

MASTER FILES
ROOM C-525

0450

SM/97/1
Supplement 2

CONTAINS CONFIDENTIAL
INFORMATION

January 3, 1997

To: Members of the Executive Board

From: The Acting Secretary

Subject: **Recent Experiences in Systemic Bank Restructuring—
Lessons and Elements of Best Practice**

The attached paper provides background information to the paper on systemic bank restructuring and macroeconomic policy, which is tentatively scheduled for discussion on Friday, January 24, 1997.

Mr. W. Alexander (ext. 35366) or Mr. Davis (ext. 36754) is available to answer technical or factual questions relating to this paper prior to the Board discussion.

Att: (1)

Other Distribution:
Department Heads

CONTAINS CONFIDENTIAL
INFORMATION

INTERNATIONAL MONETARY FUND

**Recent Experiences in Systemic Bank Restructuring:
Lessons and Elements of Best Practice**

Prepared by the Fiscal Affairs and Monetary and Exchange Affairs Departments

(In consultation with other Departments)

Approved by Vito Tanzi and Manuel Guitián

January 2, 1997

Contents	Page
I. Introduction	4
II. Country Case Studies	5
A. Côte d'Ivoire: The importance of a comprehensive approach	5
B. Mauritania: The consequences of neglecting operational restructuring	8
C. Sweden: The role of political consensus and the need for rapid action	10
D. Philippines: State banks and the problem of incentives	12
E. United States: The role of the regulator in dealing with moral hazard	14
F. Chile and Spain: The role of central banks in systemic bank restructuring	19
Chile	19
Spain	22
Summary and conclusions	24
G. Baltic States, Russia and other countries of the former Soviet Union: Special issues of bank restructuring in transforming economies	24
H. Illustrative case studies of fiscal aspects of systemic bank restructuring	29
Poland—linking bank and enterprise restructuring	29
Latvia—minimizing public sector costs	30
Mauritania—transparently recording fiscal costs	31
Philippines—achieving fiscal consolidation while restructuring banks	32
Sweden—recovering public sector outlays	32

Contents	Page
III. Empirical Analysis of Common Characteristics of Bank Restructuring: A Survey of 24 Countries	36
A. Methodology	38
B. Assessing the effects of bank restructuring operations	39
Bank performance	39
Intermediation capacity of the banking system	40
Rank ordering of overall country performance in bank restructuring	43
C. Causes of and responses to banking sector problems	44
D. The role and effectiveness of individual bank restructuring instruments	46
E. The importance of incentives in instrument design and use	50
F. The role of the central bank in restructuring	53
G. Macroeconomic developments during the restructuring process	58
IV. Lessons From Experience	62
Text Tables	
1. Mauritania: Fiscal balance and bank restructuring	33
2. Philippines: Macroeconomic indicators and bank restructuring, 1983-86	34
3. Sweden—Gross and net costs of bank assistance (1991-96)	35
4. Sample countries	37
5. Improvement of bank performance after the onset of bank restructuring programs	41
6. Improvement in intermediation ability of banks after the onset of bank restructuring programs	42
7. Diagnosis of banking problems and measures taken to deal with problems	45
8. Most frequently used instruments	48
9. Instrument mixes for bank restructuring	48
10. Instruments and costs of systemic bank restructuring	51
11. Central bank leadership, liquidity and other support in bank restructuring	53
12. Central bank instruments and bank restructuring by performance groups	54
13. Central bank (CB) instruments supporting bank restructuring	56
Figures	
1. Average time delay (in months) in taking bank restructuring measures after the surfacing of systemic problems	47
2. Three patterns of macroeconomic effects during the bank restructuring process	59

Appendix Tables

14. Banking sector performance	66
15. Intermediation ability of banks	67
16. Causes of banking problems and measures taken to deal with problems	68
17. Instrument mixes for bank restructuring—by performance groups	69
18. Loan workout arrangements—by performance groups	70
19. Cost estimates of systemic bank restructuring—by performance groups	72
20. Three patterns of macroeconomic effects during the bank Restructuring process	73
References	74

services to the economy. The assessment should also consider the principal causes of the banks' problems, including deficiencies in the operating framework (e.g., the legal system and the competitive structure) and the macroeconomic environment.

8. In most cases only an approximate assessment of most of these factors can be made within a reasonable period. For example, as a banking system deteriorates or a crisis emerges, data become much less reliable. The net worth of a problem bank with an impaired loan portfolio can only be estimated and will evolve as the underlying circumstances of the economy and banks' clients change, and as asset values shift, partly in response to changes in public confidence and economic policies.⁵ In such circumstances, estimates of bank asset values and off-balance sheet items can be used, based on available supervisory and audit data adjusted, to the extent possible, for probable losses.

9. Assessment should distinguish potentially viable banks that merit restructuring from nonviable banks that will have to be closed.⁶ Estimates should be made using uniform assumptions and methodology to facilitate aggregation and analysis for the entire banking system.⁷ Information on the exposure of individual banks to each other, to other domestic financial institutions, to banks abroad, to the central bank, and to the public sector (including governments at all levels, public agencies and public sector enterprises) will help determine the likely risk of system contagion and the potential incidence of losses, although in this respect too, some data are likely to be at best rough estimates.

B. Allocating the Losses

10. By the time restructuring begins, the losses of insolvent banks have already occurred, cannot be reduced (for example, through creative accounting), and should be distributed as transparently and equitably as possible. Resources to fill the holes in the balance sheets—both at banks that have already failed and at those awaiting restructuring—most often come only from the government or the domestic private sector.⁸ The government may provide transfers or recapitalize, usually increasing public sector indebtedness. Private sector owners, other banks, bank creditors and depositors, and borrowers may also be obliged to bear the costs by writing

⁵See Lindgren, Garcia, and Saal (1996), Appendix I.

⁶An assessment of whether some nonviable banks provide services that are considered essential to the efficient functioning of the economy may be required. There may be cases when a bank may be "too big to fail" without causing significant damage to the economy, however, this concern is evoked far more often than clearly justified.

⁷Common valuation criteria for bank assets will enhance their transparency and transferability.

⁸When available, foreign capital typically goes through the government or under a government guarantee. Private foreign capital has rarely been forthcoming.

I. INTRODUCTION

1. As background material for the main paper,¹ this Supplement analyzes the experiences of selected countries that have undertaken systemic bank restructuring in recent years, with a view to drawing lessons about successful restructuring strategies and best practices.
2. "Best practices" are defined as those that are observed, based on experience over time and across a broad group of countries, to contribute to a successful bank restructuring outcome. Accordingly, a basic requirement of best practices is that they should be robust to a reasonably wide range of conditions faced by restructuring countries. At the same time, best practices also involve being able to modify elements of the restructuring strategy to conform to the particular circumstances of the problem in each individual country.
3. The determination of "best practice" in systemic bank restructuring is an ongoing process that is being shaped to an important extent by Fund staff's experience in dealing with particular countries. The main paper and Supplement 1 describe what has been learned to date. They reflect the staff's experience in technical assistance in restructuring countries as well as extensive discussions with experts on the subject. Both the detailed analysis of country cases and the broader empirical analysis of the characteristics of systemic bank restructuring in a selected sample of countries undertaken for this Supplement are intended to build on this work. Nevertheless, this is an area of operational work where there are few guiding principles. Accordingly, the staff will continue to review experiences with systemic bank restructuring to continuously refine aspects of the approach.
4. The rest of this Supplement is organized as follows. In Section II, eight case studies are analyzed. These cases have been selected to illustrate either particular aspects of best practice, or the consequences of not following best practice. In Section III, additional evidence on best practice policies is provided through a statistical analysis of the experience in a sample of 24 countries that have undergone systemic bank restructuring in recent years. The intent in this section is to confirm that the conclusions drawn from case study analysis are valid across a broad group of countries; this is needed to ensure that conclusions are robust to a wide range of circumstances. Unless tests of robustness are performed, there is clearly a risk that what is inferred as best practice is only valid in the particular circumstances of an individual country. Finally, Section IV provides a summary of the best practice policies that can be confirmed from both the case studies and the statistical analysis.

¹"Systemic Bank Restructuring and Macroeconomic Policy" (SM/96/40).

II. COUNTRY CASE STUDIES

A. Côte d'Ivoire: The Importance of a Comprehensive Approach

5. In 1987, prior to bank restructuring operations, Côte d'Ivoire's financial system consisted of five parastatal development banks and a fairly diversified system of 14 commercial banks with a developed national branch network. Four commercial banks, of which three are affiliated with major French banks and one is state-owned, accounted for 90 percent of deposits in 1991. Côte d'Ivoire is a member of the West African Economic and Monetary Union whose member countries share a common currency and a common central bank, the BCEAO. Due to sharply declining world market prices for cocoa and coffee, Côte d'Ivoire suffered a deterioration of more than 40 percent in its terms of trade between 1986 and 1990.

6. The deteriorating economy had massive repercussions on Côte d'Ivoire's banking sector, leading to a rapid rise in arrears by public and private borrowers, deposit withdrawals and decreased lines of credit from foreign parent banks. Rigid interest rate structures, weak banking regulation, and lax supervision added to these problems. A deficient legal framework and judicial system prevented the banks from initiating action against delinquent borrowers.

7. Well before the weakening economic situation began to affect the commercial banking sector, Côte d'Ivoire's five development banks were plagued by high levels of nonperforming loans. Failed attempts to rehabilitate these banks in the mid-1980s led the authorities to initiate liquidation procedures for two housing and two industrial development banks in 1988.

8. In addition to the problems of development banks, the dramatically worsening performance of the commercial banks began to surface in the late 1980s. Between 1988 and 1990, deposits of the commercial banks declined by 22 percent while credits from foreign banks fell by 14 percent. By December 1990, roughly half of the commercial bank credit portfolio was nonperforming. This resulted in growing illiquidity and insolvency of these banks, partly offset by substantial credit from the BCEAO.

9. To avert further deterioration and a potential outright crisis in the commercial banking sector, the government developed a comprehensive restructuring plan for the financial system sector. Implementation began in 1991 in conjunction with a Financial Sector Adjustment Program from the World Bank. The program provided for the rehabilitation of the commercial banking sector through the settlement of government arrears, the recapitalization of banks—mostly by private owners—and operational restructuring. Prior action by the authorities included introducing legislative reforms to facilitate the management and foreclosure on nonperforming loans. Prior actions also included a move to market-based monetary policy instruments by the BCEAO.

10. The only remaining parastatal development bank (Agricultural Development Bank, BNDA) was placed in liquidation in September 1991 and an international expert was hired to oversee the liquidation process. The private depositors of the BNDA were refunded only

partially, and a portion of the refunds was contingent upon successful loan recovery. The signaling effect of these actions was considered an important part of the bank restructuring strategy. For instance, the owners of each of the insolvent commercial banks were presented with the option of either closure and liquidation or an obligation to inject fresh capital. Thus, the government did not protect any bank under a "too big to fail" provision.

11. A centralized, government-owned asset recovery unit was established in late 1992 with a mandate to recover nonperforming loans from the liquidated state banks. As expected, the agency's recovery activities were not very successful, owing in part to the bankruptcy of major debtors, inadequate credit files, and slack demand in the export and real estate markets. Between May 1993 and June 1995, about 45 percent of targeted recoveries were realized (less than 4 percent of the outstanding portfolio). Net proceeds of the recoveries were used to repay depositors of the institutions affected. In addition, a special government fund was used to settle a large share of the payments due to private depositors of the agricultural development bank. The government is now being partially reimbursed through loan recovery from former BNDA debtors.

12. The settlement of the government's arrears to commercial banks (about 7 percent of 1990 GDP) was a major component of the recapitalization program. About 20 percent of the settlement of government arrears was accomplished through a series of cash payments from the government to the four large banks starting at the end of 1991. The remainder was securitized over 15 years at 3 percent interest with a two-year grace period. The concessional interest rate was accompanied by a special refinancing facility at the BCEAO, under which up to 90 percent of the new bonds could be discounted at a 3 percent rate, compared with the normal discount rate of 11 percent. The banks immediately made full use of this facility. Thus, central bank refinancing was an important element of the bank restructuring strategy.

13. The recapitalization of the largest banks was concluded in mid-1992, with both private parties and government contributing their shares to the absorption of past losses, in part through cash payments. Government support was limited to the equivalent of 20 percent of bank capital, thus, providing the incentive for private owners to contribute capital. As a result of the recapitalization, the liquidity position of the banks improved and lending resumed on a limited scale in 1992.

14. Besides settling government arrears, the restructuring programs for the four largest banks included a number of components supporting the banks' operational restructuring. Reductions in staff, branches, and overall operating expenses took place, and management was changed. While public sector loans were settled, nonperforming private sector loans were provisioned, and commercial banks took responsibility for collecting on the nonperforming loans of private borrowers. Past losses were absorbed by each shareholder in proportion to his share of bank capital. Thus, capital was restored to levels consistent with prudential requirements mainly by private owners. Realization of these measures, which forced bank owners to assume part of the bank restructuring costs, was greatly facilitated by the fact that three of the four major banks were subsidiaries of large foreign banks that were solvent and hence able to provide the needed additional capital.

15. The package of restructuring measures was designed not only to address the immediate problems of the banks but also to improve the regulatory, accounting, fiscal and legal, and monetary framework. Banking regulation and supervision were tightened through the new banking legislation introduced in 1990. Prudential rules were strengthened in mid-1991, including the introduction of new norms on capital adequacy, liquidity matching, and lending limits to single borrowers. A regional Banking Commission was formed to conduct on-site and off-site supervision for the member countries of the West Africa Economic and Monetary Union. An extensive monitoring system was set up in cooperation with external donors. The monitoring included regular bank audits, prudential enforcement, and other elements of the restructuring strategy.

16. In the area of legal reforms, new legislation strengthened the banks' ability to collect on collateral and to foreclose on delinquent borrowers. Court fees charged by the state amounting to 5 percent of the collateral value payable prior to the collection procedures were reduced. Banks were exempt from transfer fees for the acquisition of buildings subsequent to foreclosing on a guarantee. These reforms were completed by 1992, thus, laying the groundwork for improved bank performance. A set of arbitration procedures was included in the civil code. In 1993, recovery procedures for commercial and civil debt were also simplified.

17. During the first three years after the onset of bank restructuring macroeconomic recovery proceeded slowly, with real GDP growth stagnating. The fiscal deficit declined, though not steadily, from a peak of 17 percent of GDP in 1989 to about 8 percent in 1994. Inflation remained at low levels, only rising to 4 percent in 1991. Strengthened macroeconomic policies and structural reforms, coupled with the devaluation of the CFA franc in January 1994, put Côte d'Ivoire back on a sustainable growth path beginning in that year.

18. An ESAF arrangement with the Fund was concluded in 1994. The adjustment program supported by the ESAF was designed to reactivate the economy, to improve the public finances, and to restore price stability after a sharp rise in inflation to 32 percent in the aftermath of the devaluation. It was specifically designed to support the authorities' bank restructuring efforts and financial market development. An explicit goal of the program to strengthen macroeconomic performance was to enhance the financial results of the national recovery agency.

19. Despite the severity of the adverse terms of trade shocks that Côte d'Ivoire experienced in the late 1980s, the combination of a comprehensive bank restructuring strategy and a vigorous macroeconomic adjustment effort was relatively successful over the medium term in restoring the conditions for both sound banking system and sound macroeconomic performance. From 1992 to 1994, banks' return on capital rose to almost 10 percent, operating costs fell, and banks' loan pricing systems were revised so as to reflect actual risks. By 1994, most banks had returned to full compliance with prudential rules.

20. The experience of Côte d'Ivoire illustrates that a comprehensive approach is an essential ingredient of a successful bank restructuring strategy. Clear incentives, including a firm exit policy, loss sharing particularly on the part of private owners; and an emphasis on operational restructuring, loan workout, and continuous monitoring were central to the achievements of the restructuring package. While the macroeconomic conditions were weak in the initial phase of the bank restructuring process, the economic recovery following the devaluation in early 1994 was an important underlying condition for restoration of banking sector soundness.

B. Mauritania: The Consequences of Neglecting Operational Restructuring

21. In 1989 the banking system in Mauritania consisted of one development bank and four commercial banks, all of which were majority state-owned. The banking system was very fragile, mainly owing to weak portfolio management by the commercial banks and the mismanagement of banks following the nationalization of the early 1980s. In particular, since the economy was undiversified banking system loans were heavily concentrated in the agricultural and fishing sectors and the distress in banking system was intensified in 1988-89 due to adverse exogenous shocks experienced in these two major sectors.

22. With technical and financial assistance from the World Bank, a bank restructuring program was implemented over 1988-90 with a view to transforming the commercial banks into viable and profitable institutions. To resolve the stock problem of the banks that had built significant overdrafts with the central bank, some UM 7.7 billion of treasury bills (9.4 percent of 1990 GDP) was issued and the liabilities of the banks to the central bank were canceled. This operation was part of the measures to improve the balance sheets of the banks before their assets could be offered for acquisition by the private sector.

23. The program included measures to strengthen regulation and supervision by the central bank and adequate internal procedures for credit assessment. However, these measures were not effectively implemented, owing to a lack of political consensus on the need to address the problems of the banking sector. In effect, the bank restructuring program mainly took the form of financial restructuring, with little attention given to operational restructuring. In particular, the program did not include: (i) enactment of structural reforms regarding the accounting, legal and regulatory framework, which would also help to strengthen prudential supervision; (ii) establishment of proper incentives through conditionality measures for support programs as well as a firm exit policy; or (iii) the establishment of loan workout schemes. Thus, important principles of a comprehensive restructuring package were not in place. As a result, banks continued to grant loans to the financially-troubled agricultural and fishing sectors, failed to make appropriate provisions for delinquent loans, and generally did not attempt to improve the quality of their loan portfolio.

24. In its capacity as supervisor of the banking system, the central bank was unable to enforce compliance with prudential ratios and experienced other difficulties that prevented it from exercising effective supervision of banks, thereby weakening the motivation of banks to

address their problems. Furthermore, the quality of the claims that the central bank accepted as collateral remained weak. The privatization plans and recovery of nonperforming loans continued to lag far behind plans, owing to long and costly legal procedures and difficulties in selling seized properties.

25. As part of the restructuring program, an interbank money market was created in 1990, allowing participating banks to adjust their liquidity positions. However, the higher level of transactions made possible by a situation of increased liquidity in the system was not sustainable as it was largely based on the accumulation of arrears by banks. Blocking of these arrears by the central bank in late 1991 led to a collapse of the interbank market, and to a sharp decline in credit to the private sector.²

26. By end of 1991 it was evident that the bank restructuring efforts of 1988-90 had not succeeded. The two largest banks that already had been recapitalized were again facing a difficult financial situation. Furthermore, the problems in these banks had also spilled over to the two other banks, and nonperforming loans had reached 50 percent of total outstanding credit to the private sector. The escalating banking sector problems, the build-up by the Treasury of claims on banks in the form of uncleared checks, and the interruption of import financing due to the persistence of external arrears, disrupted financial intermediation.

27. Within the framework of the 1992-94 ESAF arrangement and Fund technical assistance the government undertook a second bank restructuring program. The main elements of this program were the closure and liquidation of the previously recapitalized government-owned development bank; the recapitalization and/or full privatization of the four commercial banks; the launching of a loan recovery program supported by enactment of new legislation; and a strengthening of the supervisory role of the central bank. The development bank was closed in June 1993, a liquidator was appointed, and rules for compensation were established. The government's role in the banking sector was further reduced through the completion of privatization of the four commercial banks. These banks were recapitalized in late 1993 on the basis of the external audits undertaken with assistance from the World Bank.³

28. An agreement was reached between the private shareholders of the fourth largest bank and the government whereby the government relinquished its 46 percent share in the bank, gave up treasury claims in the form of uncashed checks, assumed responsibility for certain claims on public enterprises it had guaranteed, and compensated the central bank for its

²In the context of the second restructuring program (1993), the central bank opened a discount window to provide banks with an alternative way to finance short-term liquidity needs. Treasury bills were effectively used as collateral to allow banks to finance temporary liquidity needs.

³Completion of satisfactory audits was delayed from the original target date of November 1992 to late 1993.

exposure to this bank. In exchange, the private shareholders committed to augment the bank's capital as indicated by the audit (and did so by 1994) and to assume full responsibility for any future increases in capital that might be called for.

29. A loan recovery law approved by parliament in February 1993 strengthened the rights of banks and lowered the cost of seeking recourse through the courts. Following enactment of the law a loan recovery agency was established, and the loan recovery target for 1995 was achieved.

30. Overall, the budgetary impact of the second bank restructuring program was estimated as UM 8.9 billion (7.6 percent of 1992 GDP) increasing the overall deficit of the consolidated government to 11 percent in 1993—up from 5.4 percent of GDP in 1992. The government incurred a revenue loss of about UM 700 million from relinquishing its claims on treasury checks; it paid out UM 1.3 billion in cash and UM 6.5 billion for the capital value of treasury bonds. While cash payments were made to individual depositors and international organizations, the public enterprises were issued Treasury bonds. The cost of the liquidation of the development bank alone accounts for more than half of the overall costs—estimated as UM 5 billion (4.4 percent of GDP).

31. The case of Mauritania demonstrates that if financial restructuring is not accompanied by operational restructuring, a recurrence of banking problems is unavoidable. In contrast to the first bank restructuring program, the second one stressed operational restructuring and structural reforms as central components. The main features of the latter include the establishment of loan workout schemes, enactment of structural reforms regarding accounting, legal and regulatory framework and strengthening of prudential supervision, and establishment of proper incentives through conditionality measures for support programs as well as a firm exit policy. Since the second round of the bank restructuring program took place in late 1993 and 1994, it is too early to judge its success. However, there are signs that the banking sector increased its profitability in 1995.

C. Sweden: The Role of Political Consensus and the Need for Rapid Action

32. Financial sector difficulties surfaced in Sweden in late 1990, following sizable credit losses by a number of finance companies due to lending to real estate companies. The problems in the real estate sector spread to the banking sector in 1991 and intensified in 1992. The surge in loan losses was particularly abrupt, rising from 0.3 percent of total loans in 1989 to 7 percent in 1992. While losses on real estate loans represented a significant share of the problem, other sectors also experienced financial distress as the recession deepened. In these conditions, the government stepped in to provide support in the form of capital injections and loan guarantees. In December 1992 the Swedish Parliament passed a bill affirming that the State would provide guarantees that banks and certain other credit institutions would meet their commitments on a timely basis. To support the objectives of the Act, Parliament set up a separate authority, the Bank Support Authority (BSA), as the lead restructuring agency.

33. Unlike a number of countries, where special government bonds were exchanged for nonperforming bank loans, Sweden's main form of assistance consisted of the above-mentioned guarantees of banks' payments and capital injections, to be financed from the budget as required. From late 1992 to 1995 such assistance was offered to the entire banking system, including subsidiaries of foreign banks and some other financial institutions that were wholly or partially owned by the government. Although several of the major banks initially availed themselves of these guarantees, only a few actually used the government assistance offered. As a result, nearly 98 percent of all the state financial assistance was to two large banks (Gota Bank and state-owned Nordbanken) and their associated asset management companies, Retriva and Securum.⁴

34. Total commitments (including all guarantees) amounted to 85 billion kronor (5.9 percent of GDP). However, since most guarantees were not paid out, budgetary support was mainly in the form of capital injections (86 percent), with lesser amounts provided by share subscriptions or share purchases (10 percent) and interest subsidies (2 percent). The direct cost to the budget was 61 billion kronor (4.2 percent of GDP). Moreover, the net fiscal cost is diminishing over time, since loans are being recovered by the asset management companies and the state is withdrawing from bank ownership by selling its share in the remaining Nordbanken at a substantial premium.⁵

35. The decision to adopt a comprehensive strategy enabled Sweden to weather a severe crisis, maintain the payment system's stability and the country's credit rating and minimize the costs of the restructuring program. The main principles underlying the success of the bank restructuring strategy of Sweden can be summarized as follows.⁶

- The key element was the formation of a *broad political consensus*. The government provided extensive information to Parliament to foster bipartisan support for its restructuring policies. The opposition was involved in all of the main meetings and was represented on the Board of the Bank Support Authority.
- *Transparency and disclosure of information* were crucial for regaining confidence domestically and abroad. The implications of support measures for depositors and investors were extensively reported.

⁴In 1993, Nordbanken and Gota Bank were merged, retaining the name Nordbanken (it is Sweden's fourth largest bank today). The asset management companies that were created to deal with their nonperforming loans, Securum and Retriva respectively, were also merged in December 1995.

⁵See Section 8 for details.

⁶See Ingves and Lind (1996).

- The *formation of an explicit institutional framework* clarified the respective roles for the Ministry of Finance, the Riksbank, the Financial Supervisory Authority, and the Bank Support. Exchange of information among these institutions was continuous. A separate institution was created to implement the bank restructuring strategy.
- *Diagnosis* was the first step in the restructuring process. A common yardstick based on capital adequacy rules and other financial ratios was designed to measure the extent of the problem faced by each individual bank. Initially, the banks were divided into two categories according to whether they could be restored to viability or not. The first category was eligible for financial support whereas banks in the second category could be closed or merged with other institutions. Support payments would be used to pay off the banks' creditors.
- *Proper incentives* were established through the conditionality embedded in support agreements. The foremost condition was the need for a change in management and an upgrading of internal control and risk management systems (which had been judged inadequate in most cases). Owners' equity was not covered by the Parliamentary guarantee; in case of Gota Bank, owners lost their equity.
- *Structural reforms* were enacted to strengthen the accounting, legal and regulatory frameworks, and prudential supervision. Clear guidelines on valuation of assets and banks' holdings of collateral (real estate and other assets) were set, and compliance with these procedures was strictly enforced.
- Establishment of *institutions for loan workout* was given high priority. Nonperforming assets from each of the two problem banks were transferred to its associated management company at an estimated market price. This had advantages as the banks could continue their normal business without having to handle a large volume of work-out cases. As with other types of support provided to banks, strict conditionality (as discussed above) was attached to the cleaning up of balance sheets. The asset management company could recruit the specific expertise needed for the work of transforming the bad assets into saleable assets. The government funded and capitalized the asset management companies and was the sole owner.

D. Philippines: State Banks and the Problem of Incentives

36. Unfavorable external conditions coupled with growing political uncertainty led to a sharp deterioration of the Philippines' balance of payments at the end of the 1970s. As real interest rates in international markets rose, the servicing of the Philippines' large external debt became increasingly difficult. The government tried to stem a larger crisis by stepping up its assistance to troubled enterprises. In 1983, amidst growing political uncertainty and a continued deterioration in the balance of payments, the announcement of a moratorium on external debt service triggered a financial panic and led to bank runs, a flight to currency, and capital outflows.

37. In addition to the macroeconomic causes of the banking crisis, a number of weaknesses in the supervision of banks had contributed over time to the deterioration of banks' condition. Existing rules were not enforced even though the Monetary Board (MB) was informed promptly of problem-banks.⁷ Some of the accounting rules were not codified in a way that ensured transparency and consistency. Furthermore, instead of obliging banks to make provisions for bad debt so as to restore confidence, the MB chose to waive enforcement of regulations in order to give troubled banks time to overcome their financial difficulties. In the event, this regulatory forbearance served to accelerate the deterioration of bank balance sheets.

38. Over 1982-85 the government provided assistance to other sectors mainly at the level of nonfinancial public enterprises. It stepped up subsidies to unprofitable state enterprises and increased its emergency lending and equity contributions to public corporations. However, these policies proved insufficient to prevent the escalation of difficulties in the banking system. In addition, the government directed banks to continue lending to enterprises in financial distress, thereby accelerating the deterioration of bank portfolios.

39. By end-1985 the two largest state-owned banks, Philippines National Bank (PNB) and the Development Bank of the Philippines (DBP), which together accounted for about half of the banking system's assets, were recognized as insolvent; nonperforming loans amounted to about 70 percent of their combined portfolios or about 21 percent of the assets of the banking system.⁸ A comprehensive rehabilitation program for both banks was initiated for the downsized banks by assuming an equivalent amount of deposit liabilities which became part of government debt and was paid off over a period of three years. At the core of the rehabilitation program was a transfer of nonperforming assets from banks' balance sheets.

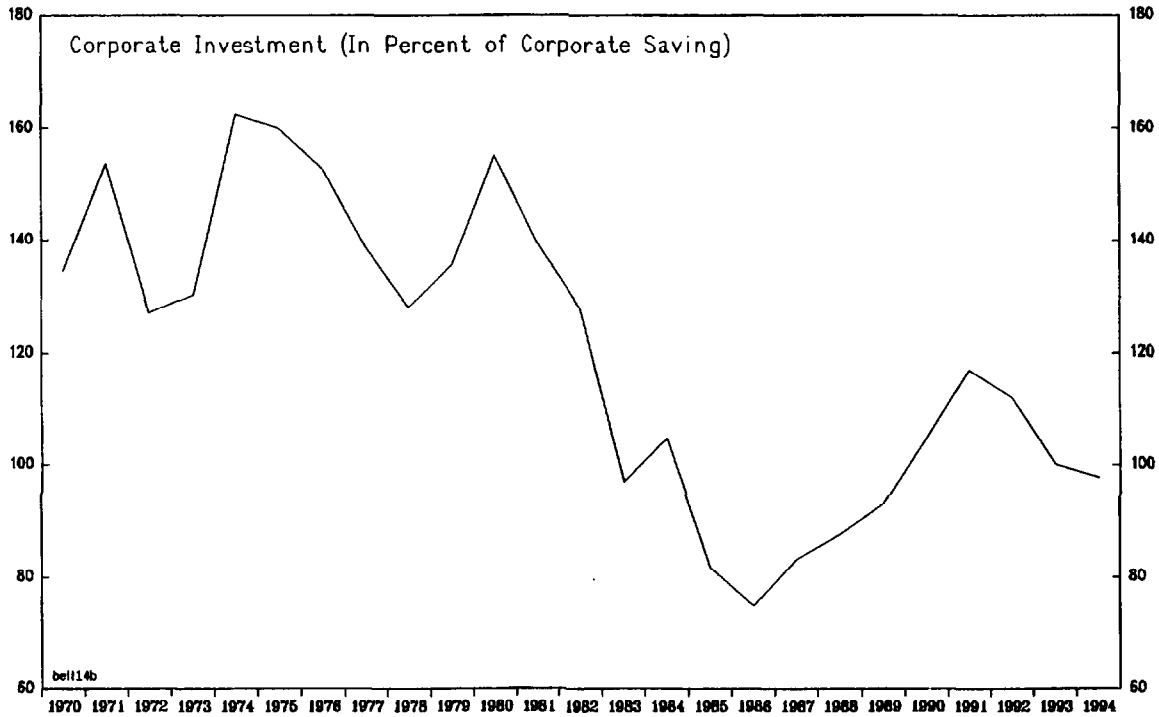
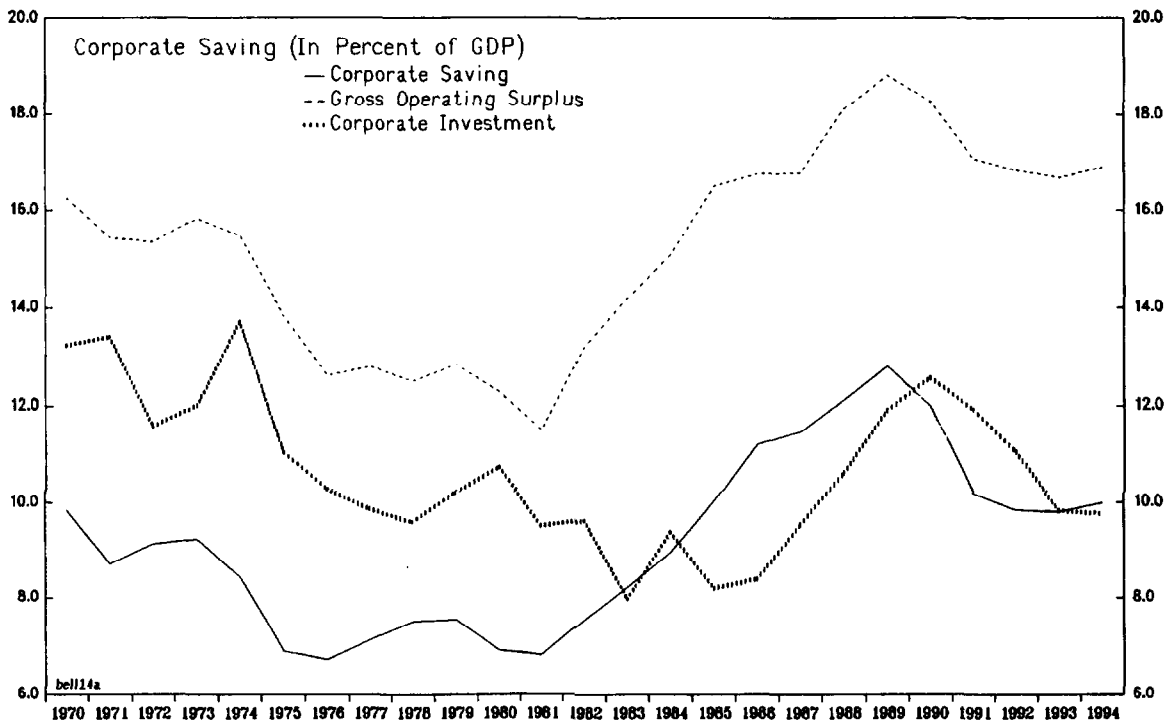
40. Following an external audit to evaluate the assets and liabilities of the two banks, in November 1986, 108 billion pesos of nonperforming assets (17 percent of GDP) were transferred to the Assets Privatization Trust (APT) that had been established. Selected staff from the PNB and DBP participated in loan-workout task forces and were charged with managing the nonperforming assets transferred to the APT. These tasks included preparing legal documentation preliminary to the sale or seizure of collateral as well as preparing these assets for sale/recovery. For the nonperforming accounts that were to remain on the books of the DBP and PNB, additional task forces reinforced loan recovery. Overall, loan recovery rates were reported to have been satisfactory.

⁷The MB is the ultimate supervisory authority and is composed of the Governor of the central bank, a member of the Cabinet designated by the President of the Philippines and seven members from the private sector.

⁸The state-owned banks as a whole accounted for about 55 percent of total banking system assets.

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 $\frac{1}{2}$ percent of GDP.²³

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.

²³See, 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) (3.67)

$$R^2 = 0.51$$

$$\text{DW} = 1.7$$

$$\text{SE} = 1.913$$

$$F(1,13) = 13.5$$

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.²⁴ The estimation results are as follows (t-statistics in parenthesis):

Period: 1970-1996

$$\text{SAVSURPR} = 3.519 - 0.489 \text{ SAVSURPUB}$$

(3.30) (2.96)

$$R^2 = 0.28$$

$$\text{DW} = 1.3$$

$$\text{SE} = 2.032$$

$$F(1,23) = 8.7$$

Period: 1980-1994

$$\text{SAVSURPR} = 7.707 - 0.012 \text{ SAVSURPUB}$$

(3.76) (0.04)

$$R^2 = 0.00$$

$$\text{DW} = 1.7$$

$$\text{SE} = 1.914$$

$$F(1,13) = 0.0$$

²⁴In 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.²⁵ 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

²⁵For 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.²⁶ 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.²⁷ 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

²⁶On the impact of aging on pension benefits, as well as other categories of social security outlays, see Section A of Section IV of the paper.

²⁷In 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.²⁸ 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).²⁹ 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.

²⁸On 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.

²⁹The 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.³⁰ These aspects of fiscal policy thus appear to account to some extent for the apparent

³⁰The 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

³⁰(...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.³¹

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*.³² 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

³¹Examples 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).

³²See 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.³³ 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 section³⁴ 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

³³The economic impact of product market regulations of this nature has been recently studied by Koedijk and Kremers (1996).

³⁴The 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:

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

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.³⁵ 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

³⁵The 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 1976-1992,³⁶ 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)

$$R^2 = 0.87 \qquad \qquad \qquad \text{SE} = 1.017 \qquad \qquad \qquad F(4,14) = 12.6 \qquad \qquad \qquad \text{DW} = 1.99$$

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.³⁷ 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,³⁸ the extent of the increase in the

³⁶Choosing 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.

³⁷It is also noteworthy that inclusion of the relative demand shift variable renders the constant term insignificantly different from zero.

³⁸This 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.³⁹ 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

³⁸(...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.

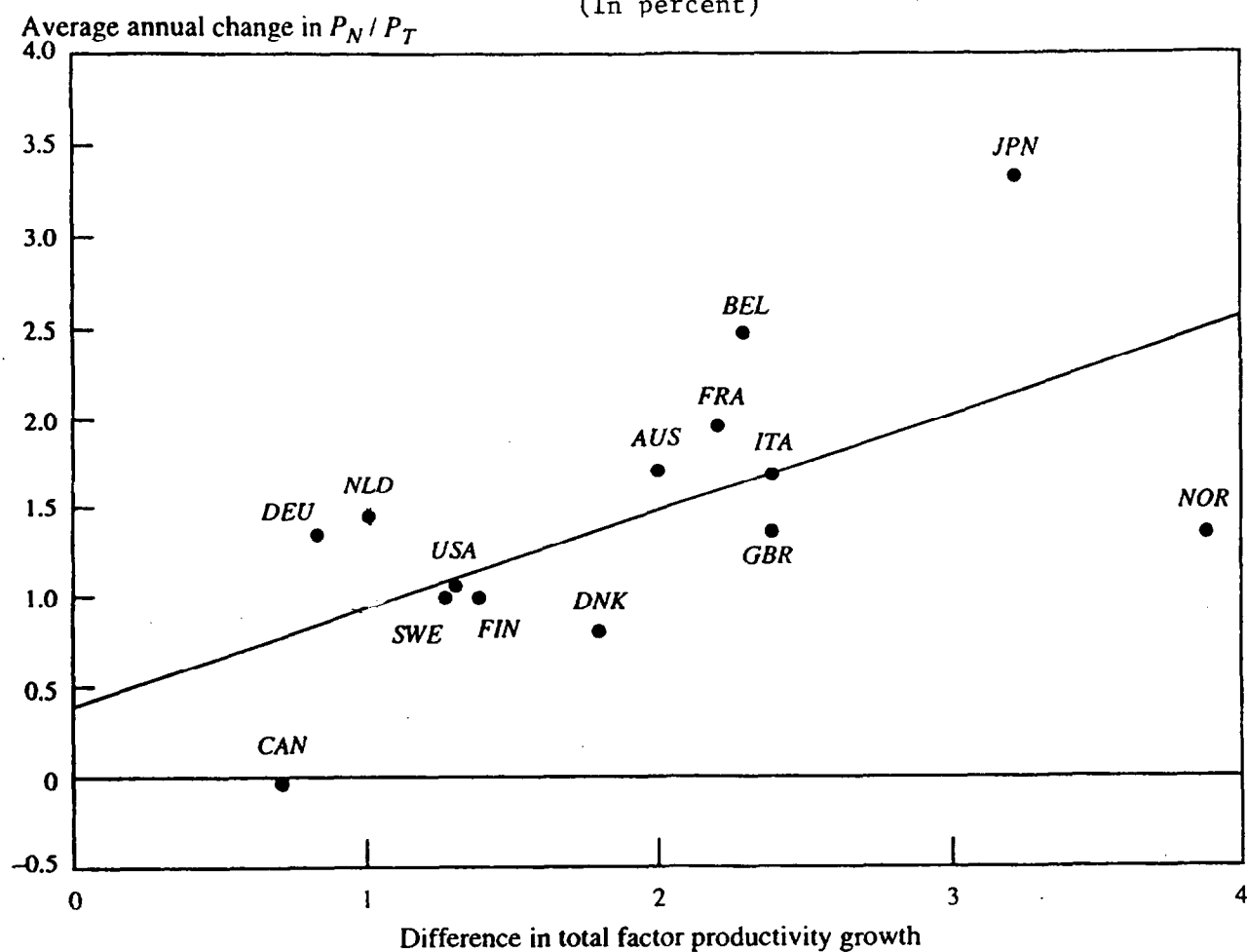
³⁹In fact, the country exhibiting the largest positive deviation, Japan, is clearly an outlier in this regard.

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 Expenditure⁴⁰

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.

⁴⁰ 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.⁴¹ 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.⁴² 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. The pension for the self-employed is basically a minimum income scheme that provides a small pension, unrelated to life-time earnings.⁴³ 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.

Unemployment benefits are paid to those workers who have been fired, and to new entrants on the labor market who cannot find employment. 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

⁴¹ SM/96/31 (Supplement 1), on which this section is based, provides more detail on the Belgian health care system.

⁴² The self-employed have the option to self-insure against minor risks.

⁴³ 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.

when compared to the regional average duration of unemployment.⁴⁴ **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 an 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. 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:

- 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.

⁴⁴ A head of household, however, can never have his unemployment benefits terminated.

- 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.⁴⁵

⁴⁵ 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.⁴⁶ 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

⁴⁶ 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 $\frac{1}{2}$ percent to 1 percent annually on account of technological progress. Table 18 presents the simulation results assuming an impact of technological progress of $\frac{1}{2}$ 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.⁴⁷ 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

⁴⁷ 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
<i>Pensions 1/</i>							
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
<i>Health care</i>	5.0	5.3	5.7	6.1	6.5	6.8	7.0
<i>Unemployment</i>	2.3	2.0	1.7	1.3	0.8	0.8	0.7
<i>Early retirement</i>	0.7	0.6	0.7	0.6	0.5	0.4	0.3
<i>Family allowances</i>	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 2030.⁴⁸ Despite these offsets

⁴⁸ 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.

⁴⁸(...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 Structure⁴⁹

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.⁵⁰ 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

⁴⁹Prepared by Ousmane Doré, with Caroline Van Rijckeghem.

⁵⁰In 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	Social security and payroll taxes		
		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.⁵¹ 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.⁵² 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.

⁵¹The 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.

⁵²Under 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
(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 Scenarios⁵³

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

⁵³Prepared 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 (see Annex I for a discussion of this projection). 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.⁵⁴ 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 Growth and Stability Pact is likely to result in additional constraints in this direction.

Specifically, the policy of targeting the primary surplus at its current structural level⁵⁵ 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

⁵⁴The 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.

⁵⁵By 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.

assumed to remain constant as well, with non-social security primary spending adjusted to 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 Growth and Stability 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 Section, 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. **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
(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.

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.

The Charts in Annex II 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 Annex II 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 4 of Section A of this Section.⁵⁶ 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 primary 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 2008.⁵⁷ Chart 11 presents the projected paths of the general government revenue ratio for each of the three scenarios under consideration.⁵⁸ 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 then effectively stabilizes during the remainder of the period under consideration; by the end

⁵⁶The 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.

⁵⁷It should be recalled that during the period of primary surplus targeting the revenue ratio was kept constant across scenarios by assumption.

⁵⁸The 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.

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 employment⁵⁹ 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 70 percent, and to lower the NAIRU to some 7 percent of the labor force, over the 10-year period 2002-2012.⁶⁰

⁵⁹Such policies could include targeted reductions in taxes on labor, such as those studied in Section B of this Section (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.

⁶⁰It should be noted that, in order for the desired effect to materialize during the period
(continued...)

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 on 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 results⁶¹ 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.⁶² 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 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.

⁶⁰(...continued)

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.

⁶¹Details of the estimation methodology and estimation results are provided in Annex III.

⁶²Alternatively, 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.

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.⁶³ 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.⁶⁴

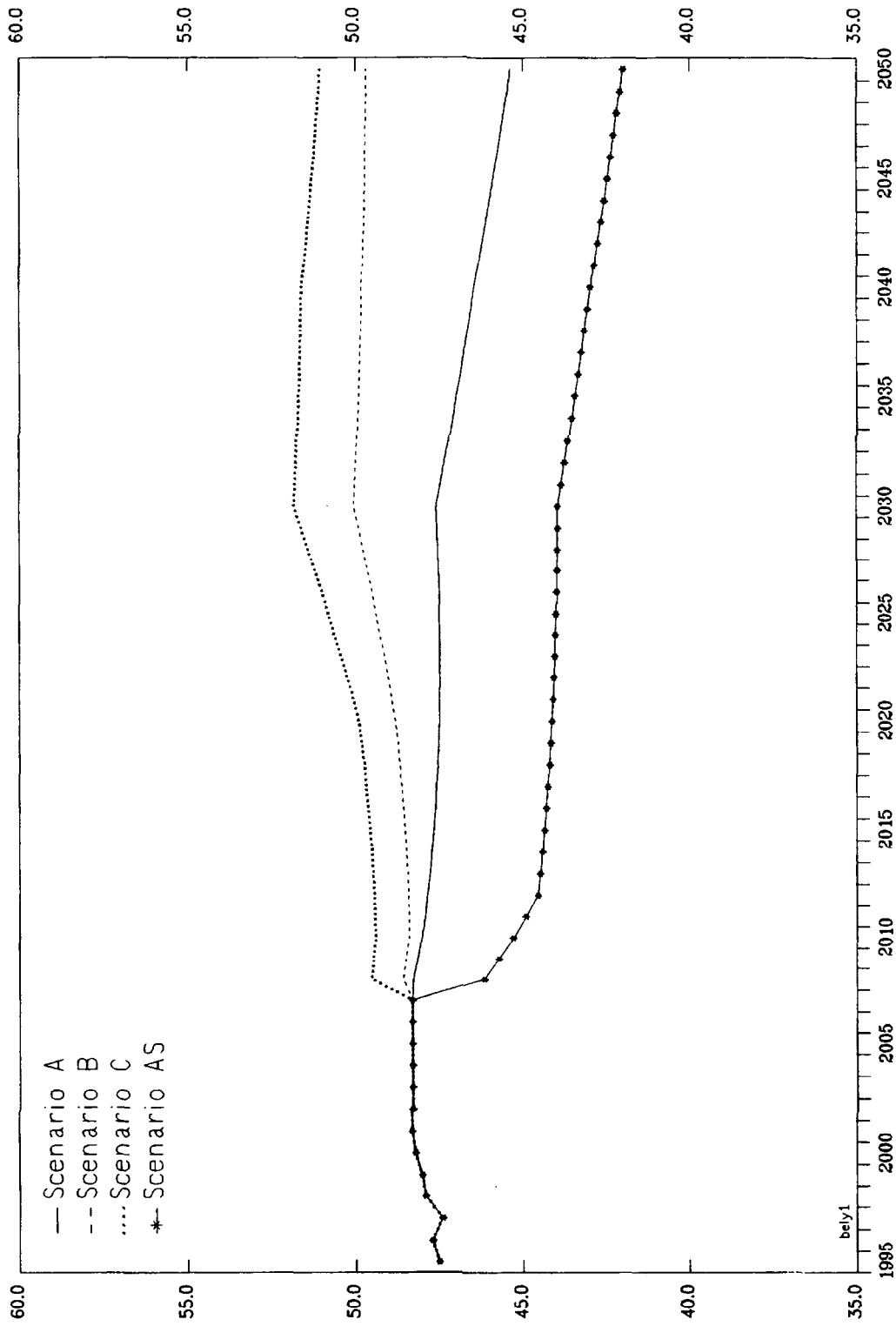
The projected paths for the general government fiscal balance, the general government debt, and the various components of general government expenditure are presented in the Charts of Annex II. As above, to ensure comparability of alternative scenarios, an identical path for primary, non-social security expenditure as a share of GDP to that imposed on the scenarios A-C is imposed on Scenario AS as well. The Charts of Annex II 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.

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

⁶³Unemployment benefits were further adjusted to take into account the reduction in structural unemployment.

⁶⁴An 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
BELGIUM
General Government Revenue
(In Percent of GDP)



Source: Staff calculations.

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.⁶⁵ 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 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

⁶⁵In 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.

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 Growth and Stability 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.

References

- Alesina, A., and Perotti, R., 1995, "Fiscal Expansion and Adjustment in OECD Countries," *Economic Policy*, No. 21, August.
- , 1996, "Fiscal Adjustments in OECD Countries: Composition and Macroeconomic Effects," IMF Working Paper No. 96/70.
- Balassa, B., 1994, "The Purchasing-Power-Parity Doctrine: A Reappraisal," *Journal of Political Economy*, 72, December.
- Barro, R., 1974, "Are Government Bonds Net Wealth?," *Journal of Political Economy*, December.
- Bartolini, L., A. Razin, and S. Symansky, 1995, "G7 Fiscal Restructuring in the 1990s: Macroeconomic Effects," *Economic Policy*, 20, pp. 109-46.
- Belessiotis, T., 1995, "Fiscal Revenues and Expenditure in the Community Granger Causality Among Fiscal Variables in Thirteen Member States and Implications for Fiscal Adjustment," *Economic Papers*, DG II, No. 114, Commission of the European Communities.
- Claeys, J., H. Geeroms, C. Rigo, and S. Delgado, 1995, "Ontwikkeling van de pensioenuitgaven," National Bank of Belgium, mimeo.
- De Callatay, E., and B. Turtelboom, 1996, "Pension reform in Belgium," IMF Working paper No. 96/74.
- De Gregorio, J., A. Giovannini, and T. H. Krueger, 1993, "The Behavior of Nontradable Goods Prices in Europe: Evidence and Interpretation," IMF Working Paper No. 93/45, May.
- De Gregorio, J., A. Giovannini, and H. C. Wolf, 1994, "International Evidence on Tradables and Nontradables Inflation," IMF Working Paper No. 93/45, March.
- Delbecq, B., and H. Bogaert, 1994, "L'incidence de la dette publique et du vieillissement démographique sur la conduite de la politique budgétaire: une étude théorique et appliquée au cas de la Belgique," Planning Paper No. 70.
- Doré, O., and C. van Rijckeghem, 1996, "Social Security Tax Reform and Unemployment: A General Equilibrium Analysis for Belgium," IMF forthcoming.

- Eeckhout, E., G. Van Gool, and L. Verdyck, 1995, *Pensioenzakboekje*, Diegem: Kluwer Editorial.
- Englert, M., N. Fasquelle, and S. Weemaes, 1994a, "Les perspectives d'évolution à très long terme de la sécurité sociale (1991-2050)," *Federal Planning Bureau Paper* No. 66.
- , N. Fasquelle, and S. Weemaes, 1994b, "Les perspectives d'évolution à très long terme de la sécurité sociale (1991-2050): Tableaux de résultats de la version de mai 1994," Federal Planning Bureau mimeo.
- European Commission, 1993, "The Economic and Financial Situation in Belgium," *European Economy*, reports and studies, No 1.
- Giavazzi, F., and M. Pagano, 1990, "Can Severe Fiscal Contractions be Expansionary? Tales of Two Small European Countries," *NBER Macroeconomics Annual*, pp. 75-122.
- Halikias, I., 1996, "Long-Term Trends in the Saving-Investment Balance and Persistent Current Account Surpluses in a Small Open Economy: The Case of the Netherlands," IMF Working Paper No. 96/42, May.
- Harrod, R., 1939, *International Economics* (Cambridge, UK: Cambridge University Press).
- Koedijk, K., and J. Kremers, 1996, "Market Opening, Regulation and Growth in Europe," *Economic Policy*, October.
- Lambrecht, M., N. Fasquelle, and S. Weemaes, 1994, "L'évolution démographique de long terme et son incidence isolée sur quelques grandeurs socio-économiques (1992-2050)," *Bureau du Plan Planning Paper* No.68.
- Masson, P., T. Bayonni, and H. Samiei, 1995, "Saving Behavior in Industrial and Developing Countries," *IMF, Staff Studies for the World Economic Outlook*, September.
- McDermott, J., and R. Wescott, 1996, "An Empirical Analysis of Fiscal Adjustments," IMF Working Paper No. 96/59.
- Micossi, M., and G. M. Milesi-Ferretti, 1994, "Real Exchange Rates and the Prices of Tradable Goods," IMF Working Paper No. 94/19, February.
- National Institute for Statistics, 1993, *Bevolkingsvoorzichten 1992-2050*.
- National Institute for Statistics, 1996, *Bevolkingsvoorzichten 1995-2050*.
- National Office for Pensions, *Statistique Annuelle des Bénéficiaires de Pensions*, several years.

OECD, Economics surveys, Belgium/Luxembourg, various issues.

Samuelson, P., 1964, "Theoretical Notes on Trade Problems," *Review of Economics and Statistics*, March.

Weemaes, Saskia, 1995, "Onderzoek naar de evolutie van overheidspensioenen op lange termijn," *Federal Planning Bureau Paper* No. 73.

Zee, Howell, 1996 "Taxation and unemployment," IMF Working Paper No. 96/45.

Medium-Term Fiscal Scenario

A medium-term fiscal scenario is presented in Table 1. This corresponds to Table 2 in SM/97/6, and also constitutes the starting point for the long-term scenarios in this Selected Issues paper.

Data for 1997 reflect staff projections of the fiscal outlook based on the 1997 budget, which aims to achieve a deficit of no more than 2.9 percent of GDP in the context of Belgium's determination to be a first-round participant in European Monetary Union (EMU). The *revenue projection* for 1997 in the scenario thus reflects a relatively cautious evaluation of revenue buoyancy in the short term. A number of factors are expected to reduce revenue below its underlying relationship to GDP in 1997—including, *inter alia*, an output gap estimated at 1 percent of GDP, and a pattern of income and expenditure that is somewhat biased toward components that are not direct sources of high tax revenues (such as exports and investment).

From 1998 onward, there is a recovery of revenues toward their trend level—and the revenue projections for 1998-2002 should, more generally, be seen as illustrating central values (rather than budget-style projections at the prudent end of the range). To the extent that this recovery in revenues does indeed materialize after 1997, and exceeds the impact of the narrowing of the output gap, this would in principle allow some *rise in primary expenditure* relative to GDP from 1998 onward, based on the assumption used in this table of a constant structural primary surplus. However, the rise in primary expenditure relative to GDP that is shown in the Table does not reflect a judgment by the staff that it would be desirable or prudent to allow such an increase to occur. Indeed, significant uncertainty surrounds the revenue projections, so that (as in 1996 and 1997) it would be prudent in 1998 to adopt a cautious revenue estimate in framing budgetary policy. Consistently with the overriding priority of deficit and debt reduction, higher-than-budgeted revenue in 1998 and beyond could then be applied to increasing the structural primary surplus above the current level of some 6.2 percent of GDP—or if the revenue gains were structural, and expenditure restraint adequate, cutting the tax on labor income to avoid a substantial increase in the overall revenue ratio compared to the level in the last two years.

Table 1. Belgium: General Government Medium-Term Fiscal Scenario ¹

(Percent of GDP)

	1995	1996	1997	1998	1999	2000	2001	2002
Revenue	47.5	47.7	47.4	47.9	48.0	48.2	48.3	48.3
Expenditure	51.7	51.1	50.3	50.5	50.3	50.0	49.8	49.6
Balance ¹	-4.1	-3.4	-2.9	-2.6	-2.2	-1.8	-1.5	-1.3
Debt	133.7	130.2	127.1	124.4	121.5	118.3	115.0	111.7
Memorandum items:								
Structural balance	-3.6	-2.6	-2.3	-2.1	-1.9	-1.7	-1.5	-1.3
Primary balance	5.0	5.3	5.7	5.8	5.9	6.1	6.2	6.3
Interest payments	9.1	8.7	8.6	8.4	8.2	7.9	7.8	7.6
Structural primary balance	5.5	6.1	6.2	6.2	6.2	6.2	6.2	6.2
Pro memoria items:								
GDP growth (in percent)	1.9	1.4	2.4	2.3	2.2	2.2	2.2	2.1
Output gap (in percent)	-0.8	-1.4	-1.0	-0.7	-0.5	-0.2	--	--
Interest rates (in percent)								
Short-term	4.8	3.3	3.9	5.3	5.7	5.7	5.7	5.7
Long-term	7.4	6.6	6.8	7.0	7.1	7.1	7.1	7.1
External current account	5.1	5.2	5.4	5.5	5.6	5.7	5.8	5.9
Total investment	17.7	18.0	18.4	18.4	18.5	18.5	18.6	18.6

Source: Staff estimates. Data may not add due to rounding.

¹Based on projected interest rates of the September 1996 WEO.

CHART 12

BELGIUM

Impact of Increased Labor Participation

(Index 2002=100)

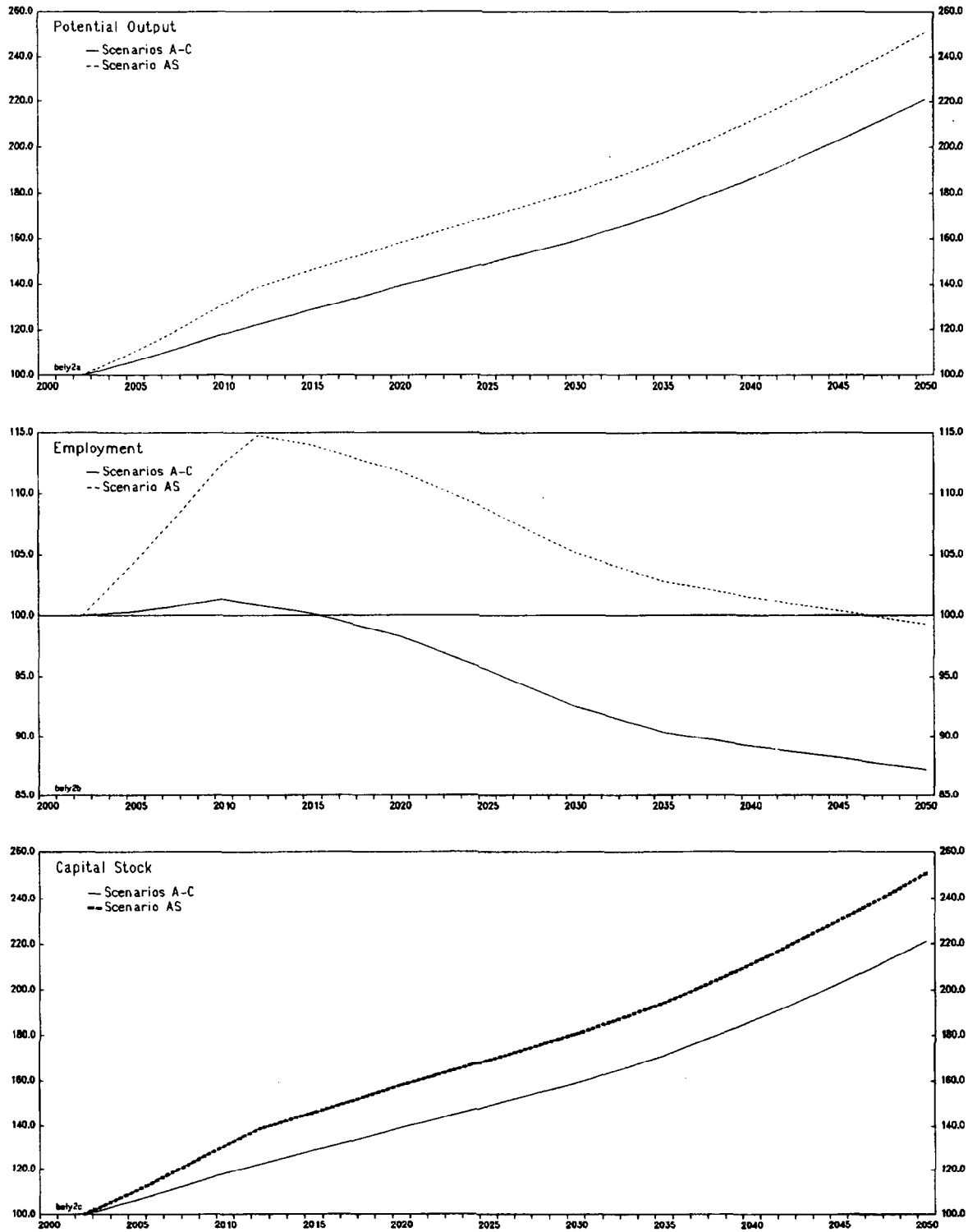
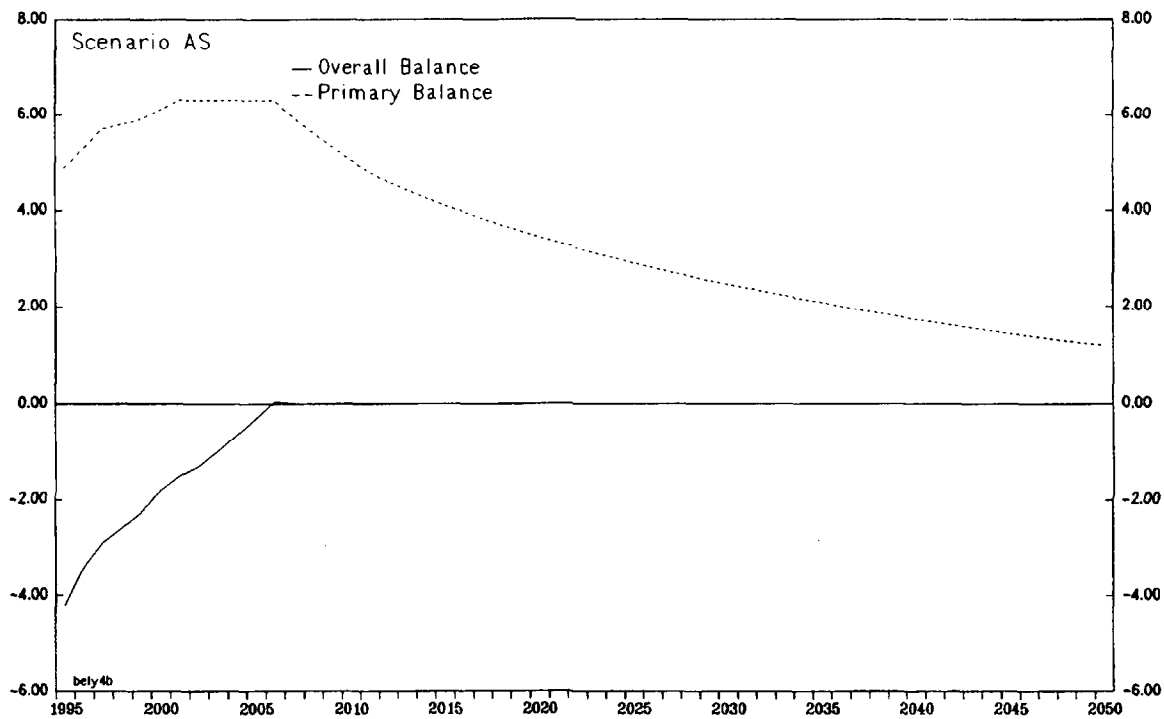
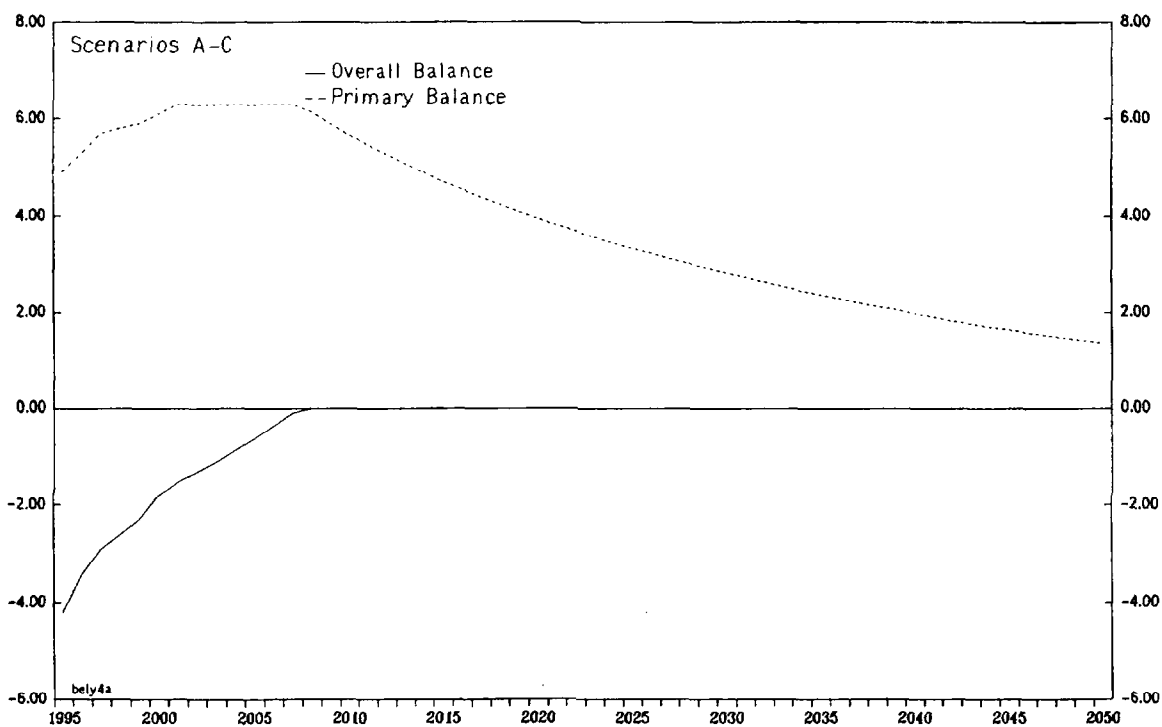
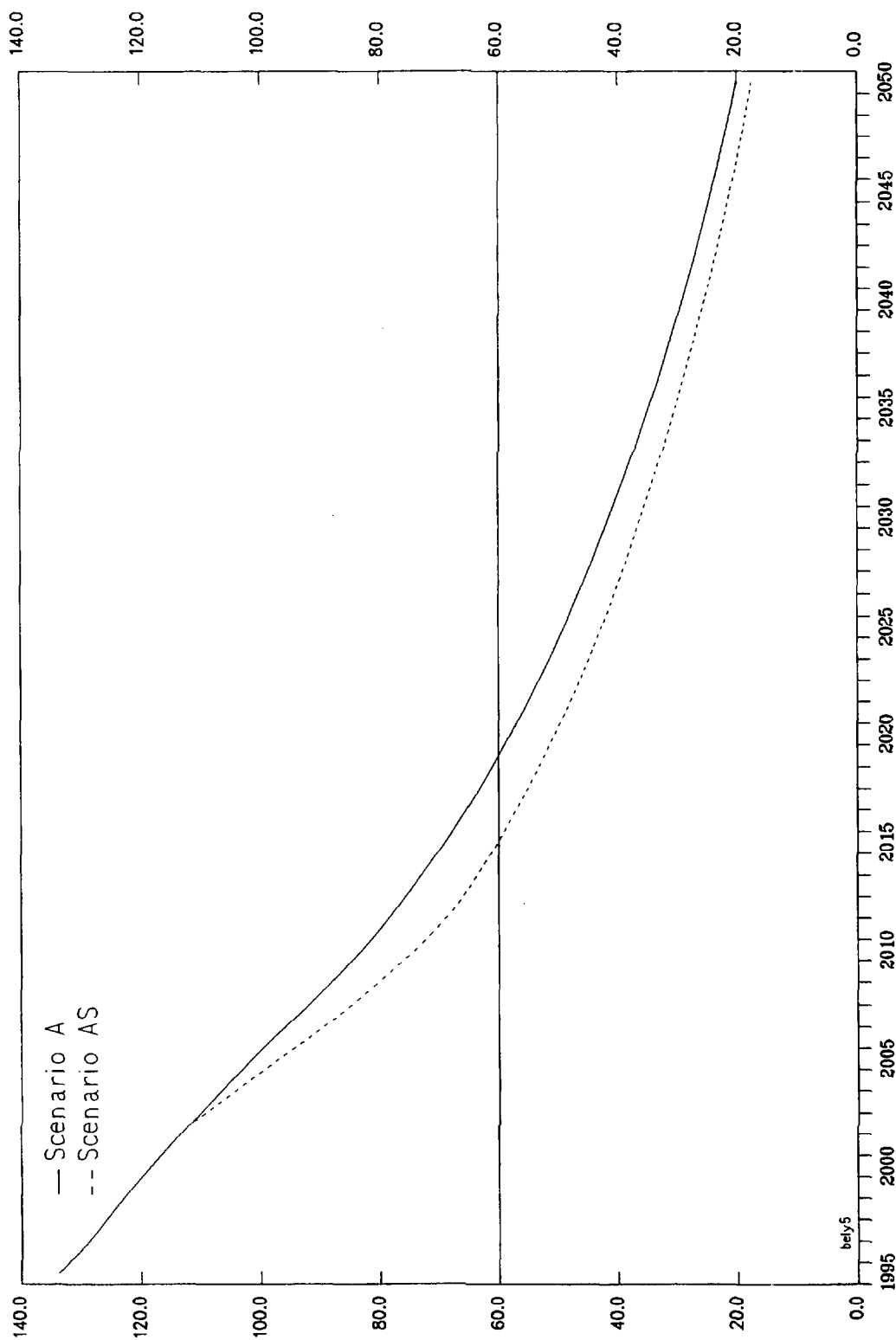


CHART 13
BELGIUM
General Government Balance
(In Percent of GDP)



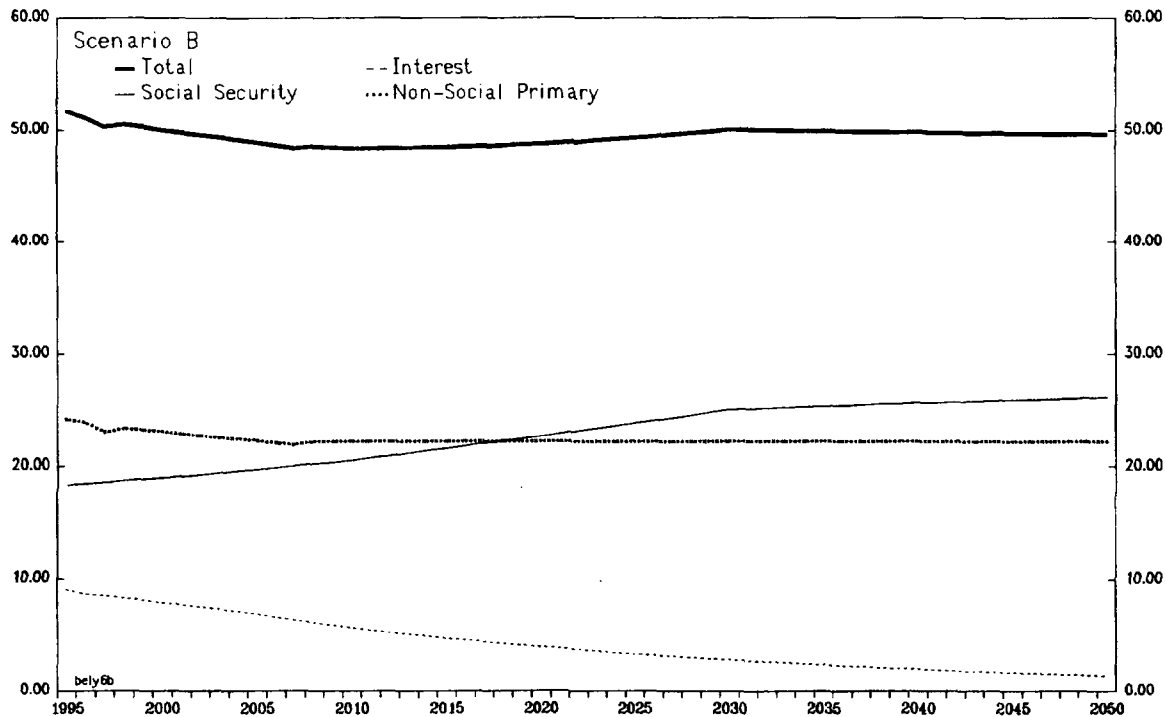
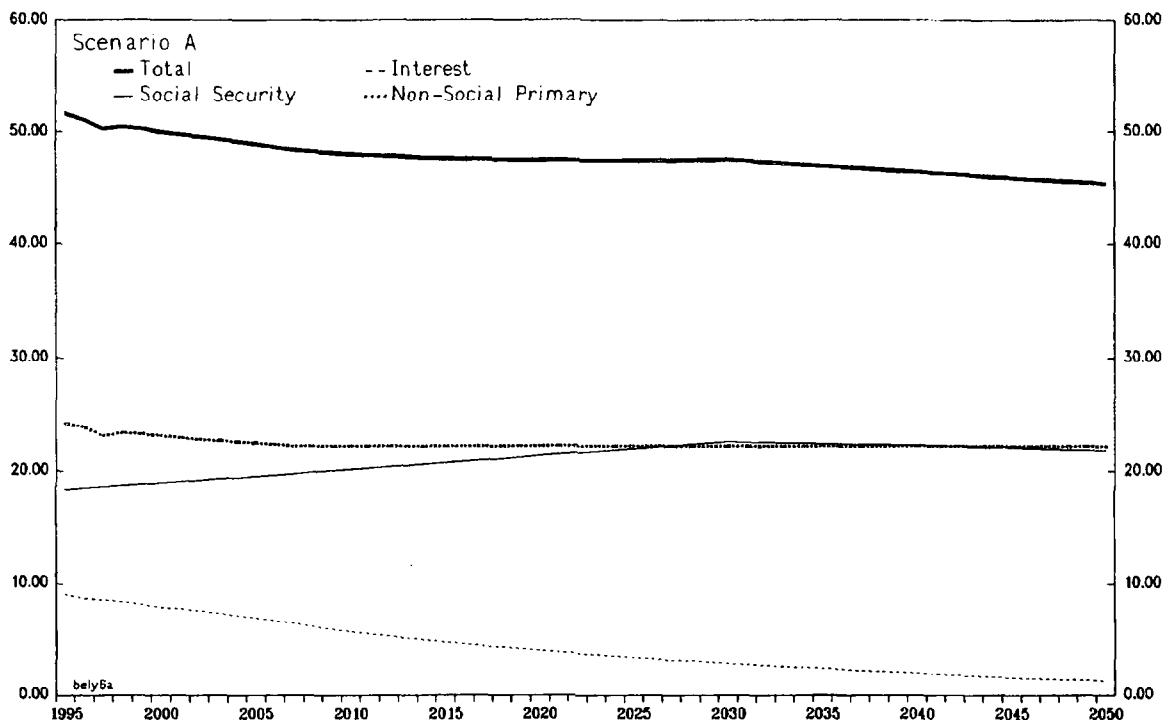
Source: Staff calculations.

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



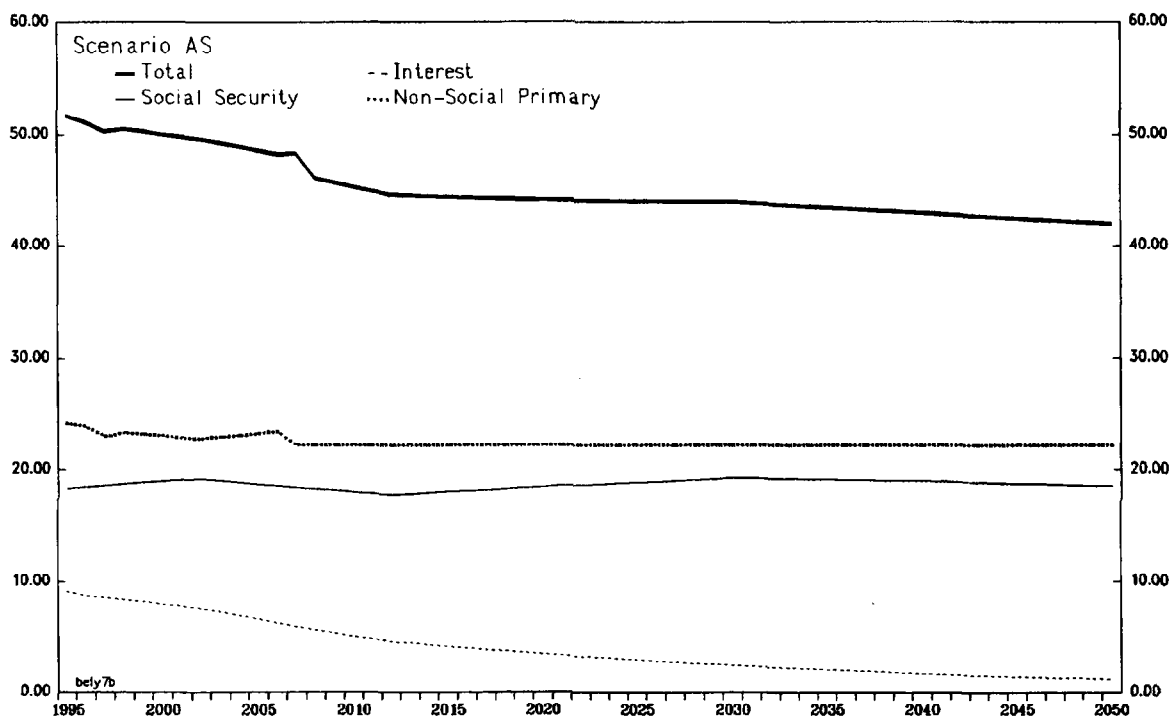
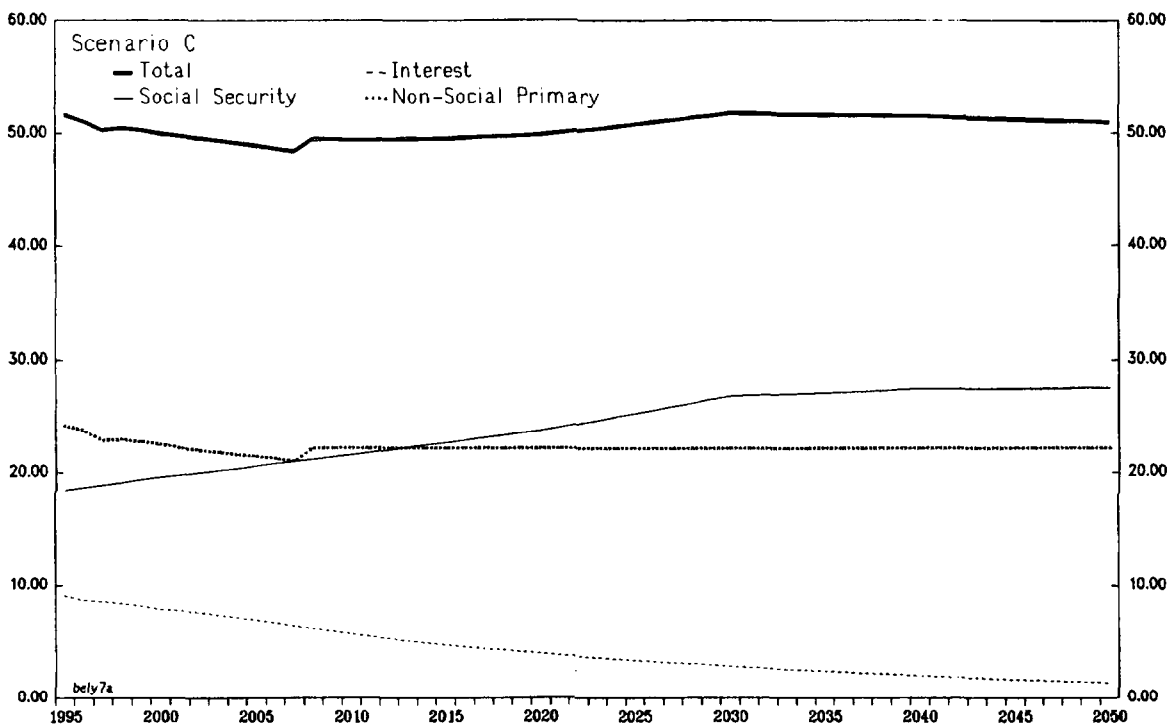
Source: Staff calculations.

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



Source: Staff calculations.

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



Source: Staff calculations.

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)

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

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 ^{3/}									
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 ^{4/}									
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 ^{5/}									
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 ^{6/}									
Belgium	-7.6	-6.8	-6.5	-5.8	-6.7	-7.1	-6.7	-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	14.6	0.1	1.4	1.4	1.0	0.9
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	-3.5
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/ 1990 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	2.2	1.7	-0.4	2.3	2.1
Agriculture, horticulture 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 ^{1/}	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. <u>3/</u>	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 <u>4/</u>	-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 <u>5/</u>						
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 temporary 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	...	2.7	3.5	4.1	2.6	2.2	1.9	<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 A11. 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	18.3
Households	14.5	14.1	14.3	14.1	14.9	15.1	15.0
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	12.7
Social security contributions	14.7	15.2	15.4	15.6	15.2	15.1	14.7
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	1.6
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	8.7
Primary expenditure	40.8	42.2	42.3	43.2	42.9	42.6	42.3
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	2.2
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	5.6
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	0.8
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	5.6
Subsidies	2.2	2.3	2.1	2.1	2.0	2.1	2.0
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	5.3
Gross consolidated debt ("Maastricht")	128.5	130.2	131.5	137.0	135.1	133.7	130.2
Net debt	119.1	120.2	122.0	128.2	127.6	127.7	124.6

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	18.1
Direct taxes	11.4	10.6	10.3	10.2	10.4	10.6	10.5
Indirect taxes	0.5	0.5	0.5	0.4	0.5	0.5	0.5
Social security contributions	0.0	0.0	0.0	0.1	0.1	0.1	0.1
Capital taxes	18.3	17.6	17.4	17.5	17.6	17.3	17.3
Nontax revenue	0.7	0.8	0.7	0.6	0.7	0.5	0.7
Total expenditure	24.9	24.0	24.3	24.4	23.2	21.8	21.0
Interest expenditure	10.0	9.6	10.2	10.1	9.3	8.3	7.9
Primary expenditure	14.9	14.4	14.1	14.3	13.8	13.5	13.1
Consumption	3.3	3.3	3.2	3.2	3.1	3.1	3.0
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	0.8
Transfers to households	3.1	3.1	3.0	3.0	3.0	3.0	2.9
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	4.3
Balance	-5.7	-5.6	-6.1	-6.3	-4.7	-4.0	-2.9
of which: primary balance	4.3	4.1	4.1	3.9	4.6	4.3	5.0
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	19.7
Direct taxes 2/	0.0	0.0	0.0	0.0	0.6	0.4	0.0
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	19.6
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	19.8
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	19.0
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	5.6
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	0.8
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	-0.0

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	4.7
Capital taxes	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Nontax revenue	0.1	0.1	0.1	0.3	0.2	0.2	0.2
Transfers from federal government	0.6	0.4	0.5	0.6	0.6	0.7	0.7
Total expenditure	10.5	11.0	11.2	11.6	11.7	12.0	12.0
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	11.6
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 local authorities	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	6.3
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	3.3
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	0.6

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 ^{1/}	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	2.65
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 ^{1/}	391.0	375.0	448.0	503.0	484.0	401.0	356.0
(In percent of GDP)	6.4	5.8	6.6	7.0	6.6	5.2	4.5
Financed by:							
Monetary financing	29	-50	-115	-108	449	-152	-262
Borrowing in foreign currencies	69	-20	-8	-108	449	-152	-262
Domestic money creation	-40	-30	-107	--	--	--	--
Short-term borrowing in BF	251	122	86	-10	-224	497	-453
Long-term borrowing in BF	226	408	590	691	432	-31	981
Of which: OLO	82	273	935	963	1,122	791	658
Formation of financial assets ^{2/}	-76	-79	-107	-59	-144	98	115
Other ^{3/}	-39	-26	-6	-11	-29	-11	-25
Financing in percent of total new liabilities:							
Monetary financing	7	-13	-26	-21	93	-38	-74
External borrowing	18	-5	-2	-21	93	-38	-74
Domestic money creation	-10	-8	-24	--	--	--	--
Short-term borrowing in BF	64	33	19	-2	-46	124	-127
Long-term borrowing in BF	58	109	132	137	89	-8	276

Source: National Bank of Belgium, 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	4.1	-0.3	8.9	7.7	4.3
(2) Export growth	4.3	4.3	1.8	4.2	-0.1	7.5	5.2	4.1
(3) Export performance = (2)-(1)	-3.2	-2.0	-3.4	0.0	0.2	-1.4	-2.4	-0.2
Pricing behavior								
Total trade								
(1) Partner countries' export prices in dollars <u>2/</u>	-1.2	11.5	-1.7	3.3	-6.8	3.6	12.5	-1.1
(2) BF/dollar rate	7.2	-15.2	2.2	-5.9	7.6	-3.3	-11.9	4.1
(3) Export prices of foreign producers in BF	5.9	-3.7	0.5	-2.6	0.8	0.3	0.6	3.0
(4) Export prices of domestic producers in BF	7.8	-2.7	-1.8	-1.8	-2.1	0.2	1.4	2.7
(5) Relative price of exports = (4)-(3)	1.8	1.0	-2.3	0.8	-2.9	-0.1	0.8	-0.3

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.