive the projected path of potential output. With regard to capital accumulation, the assumption was made that the capital-output ratio remains constant over the projection period, mainly on the grounds of computational convenience.⁶⁵ The projected paths of real GDP, as well as for the two factors of production, both under a "structural policy scenario" and a "no structural policy" scenario, are plotted in Chart 12. As the chart makes clear, the policies under consideration in this section entail a

⁶³It should be noted that, in order for the desired effect to materialize during the period specified, the policies under consideration would probably have to be put in place relatively quickly. The experience with such policies in other countries, notably the Netherlands, would suggest that it takes time for their favorable impact on the labor market to be felt—indeed, the initial impact of some such policies (notably benefit reduction) may well be contractionary, via an adverse effect on aggregate demand.

⁶⁴Details of the estimation methodology and estimation results are provided in Annex I.

⁶⁵Alternatively, a Solow-type neoclassical growth model could have been used to derive capital accumulation endogenously. This would entail a lower capital-output ratio during the transition period of a rising employment rate.

higher GDP path, supported by higher paths for both the capital and labor input. However, the growth in labor outpaces the growth of capital during the transition period, and the capital-labor ratio is lower relative to the "no structural policy scenario" during that period.

The next issue is the fiscal implications of higher labor force participation and lower structural unemployment. In the Scenario to be considered (**Scenario AS**), the strict indexation assumptions of Scenario A of the previous section were imposed: only price indexation for both the pension ceiling and the overall pension. For the purposes of the simulation, the shares of the various categories of social security benefits in GDP were adjusted to take account of the higher level of potential output.⁶⁶ In this regard, two factors that may actually underestimate the fiscal benefits of Scenario AS relative to Scenario A are worth mentioning. In the first place, no account is taken of any direct fiscal savings deriving from the policies under consideration in this section. In that sense, Scenario AS would appear to correspond more closely to a (balanced budget) reduction in taxes on labor than to a reduction (or a taxation) of benefits. Secondly, the simulation does not take into account the likely different path of real wages associated with the two scenarios. In particular, with a lower capital-labor ratio under Scenario AS relative to Scenario A, the path of real wages under the former scenario can be expected to be lower. With a substantial portion of social security spending either indexed to or depending on wage developments, not taking this factor into consideration can be expected to overestimate to some extent social security benefits as a share of GDP under Scenario AS.⁶⁷

The projected paths for the general government fiscal balance, the general government debt, and the various components of general government expenditure are presented in Charts 13, 14, 15, and 15A. As above, to ensure comparability of alternative scenarios, an identical path for primary, non-social security expenditure as a share of GDP to that imposed on the scenarios A-C is imposed on Scenario AS as well. The Charts present three noteworthy features. In the first place, owing to faster GDP growth under Scenario AS, a balanced budget is achieved one year earlier relative to the scenarios of the previous section. Secondly, and again reflecting higher potential output growth under Scenario AS, debt reduction is somewhat faster relative to Scenario A, especially in the first part of the simulation period. Thirdly, the fiscal benefits of a higher potential output under Scenario AS in terms of a lower share of social security benefits in GDP become increasingly dominant relative to interest savings later on in the simulation period, particularly around the peak of the old age dependency ratio around year 2030.

⁶⁶Unemployment benefits were further adjusted to take into account the reduction in structural unemployment.

⁶⁷An additional factor not taken into account that may further improve the fiscal outcome under Scenario AS relative to Scenario A is the potential positive impact from the lower fiscal burden under the former scenario to employment growth and potential output.

Chart 11 presents the projected path of the revenue ratio under Scenarios A and AS. The chart suggests that structural policies and labor market reforms entail important advantages in terms of achieving a sustainable reduction of the revenue ratio. Specifically, in comparison to Scenario A, Scenario AS entails a lower revenue ratio by over 2 percentage points of GDP already by 2008 (the year of achievement of budgetary balance under Scenario A); this advantage widens to over 2.5 percentage points of GDP by 2030 (the year of the projected peak of the old age dependency ratio), and remains roughly stable over the remainder of the simulation period. By the end of the simulation period, the revenue ratio under Scenario AS has fallen to around 42 percent, some 5½ percentage points below its 1997 level.

The simulation illustrates that policies aimed at increasing the employment rate in Belgium from its currently very low rate are particularly helpful in achieving a sustainable reduction in the revenue ratio over time. It could be judged, however, that the improvement in fiscal outcomes brought about by structural policies and labor market reforms may still not be sufficient. In the first place, despite its steady reduction, the resulting revenue ratio over the longer term may still be viewed as too high. In particular, with increasing integration of the European economies, tax competition can be expected to constitute a more binding constraint on national fiscal policies. Under these conditions, to the extent that tax rates in Belgium remain significantly higher relative to its neighbors, the risk of a contraction of its tax base over time could become very real. Secondly, assuming indexation of pensions on the basis the very strict rules entailed by Scenarios A and AS would appear to involve considerable risks. In particular, with only price indexation of the ceiling, over the longer term the ceiling would become binding for virtually all retirees, effectively transforming the private sector pension system into a basic pension scheme. Designing fiscal policy today on the assumption that future policy makers will be able (and willing) to deliver such a fundamental transformation would not appear a particularly safe strategy.⁶⁸ Third, some uncertainty surrounds the medium- and long-term level of revenues relative to GDP on the basis of present policies, and if this turned out to be lower than projected by the staff then additional expenditure restraint would be implied.

In view of these considerations, and in the context of the overall fiscal framework under consideration, the only available option would be to limit the growth of other areas of public expenditure. One possibility would be to reform the civil servant pension system; in addition to its fiscal benefits, this would render the pension regime for civil servant retirees more equitable to that for private sector retirees. More broadly, one could consider bringing down the share of primary, non-social security expenditure in GDP gradually over time—thus extending the policies pursued in 1993-97, which have aimed to limit the growth of such

⁶⁸In this regard, it should be recalled that the share of retirees in voting age population is projected to have about doubled relative to its present level around the peak of the demographic shock.

CHART 11
BELGIUM
General Government Revenue
(In Percent of GDP)

Source: Staff calculations.

spending to below the growth rate of GDP. The simulation results presented above would suggest that these possibilities deserve serious consideration.

Finally, a further theoretical option would obviously be to depart from the fiscal framework considered in this chapter, by allowing the debt ratio to rise during the period of adverse demographic developments, provided that it remains below some specified ceiling and can again be stabilized once the demographic shock passes. Indeed, from an intertemporal perspective, it would be optimal to pursue debt reduction during periods of temporarily low expenditure requirements, and allow the debt ratio to rise during periods of temporarily high expenditures. It should be recognized, however, that given the still very high level of the debt ratio, and the difficulty experienced in reducing the ratio, such an approach to the long-term fiscal problem would be extremely risky in terms of market perceptions. Moreover, such a strategy could well come into conflict with the EMU Stability and Growth Pact.

V. Concluding Remarks

Belgium has made major progress with fiscal consolidation since the early 1980s. A crucial achievement of this period has been a decline in primary spending of some 10 percentage points relative to GDP. However, the decline in the structural primary surplus in the late 1980s, the pause in overall adjustment in 1991-92 (followed by a largely revenue-based program in 1993-94), and reliance at times on measures of limited durability, were factors that tended to impair the credibility of the fiscal adjustment. This assessment is supported by a quantitative analysis of the interaction between fiscal policy and developments in saving and investment.

The quality of fiscal adjustment has been enhanced over the last three years. Most recently, the 1997 budget has little recourse to one-off measures and includes some measures that will have an increasing impact over the medium term. The Government's long-standing goal of bringing the deficit below 3 percent of GDP is now well within reach; the debt ratio has been set on a declining path in the last few years; and the long-term interest rate differential vis-à-vis Germany has been reduced to a very low level.

Turning to the future, the effects of demographic changes constitute a serious long-term fiscal challenge (paralleling the situation in most other industrial countries) and need to be tackled against the background of a still very high debt ratio. This underscores the need for further fiscal consolidation. This paper has sought to illustrate the importance in this connection of tight restraint over the growth in primary expenditure—including through continuing social security reform—in keeping the debt ratio on a declining path. The case for some reduction in the high tax burden on labor income was also highlighted, with a model-based analysis suggesting that this should have a beneficial impact on employment even if cuts in social security contributions initially have to be offset by other revenue measures.

Against this background, the long-term fiscal scenarios set out in the paper have illustrated that a strategy combining strong structural reforms in labor and product markets with continuing budgetary restraint and social security reform could help to generate a virtuous circle of higher employment and income in Belgium. This would facilitate the twin tasks of reducing the debt ratio and preparing for the demographic pressures on the public finances that will arise in the coming decades, and would help to increase the scope for an overall easing of the fiscal burden.

CHART 12
BELGIUM

Impact of Increased Labor Participation
(Index 2002=100)

Source: Staff calculations.

CHART 13
BELGIUM
General Government Balance
(In Percent of GDP)

Source: Staff calculations.

CHART 14
BELGIUM
General Government Debt
(In Percent of GDP)

Source: Staff calculations.

General Government Expenditure

(In Percent of GDP)

Source: Staff calculations.

CHART 15a
BELGIUM
General Government Expenditure
(In Percent of GDP)

Source: Staff calculations.

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Production Function Estimation

The path of GDP underlying the simulation exercises in this chapter was based on estimating an aggregate production function of the Belgian economy. In particular, we estimated a constant returns to scale, Cobb-Douglas production function of the form:

$$\log(Y_t) = \log(A(t)) + a \log(L_t) + (1-a) \log(K_t), \quad (1)$$

where Y stands for real GDP, L for labor, K for capital, and A for a time-varying index of total factor productivity. From the perspective of this chapter, a particular advantage of the Cobb-Douglas specification is that it can equivalently be written in terms of rates of change of the underlying variables, which greatly facilitates its estimation, as well as its use for projections:

$$g_Y = g_A + a g_L + (1-a) g_K, \quad (2)$$

where g stands for the rate of change of the variable in the subscript.

The production function, under specification (2) was estimated over the period 1961-1995 by ordinary least squares, but imposing the constant returns to scale restriction that the coefficients of the capital and labor inputs sum to 1. The estimation results were as follows (t-statistics in parentheses):

$$g_Y = 1.431 + 0.590 g_L + 0.410 g_K$$

(3.1) (2.5) (2.4)

$$R^2 = 0.40 \qquad SE = 1.749 \qquad F(1,33) = 21.4 \qquad DW = 1.91$$

The estimation results suggest a labor elasticity of about 0.6 and a capital elasticity of about 0.4. Total factor productivity growth was estimated at 1.43 percent per annum, a figure very close to the empirical results for other industrial countries.

For the purposes of the projection, we imposed the additional restriction, again for computational convenience, that the capital-output ratio stays constant over time. Setting $g_Y = g_K$ in specification (2) yields, after straightforward algebraic manipulation:

$$g_Y = g_L + g_A/a. \quad (3)$$

Equation (3), which was used to derive the projected path of potential output for the purposes of the simulation exercises, states that the growth rate of output is equal to the growth rate of the labor input, plus the rate of total factor productivity growth divided by the elasticity of labor.

Table A1. Belgium: Macroeconomic Performance in Comparison
with European Partner Countries 1/

(Changes in percent)

	1987	1988	1989	1990	1991	1992	1993	1994	1995
Real GDP									
Belgium	2.1	4.9	3.4	3.7	1.6	1.7	-1.4	2.3	1.9
Germany	1.5	3.7	3.6	5.7	5.0	2.2	-1.1	2.9	1.9
European Union	2.9	4.2	3.5	3.0	1.6	1.0	-0.5	2.8	2.5
Inflation <u>3/</u>									
Belgium	1.5	1.2	3.1	3.5	3.2	2.4	2.8	2.4	1.5
Germany	0.2	1.3	2.8	2.7	3.5	5.1	4.5	2.7	1.8
European Union	3.2	3.5	4.7	5.3	5.1	4.5	3.7	2.9	2.9
Employment									
Belgium	0.5	1.5	1.6	1.5	0.1	-0.4	-1.4	-0.7	0.3
Germany	0.7	0.8	1.5	3.0	1.7	-1.9	-1.8	-0.7	-0.3
European Union	1.2	1.7	1.7	1.6	-0.0	-1.4	-1.8	-0.4	0.7
Unemployment Rate <u>4/</u>									
Belgium	11.3	10.3	9.3	8.7	9.3	10.3	12.0	13.0	13.0
Germany	7.9	7.8	6.8	6.2	5.5	7.7	8.9	9.6	9.4
European Union	10.3	9.7	8.7	8.1	8.5	9.9	11.1	11.6	11.2
Current account <u>5/</u>									
Belgium	2.0	2.4	2.3	1.9	2.5	3.0	5.4	5.6	5.6
Germany	4.2	4.1	4.8	3.3	-1.0	-1.0	-0.7	-1.0	-0.9
European Union	0.6	0.1	-0.2	-0.5	-1.2	-1.0	0.1	0.3	0.6
General government deficit <u>6/</u>									
Belgium	-7.7	-7.0	-6.4	-5.6	-6.5	-7.2	-7.5	-5.1	-4.1
Germany	-3.4	-3.7	0.2	-3.3	-5.5	-4.4	-5.8	-4.0	-5.1
European Union	-3.8	-3.2	-2.4	-3.6	-4.4	-5.2	-6.5	-5.8	-5.2

Sources: IMF, World Economic Outlook; OECD, Analytical Database; and staff estimates.

1/ Members of the European Union.

2/ Staff estimates.

3/ Consumer price index.

4/ Standardized OECD rate.

5/ In percent of GDP. For Belgium, refers to position of BLEU.

6/ National accounts basis, in percent of GNP/GDP, excluding net lending.

Table A2. Belgium: Aggregate Demand in Constant Prices 1/

	Shares in GDP in Current Prices				Changes in percent				
	1980	1985	1990	1996 <u>2/</u>	1992	1993	1994	1995	1996 <u>2/</u>
Private consumption	63.6	65.7	62.8	62.0	2.4	-1.3	1.3	1.3	1.2
Public consumption	17.7	17.0	14.1	14.7	0.1	1.4	1.4	1.0	1.2
Gross fixed investment	20.9	15.5	20.5	17.8	1.8	-5.0	0.3	3.0	3.1
Public	3.6	2.2	1.2	1.3	7.8	7.8	9.3	-12.9	-0.9
Residential	6.5	3.2	5.4	5.4	6.5	3.5	5.5	3.3	2.5
Private non-residential	10.9	10.1	13.9	11.2	-0.6	-9.7	-3.2	5.1	4.2
Exports of goods and services <u>3/</u>	62.4	76.2	73.1	74.3	3.6	1.8	9.2	4.0	3.7
Imports of goods and services <u>3/</u>	64.9	73.7	70.4	69.6	4.0	1.8	8.3	4.0	2.5
Total domestic demand	103.0	97.5	97.4	94.8	2.0	-1.8	1.4	1.6	1.5
Foreign balance <u>4/</u>	-2.5	2.5	2.7	4.8	-0.2	0.1	0.9	0.1	-0.1
GDP	100.0	100.0	100.0	100.0	1.7	-1.4	2.3	1.9	1.4
GNP	99.2	98.4	98.9	100.9	1.5	-0.3	2.4	2.2	1.7

Sources: Data supplied by the National Bank of Belgium; and staff estimates.

1/ 1985 prices.

2/ Estimates.

3/ Excluding factor incomes.

4/ Contribution to growth.

Table A3. Belgium: Growth of Output by Sector 1/

(Shares and changes in percent)

	Shares			Changes in Percent				
	1985	1990	1995	1991	1992	1993	1994	1995
Gross domestic product	100.0	100.0	100.0	1.6	1.7	-1.4	2.3	1.9
Agriculture, horti- culture and fishing	2.3	2.0	2.2	6.0	10.1	4.9	-6.3	2.7
Manufacturing	23.9	23.6	22.5	-0.4	-0.7	-3.1	4.5	3.1
Electricity, gas, and water	2.7	2.7	2.8	4.3	0.6	-0.1	1.4	4.6
Construction	4.8	5.6	5.4	0.5	4.2	-2.5	1.3	0.6
Market services <u>2/</u>	52.4	53.7	54.6	3.4	2.1	0.3	1.9	2.0
Public services	13.9	12.3	12.4	1.8	2.2	1.2	2.1	1.1

Sources: National Bank of Belgium, Annual Report 1995; and data provided by the authorities.

1/ Measured in value added at constant prices.

2/ Trade, transport and communication, financial services, insurance and other services rendered to enterprises; and medical professions, home rental, domestic and other services rendered to individuals.

Table A4. Belgium: Household Income and Spending 1/

(Changes in percent; current prices)

	1990	1991	1992	1993	1994	1995
1. Disposable income	6.9	8.6	5.9	3.2	1.4	1.9
Compensation of employees	8.8	7.5	5.3	2.0	3.3	2.9
Income of self-employed	5.3	3.3	3.2	1.6	4.9	1.8
Property income	9.5	8.6	9.3	6.2	1.0	0.1
Net current transfers paid	23.8	-4.3	6.6	0.4	18.3	3.9
Of which:						
Direct taxes	10.8	2.1	6.5	0.9	11.1	4.7
Social security contributions	7.3	8.2	6.8	3.8	2.3	2.7
2. Consumption	6.1	6.1	4.5	2.1	4.5	2.8
3. Gross saving (1-2)	10.4	20.8	11.3	8.2	-9.9	-2.3
4. Gross capital formation	17.4	-9.5	10.5	4.5	7.6	4.5
5. Financial saving (3-4)	-7.0	30.3	0.8	3.7	-17.5	-6.9
Memorandum items:						
Gross saving ratio <u>2/</u>	17.1	19.0	20.0	20.9	18.6	17.8
Financial saving ratio <u>2/</u>	8.0	11.3	12.1	12.9	10.1	9.1

Sources: Data provided by the authorities; and staff estimates.

1/ SEC national accounts definition.2/ Percent of gross disposable income.

Table A5. Belgium: Corporate Income and Spending 1/
(In percent of GDP)

	1990	1991	1992	1993	1994	1995
Gross operating surplus before subsidies	15.3	13.9	14.0	13.7	14.3	15.2
Subsidies	3.0	3.2	3.0	2.8	2.7	2.9
Gross operating surplus (including subsidies)	18.3	17.1	17.0	16.5	17.0	18.1
Net property income paid	4.1	4.5	4.6	4.0	3.7	3.9
Transfer to other sectors (including taxes)	1.9	2.0	1.9	2.1	2.3	2.6
Disposable income (gross saving)	12.1	10.4	10.3	10.1	10.6	11.3
Net capital transfers received	0.5	0.6	0.6	0.7	0.4	0.6
Gross investment	12.4	11.9	11.4	10.0	9.7	10.2
Net financing capacity (+) or requirement (-)	0.1	-0.9	-0.5	0.8	1.3	1.7

Source: Data supplied by the authorities.

1/ SEC national accounts definitions.

Table A6. Belgium: Sectoral Breakdown of Fixed Investment
(In percent; 1985 prices)

	Shares in total				Annual growth rates			
	1980	1985	1990	1995	1992	1993	1994	1995
Agriculture	2.1	2.5	1.9	1.6	20.8	-10.9	1.2	-3.7
Mining	0.4	0.5	0.7	0.3	-15.3	-10.7	-2.1	6.0
Manufacturing	13.9	20.6	27.7	19.9	-5.6	-27.5	-2.4	7.6
Construction	1.6	1.7	2.2	1.8	-11.1	-17.7	6.6	8.9
Utilities	5.3	6.3	3.2	5.2	47.4	0.9	-10.2	6.1
Commerce, banking and insurance	10.7	15.2	16.1	14.1	-4.0	-7.8	-0.4	-3.4
Transport and communication	11.8	12.3	7.7	10.3	0.3	28.8	-10.1	15.1
Housing	31.9	22.2	26.4	30.0	6.5	3.5	5.5	3.3
Other <u>1</u> /	5.2	6.2	8.5	9.8	-0.9	2.1	2.7	2.6
Total	100.0	100.0	100.0	100.0	1.8	-5.0	0.3	3.0

Source: Data provided by the authorities.

1/ Includes public sector investment.

Table A7. Belgium: Labor Force and Employment

(Changes in thousands) 1/

	1991	1992	1993	1994	1995	1996 2/
1. Labor force	33	22	11	-0	10	16
Men	4	-7	-6	-14	-14	-8
Women	29	29	18	14	24	24
2. Early retirement, etc. 3/	2	-5	-24	-16	-8	19
Men	-2	-4	-4	-6	-7	8
Women	4	-1	-19	-11	-1	11
3. Labor force, national definition (1-2)	31	27	35	16	17	-3
4. Employment	5	-18	-40	-27	16	7
General government 4/	-11	-2	-4	-16	-3	-0
Of which:						
Employment programs	-4	4	-1	-0	0	-0
Enterprise sector	17	-14	-36	-10	20	8
Agriculture, horticulture, fishing	-2	-3	-1	-2	-2	...
Industry	-13	-20	-33	-29	-25	...
Construction	7	3	8	2	--	...
Market services	24	7	-9	19	47	...
5. Unemployment, national definition (3-4)	26	45	76	43	1	-10
Memorandum items:						
Participation rates 5/						
Total	63	63	64	64	64	64
Men	73	73	72	72	72	71
Women	53	54	55	56	56	57

Source: National Bank of Belgium, Annual Report 1995; data provided by the authorities; and staff estimates.

1/ As of June 30 of each year.

2/ Estimates.

3/ Includes also older unemployed who no longer register as unemployed and beneficiaries of career interruption and unemployment interruption schemes.

4/ Including public sector employment programs such as the cadre special temporaire (CST), the troisieme circuit de travail (TCT), and the subsidized employment of the local authorities, etc. Excluding public enterprises.

5/ Net labor force (excluding early and tempory withdrawals) as percent of working age population.

Table A8. Belgium: Incidence and Structure of Unemployment

(Period averages)

	1991	1992	1993	1994	1995	1996	1/
(In percent)							
Unemployment rates							
Harmonized rate (EU)	6.6	7.3	8.9	10.0	10.2	...	
National concept 2/							
Total	9.3	10.3	12.0	12.9	12.9	12.7	
Men	6.5	7.4	8.9	9.8	9.8	9.7	
Women	13.2	14.2	16.1	17.0	16.9	16.5	
Duration of unemployment 3/							
Less than one year							
Total	40.5	40.6	40.2	36.4	31.5	31.2	
Men	45.4	45.4	45.2	40.6	34.9	34.9	
Women	37.2	37.2	36.5	33.2	28.9	28.5	
1-2 years							
Total	15.9	17.9	17.9	18.0	18.5	17.6	
Men	15.4	17.4	17.5	18.2	18.9	17.9	
Women	16.3	18.3	18.1	17.9	18.2	17.3	
More than two years							
Total	37.8	35.8	35.0	37.1	40.1	40.1	
Men	34.3	31.7	30.5	32.5	35.8	36.1	
Women	40.2	38.6	38.3	40.7	43.3	43.1	
(In thousands)							
Insured unemployed	368.7	410.7	475.9	507.0	501.0	...	
Non-job seekers	122.2	119.2	104.7	97.1	...	...	
Part-time unemployed	177.6	169.6	145.1	90.5	74.0	...	
Temporary unemployed	52.0	53.0	62.8	49.0	55.0	...	
Early retirement	140.9	139.4	138.3	136.5	...	...	

Sources: Ministry of Labor and Employment, Evolution du marche du travail; Ministry of Finance, Note de Conjoncture; and data provided by the authorities.

1/ Estimates.

2/ Excludes early retirement, older unemployed who are no longer registered as unemployed, and beneficiaries of career interruption and unemployment interruption schemes.

3/ As a percentage of the insured unemployed.

Table A9. Belgium: Indicators of Costs and Prices
in the Enterprise Sector

(Changes in percent; National Accounts basis)

	1991	1992	1993	1994	1995
Unit labor costs	5.2	3.2	3.1	0.2	-0.1
Compensation per employer	8.7	6.9	3.6	2.7	1.6
Productivity	3.3	3.6	0.5	2.5	1.7
Imported goods and services	-0.4	-2.7	-2.5	1.0	-0.6
Unit selling prices	1.0	0.4	0.7	1.3	0.3
Domestic	2.9	2.6	2.5	2.4	1.6
Export	-0.3	-1.1	-1.2	0.6	-0.3
Gross operating surplus per unit sold	-4.3	0.9	1.9	-1.2	6.8

Source: Data provided by the authorities.

Table A10. Belgium: Price Developments
(Changes in percent from preceding year)

	Weights	1991	1992	1993	1994	1995	1996	
GDP deflator	...	3.1	3.6	3.8	2.5	1.4	1.8	<u>1/</u>
Total domestic demand deflator	...	3.3	3.0	3.0	2.6	1.9	1.9	<u>1/</u>
Consumer price index	100.0	3.2	2.4	2.8	2.4	1.5	2.0	
Energy	9.3	3.6	-1.0	3.5	0.9	-0.6	4.7	
Food	19.0	2.0	-0.1	-0.8	1.8	1.2	0.6	
Services	34.2	4.4	4.2	3.8	2.6	2.0	2.2	
Rents	7.2	3.0	5.9	5.3	4.6	2.9	2.3	
Other products	30.3	2.9	1.5	3.0	2.1	0.8	2.0	
Wholesale price index	...	-1.1	0.2	-0.9	1.3	2.3	0.4	<u>1/</u>

Sources: Data supplied by National Bank of Belgium; IMF, International Financial Statistics; and OECD, Main Economic Indicators.

1/ Estimates.

Table All. Revenue, Expenditure, and Debt of General Government

(Percent of GDP)

	1990	1991	1992	1993	1994	1995	1996 1/
Total revenue	45.8	45.9	45.9	46.6	47.9	47.5	47.7
Direct taxes	16.9	16.5	16.5	16.5	17.8	18.3	18.2
Households	14.5	14.1	14.3	14.1	14.9	15.1	14.9
Corporations	2.5	2.4	2.2	2.5	2.9	3.2	3.2
Indirect taxes	12.1	12.1	12.1	12.4	12.8	12.4	12.6
Social security contributions	14.7	15.2	15.4	15.6	15.2	15.1	14.8
Capital taxes	0.3	0.3	0.3	0.4	0.4	0.4	0.4
Nontax revenue	1.7	1.8	1.7	1.7	1.7	1.4	1.7
Total expenditure	51.4	52.5	53.1	54.0	53.0	51.7	51.1
Interest expenditure	10.6	10.2	10.8	10.8	10.1	9.1	8.6
Primary expenditure	40.8	42.2	42.3	43.2	42.9	42.6	42.5
Consumption	11.3	11.6	11.4	11.7	11.6	11.6	11.5
Wages and salaries	8.8	9.0	9.0	9.3	9.4	9.4	9.2
Goods and services	2.5	2.6	2.4	2.4	2.3	2.2	2.3
Transfers to households	23.6	24.5	24.8	25.3	24.9	25.0	25.1
Pensions	8.4	8.7	8.7	9.0	8.9	9.1	9.1
Health care	4.7	5.1	5.4	5.4	5.3	5.4	5.7
Unemployment insurance	1.9	2.1	2.1	2.3	2.3	2.1	2.1
Early retirement	0.8	0.8	0.8	0.8	0.8	0.8	0.7
Family allowances	2.1	2.1	2.1	2.1	2.0	2.0	2.0
Other	5.6	5.7	5.7	5.7	5.6	5.6	5.5
Subsidies	2.2	2.3	2.1	2.1	2.0	2.1	2.1
Transfers abroad	1.5	1.7	1.6	1.6	1.7	1.5	1.5
Gross fixed investment	1.2	1.3	1.3	1.4	1.5	1.3	1.3
Other capital expenditure	0.9	1.0	1.1	1.2	1.1	1.1	1.0
Balance	-5.6	-6.5	-7.2	-7.5	-5.1	-4.1	-3.4
of which: primary balance	5.0	3.7	3.6	3.3	4.9	5.0	5.2
Gross consolidated debt ("Maastricht")	127.2	129.0	130.3	136.8	134.8	133.5	130.0
Net debt	117.5	118.7	120.7	126.5	125.9	126.1	123.4

Source: Data provided by the authorities.

1/ Estimates.

Table A12. Revenue and Expenditure of Federal Government

(Percent of GDP)

	1990	1991	1992	1993	1994	1995	1996 1/
Revenue	19.2	18.5	18.2	18.1	18.5	17.8	18.0
Direct taxes	11.4	10.6	10.3	10.2	10.4	10.6	10.4
Indirect taxes	6.4	6.6	6.7	6.8	6.7	6.1	6.2
Social security contributions	0.5	0.5	0.5	0.4	0.5	0.5	0.5
Capital taxes	0.0	0.0	0.0	0.1	0.1	0.1	0.1
Nontax revenue	0.7	0.8	0.7	0.6	0.7	0.5	0.7
Transfers from rest of government	0.2	0.0	0.0	0.0	0.1	0.1	0.1
Total expenditure	24.9	24.0	24.3	24.4	23.2	21.8	20.9
Interest expenditure	10.0	9.6	10.2	10.1	9.3	8.3	7.8
Primary expenditure	14.9	14.4	14.1	14.3	13.8	13.5	13.2
Consumption	3.3	3.3	3.2	3.2	3.1	3.1	3.1
Wages and salaries	2.3	2.3	2.2	2.3	2.3	2.2	2.2
Goods and services	1.0	1.0	0.9	0.9	0.9	0.8	0.9
Transfers to households	3.1	3.1	3.0	3.0	3.0	3.0	2.8
Subsidies	1.4	1.4	1.3	1.3	1.3	1.3	1.2
Transfers abroad	1.5	1.7	1.6	1.6	1.7	1.5	1.5
Gross fixed investment	0.3	0.2	0.2	0.2	0.2	0.2	0.0
Other capital expenditure	0.4	0.3	0.3	0.3	0.3	0.2	0.2
Transfers to rest of government	4.9	4.5	4.6	4.7	4.3	4.3	4.4
Balance	-5.7	-5.6	-6.1	-6.3	-4.7	-4.0	-3.0
of which: primary balance	4.3	4.1	4.1	3.9	4.6	4.3	4.8
Memorandum item:							
Military expenditure 2/	2.0	2.0	1.7	1.7	1.7	1.6	...
ODA (in percent of GNP)	0.46	0.41	0.39	0.40	0.32	...	...

Source: Data provided by the authorities; and OECD (1995), Development Cooperation.

1/ Estimates.

2/ Including military pensions.

Table A13. Revenue and Expenditure of Social Security

(Percent of GDP)

	1990	1991	1992	1993	1994	1995	1996 1/
Revenue	19.3	19.2	19.5	19.7	20.1	19.8	19.8
Direct taxes 2/	0.0	0.0	0.0	0.0	0.6	0.4	0.5
Indirect taxes 2/	0.3	0.1	0.1	0.2	0.7	1.0	1.2
Social security contributions	14.7	15.2	15.4	15.6	15.2	15.1	14.8
Nontax revenue	0.4	0.3	0.3	0.3	0.2	0.2	0.2
Transfers from federal government	3.9	3.6	3.7	3.7	3.4	3.2	3.1
Total expenditure	18.8	19.5	19.7	20.0	19.6	19.6	19.7
Interest expenditure	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1
Primary expenditure	18.9	19.6	19.9	20.2	19.7	19.7	19.9
Consumption	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Wages and salaries	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Goods and services	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Transfers to households	18.1	18.9	19.1	19.4	18.9	18.9	19.1
Pensions	6.2	6.4	6.4	6.6	6.5	6.5	6.5
Health care	4.7	5.1	5.4	5.4	5.3	5.4	5.7
Unemployment insurance	1.9	2.1	2.1	2.3	2.3	2.1	2.1
Early retirement	0.8	0.8	0.8	0.8	0.8	0.8	0.7
Family allowances	1.9	1.9	1.8	1.9	1.8	1.8	1.8
Other	2.5	2.6	2.5	2.5	2.4	2.3	2.3
Gross fixed investment	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Balance	0.5	-0.3	-0.2	-0.3	0.5	0.3	0.1
of which: primary balance	0.4	-0.4	-0.4	-0.4	0.3	0.1	-0.1

Source: Data provided by the authorities.

1/ Estimates.

2/ Earmarked.

Table A14. Revenue and Expenditure of Regions and Communities

(Percent of GDP)

	1990	1991	1992	1993	1994	1995	1996 1/
Revenue	10.0	10.2	10.3	10.9	11.0	11.3	11.4
Direct taxes 2/	4.0	4.3	4.4	4.8	5.0	5.2	5.3
Indirect taxes 3/	5.0	5.0	4.9	5.0	4.9	4.8	4.8
Capital taxes	0.3	0.3	0.3	0.3	0.3	0.3	0.4
Nontax revenue	0.1	0.1	0.1	0.3	0.2	0.2	0.2
Transfers from rest of government	0.6	0.4	0.5	0.6	0.6	0.7	0.8
Total expenditure	10.5	11.0	11.2	11.6	11.7	12.0	12.1
Interest expenditure	0.1	0.1	0.2	0.3	0.3	0.4	0.4
Primary expenditure	10.3	10.9	11.0	11.3	11.4	11.6	11.7
Consumption	4.4	4.6	4.6	4.8	4.7	4.8	4.7
Wages and salaries	3.6	3.7	3.8	4.0	4.0	4.1	4.0
Goods and services	0.9	0.9	0.8	0.8	0.7	0.8	0.8
Transfers to households	1.3	1.5	1.6	1.7	1.8	1.8	1.9
Subsidies	0.8	0.8	0.8	0.7	0.7	0.7	0.8
Transfers abroad	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gross fixed investment	0.3	0.4	0.4	0.3	0.3	0.4	0.5
Other capital expenditure	0.5	0.6	0.7	0.8	0.8	0.8	0.8
Transfers to rest of government	3.1	2.9	2.9	3.0	3.0	3.0	2.9
Balance	-0.5	-0.9	-1.0	-0.6	-0.7	-0.6	-0.6
of which: primary balance	-0.4	-0.7	-0.8	-0.4	-0.4	-0.3	-0.2

Source: Data provided by the authorities.

1/ Estimates.

2/ Earmarked personal income taxes.

3/ Primarily earmarked VAT.

Table A15. Revenue and Expenditure of Local Authorities

(Percent of GDP)

	1990	1991	1992	1993	1994	1995	1996 1/
Revenue	5.9	6.1	6.1	6.1	6.3	6.5	6.4
Direct taxes	1.5	1.7	1.7	1.6	1.8	2.1	1.9
Indirect taxes	0.4	0.4	0.4	0.4	0.4	0.5	0.5
Social security contributions	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Nontax revenue	0.5	0.5	0.5	0.5	0.6	0.6	0.6
Transfers from federal government and Regions and Communities	3.4	3.4	3.3	3.4	3.4	3.3	3.4
Total expenditure	5.9	5.9	6.0	6.4	6.5	6.3	6.3
Interest expenditure	0.6	0.6	0.6	0.6	0.5	0.6	0.5
Primary expenditure	5.3	5.3	5.4	5.8	5.9	5.7	5.8
Consumption	3.4	3.5	3.4	3.6	3.6	3.6	3.6
Wages and salaries	3.0	3.1	3.0	3.1	3.2	3.1	3.1
Goods and services	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Transfers to households	1.1	1.1	1.1	1.2	1.2	1.3	1.3
Subsidies	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gross fixed investment	0.6	0.7	0.7	1.0	1.0	0.8	0.8
Other capital expenditure	0.1	0.0	0.1	0.0	0.0	0.0	0.0
Balance	0.1	0.2	0.1	-0.3	-0.2	0.2	0.1
of which: primary balance	0.7	0.8	0.7	0.3	0.4	0.8	0.7

Source: Data provided by the authorities.

1/ Estimates.

Table A16. Belgium: Exchange Rate of the Belgian Franc Against Selected Currencies ^{1/}
(Indices, 1990=100)

	<u>Deutsche mark</u>		<u>U.S. Dollar</u>	<u>ECU</u>	<u>Effective exchange rates</u>		
	Nominal	Real ^{2/} (CPI)	Nominal	Rate	Nominal	Real ^{2/} (CPI)	Real ^{3/} (NULC)
1988	98.8	97.8	90.9	97.7	95.7	97.3	96.8
1989	98.7	98.0	84.8	97.8	95.0	96.0	96.6
1990	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1991	100.5	100.1	97.9	100.5	99.9	98.8	99.6
1992	100.5	97.5	103.9	102.0	102.2	100.0	101.0
1993	98.8	94.4	96.6	104.8	102.7	100.3	102.4
1994	100.3	95.5	99.9	107.0	104.5	101.9	104.4
1995	100.5	95.4	113.4	110.1	109.3	105.4	106.2
1995 I	100.4	95.3	109.3	109.4	108.2	104.9	106.6
1995 II	100.6	95.2	116.1	111.0	110.1	106.4	107.4
1995 III	100.6	95.5	113.2	109.9	109.1	105.3	105.7
1995 IV	100.6	95.4	113.8	110.0	109.7	105.2	105.1
1996 I	100.6	95.9	110.4	109.3	108.7	104.6	104.0
1996 II	100.6	95.6	106.6	108.1	107.0	102.8	102.1
1996 III	100.4	95.7	108.1	108.0	107.3	103.0	102.1
1996 IV	100.4	96.1	105.7	106.7	106.3	102.3	101.1

Sources: International Monetary Fund, International Financial Statistics; and staff estimates.

^{1/} Increase indicates appreciation.

^{2/} Relative consumer prices.

^{3/} Relative normalized unit labor costs in manufacturing.

Table A17. Belgium: Key Interest Rates

(In percent per annum)

	1991	1992	1993	1994	1995	1996
Official (end of period)						
Discount rate	8.50	7.75	5.25	4.50	3.00	2.50
Money market						
Three-month treasury bill rate <u>1/</u>	9.23	9.36	8.52	5.56	4.67	3.19
Three-month interbank rate	9.38	9.38	8.21	5.72	4.80	3.24
Capital market						
Government bond yield	9.28	8.64	7.18	7.76	7.34	6.26
Bank interest rates						
Prime lending rate	12.87	13.00	11.81	9.42	8.42	7.17
Deposit rate	6.25	6.25	7.10	4.86	4.04	...
Memorandum item:						
Term structure (bond yield minus 3-month Treasury bill rate, in percent)	0.05	-0.72	-1.33	2.20	2.66	3.07

Sources: National Bank of Belgium, Bulletin; and IMF, International Financial Statistics.1/ Secondary market rate from January 29, 1991.

Table A18. Belgium: Monetary Aggregates

	1989	1990	1991	1992	1993	1994	1995	Oct. 1996
<u>(In billions of Belgian francs, end of period)</u>								
M1	1,271.0	1,289.4	1,303.6	1,297.8	1,439.3	1,452.0	1,528.5	1,567.4
M3 <u>1/</u>	5,148.1	5,438.9	5,636.0	5,918.1	6,933.5	6,601.3	6,615.2	7,076.5
M4 <u>2/</u>	5,448.1	5,439.1	5,798.6	6,108.5	7,177.5	6,814.8	6,759.0	7,212.4
<u>(Percentage changes from a year earlier)</u>								
M1	7.2	1.4	1.1	-0.4	10.9	0.9	5.3	2.9
M3 <u>1/</u>	13.3	5.6	3.6	5.0	17.2	-4.8	0.2	7.3
M4 <u>2/</u>	19.9	-0.2	6.6	5.3	17.5	-5.1	-0.8	7.1

Sources: National Bank of Belgium, Bulletin.

1/ Includes M1 and deposits with an original maturity of 1 year or more.

2/ Includes M3 and Treasury bills and certificates; 1996 data through July.

Table A19. Belgium: Financing of General Government Borrowing Requirement

(In billions of Belgian francs and percent)

	1989	1990	1991	1992	1993	1994	1995
Net financing requirement <u>1/</u>	433.0	399.0	436.0	504.0	505.0	416.0	368.0
(In percent of GDP)	7.1	6.2	6.4	7.1	6.9	5.4	4.6
Financed by:							
Monetary financing	28	-52	-120	-113	449	-152	-262
Borrowing in foreign currencies	68	-22	-13	-113	449	-152	-262
Domestic money creation	-40	-30	-107	--	--	--	--
Short-term borrowing in BF	251	122	86	-10	-224	493	-352
Long-term borrowing in BF	219	413	622	700	452	-33	889
Of which: OLO	82	273	935	963	1,122	791	658
Formation of financial assets <u>2/</u>	-69	-85	-136	-61	-128	96	34
Other <u>3/</u>	4	1	-16	-12	-44	12	59
Financing in percent of total new liabilities:							
Monetary financing	6	-13	-28	-22	89	-37	-71
External borrowing	16	-6	-3	-22	89	-37	-71
Domestic money creation	-9	-8	-25	--	--	--	--
Short-term borrowing in BF	58	31	20	-2	-44	119	-96
Long-term borrowing in BF	51	104	143	139	90	-8	242

Source: National Bank of Belgium, Annual Report.1/ Excludes net lending.2/ Includes lending and equity investment in BF.3/ Includes statistical discrepancy due in part to varying lags in recording of transactions.

Table A20. BLEU: Current Account on a Transaction Basis

(In billions of francs)

	1989	1990	1991	1992	1993	1994	1995 1/
Goods	92	55	66	114	201	224	257
General merchandise	27	-11	-10	43	126	145	182
Processing	65	66	75	70	75	79	75
Services	19	62	66	92	115	142	79
Transportation	41	43	37	49	54	70	66
Travel	-49	-58	-67	-82	-79	-86	-88
Financial services	32	35	39	44	71	65	47
Third country trade	18	36	26	43	27	30	...
Government services, n.i.e	38	37	46	52	56	55	33
Other services 2/	-61	-31	-14	-13	-13	8	...
Income	106	79	111	94	169	177	199
Compensation of employees	56	56	63	65	66	63	58
Investment income	50	23	48	29	103	114	141
Transfers	-76	-75	-76	-87	-97	-117	-115
Private	2	-22	-15	-23	-27	-34	-46
Public	-78	-52	-61	-65	-70	-84	-69
Current account	140	121	167	212	389	425	421

Source: Data provided by the authorities.

1/ A break in the series occurs in 1995, as the NBB changed the reporting rules on the service account.

Table A21. BLEU: Export Performance and Export Pricing

(Annual percent change)

	1989	1990	1991	1992	1993	1994	1995	1996	<u>1/</u>
Volume performance									
Total trade									
(1) Market growth	7.5	6.3	5.2	4.2	-0.2	8.7	8.2	4.0	
(2) Export growth	4.3	4.3	1.8	4.2	-0.1	7.5	8.4	3.6	
(3) Export performance = (2)-(1)	-3.3	-2.1	-3.4	-0.0	0.1	-1.2	0.2	-0.4	
Pricing behavior									
Total trade									
(1) Partner countries' export prices in dollars <u>2/</u>	-1.2	11.4	-1.8	3.2	-6.9	4.6	11.4	-1.6	
(2) BF/dollar rate	7.2	-15.2	2.2	-5.9	7.6	-3.3	-11.9	5.0	
(3) Export prices of foreign producers in BF	5.9	-3.8	0.4	-2.7	0.7	1.3	-0.5	3.4	
(4) Export prices of domestic producers in BF	7.8	-2.7	-1.8	-1.8	-2.1	0.2	1.3	2.6	
(5) Relative price of exports = (4)-(3)	1.8	1.1	-2.1	0.9	-2.8	-1.1	1.8	-0.9	

Sources: International Monetary Fund, International Financial Statistics and World Economic Outlook.1/ Staff estimates.2/ Export weighted.

Table A22. BLEU: Direction of Foreign Trade

	1989	1990	1991	1992	1993	1994	1995
<u>(Percent of Total)</u>							
EU countries							
Exports	76.8	78.6	78.3	78.3	75.6	70.4	74.6
Imports	74.9	77.0	76.5	77.2	76.1	70.5	74.4
Germany							
Exports	18.9	21.5	23.7	22.9	21.0	18.6	21.6
Imports	23.5	24.1	23.5	24.0	21.5	21.8	20.9
Netherlands							
Exports	13.6	13.4	13.7	13.7	13.1	11.2	12.8
Imports	17.6	17.6	17.2	17.6	17.8	13.6	16.7
France							
Exports	20.5	20.2	19.1	19.3	19.1	16.7	18.0
Imports	14.9	15.8	15.8	16.6	16.1	15.0	15.5
United Kingdom							
Exports	9.4	8.7	7.7	7.9	8.5	8.6	8.1
Imports	7.9	8.3	8.4	7.7	9.3	8.2	8.9
Italy							
Exports	6.4	6.6	6.0	5.9	5.5	6.7	5.7
Imports	4.3	4.5	4.5	4.5	4.4	4.4	4.3
United States							
Exports	4.8	4.3	3.8	3.9	4.7	5.7	4.1
Imports	4.5	4.4	4.8	4.4	5.4	8.7	6.3
Oil-exporting countries (OPEC)							
Exports	1.6	1.8	2.1	2.1	2.1	1.8	1.6
Imports	3.0	2.6	3.0	2.6	1.1	1.0	0.9
<u>(Billions of U.S. Dollars)</u>							
Memorandum item:							
Balances							
EU countries	3.1	0.3	0.1	0.4	6.7	-23.2	5.4
Germany	-4.3	-3.6	-0.4	-1.7	1.4	-10.6	2.6
Netherlands	-3.8	-5.3	-4.6	-5.1	-3.9	-7.2	-5.1
France	5.7	4.9	3.5	3.2	5.1	-3.1	5.0
United Kingdom	1.6	0.3	-1.0	0.1	-0.1	-2.3	-0.7
Italy	2.2	2.3	1.7	1.6	1.7	1.0	2.5
United States	0.3	-0.2	-1.4	-0.7	-0.3	-6.1	-3.0
Oil-exporting countries (OPEC)	-1.3	-1.0	-1.1	-0.7	1.3	0.5	1.1

Source: International Monetary Fund, Direction of Trade Statistics.

Table A23. BLEU: Balance of Payments

(In billions of francs)

	1990	1991	1992	1993	1994
Current account	123	169	216	389	417
Capital account	-29	-117	-22	-1031	-31
Direct investment	65	74	73	229	246
Assets	-208	-212	-345	-155	-25
Liabilities	273	287	419	384	271
Portfolio investment 1/	54	119	34	-13	-493
Shares	47	13	18	35	-86
Debt securities	6	106	16	-48	-407
Trade credit	33	-8	-9	28	8
Net assets in francs of non-residents with credit institutions	86	-346	87	-552	700
Spot	16	-187	81	-167	148
Forward	70	-158	7	-386	553
Net assets of residents	-236	132	-109	-644	-392
In francs abroad	-35	24	-95	-58	-2
In foreign currencies	-201	108	-14	-586	-390
Spot	71	105	24	-325	-259
Forward	-272	3	-38	-261	-131
Capital transactions in foreign currencies of resident credit institutions	-24	-77	-83	-54	-91
Spot	-226	-237	-250	-562	187
Forward	202	160	166	507	-278
Other capital transactions 2/	-7	-11	-15	-25	-9
Errors and omissions 3/	-54	-23	64	-17	-87
Capital transactions in foreign currencies of general government 4/	-23	-6	-103	446	-147
Movement of the net spot and forward gold and foreign exchange reserves of the NBB 5/	-17	-18	-20	75	-9

Source: Data provided by the authorities.

1/ Excluding assets and liabilities of resident banks.

2/ Transactions of non-financial public enterprises and transactions in francs of general government.

3/ Including the counterpart of monetisation/demonetisation of gold.

4/ Minus sign: decrease in general government's liabilities in foreign currencies.

5/ Minus sign: increase in reserves.