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Luxembourg: Staff Report for the 2000 Article IV Consultation

This report was prepared by a staff team of the International Monetary Fund following discussions with the officials of Luxembourg on economic developments and policies. The report was then considered by the IMF's Executive Board in the context of the IMF's periodic consultation with Luxembourg, as required under Article IV of the IMF Articles of Agreement. The views expressed in the staff report itself are those of the staff team and do not necessarily reflect the views of the Executive Board of the IMF or of the authorities of Luxembourg; a supplementary statement by IMF staff may also be included. The views of the Executive Board as expressed in the discussion of the Article IV consultation report and as summarized in a Public Information Notice (PIN) are also included. In addition, a statement by the member country authorities may be appended. Further background documentation prepared by IMF staff for the consultation may be published separately at a later date. The policy of publication of Article IV staff reports allows for the deletion of market sensitive information.

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LUXEMBOURG

Staff Report for the 2000 Article IV Consultation

Prepared by the Staff Representatives
for the 2000 Consultation with Luxembourg

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May 10, 2000

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I. INTRODUCTION¹

1. The last Article IV consultation report (SM/98/85, 4/21/98) highlighted Luxembourg's impressive economic performance: real activity had expanded vigorously; unemployment and inflation were low and stable; and the public finances were sound. The report suggested that Luxembourg faced no pressing short-run problems, but the longer-term outlook was seen as clouded—Luxembourg would in particular need to guard against the risk of a slowdown or even reversal in its large financial services sector. At the conclusion of the consultation on May 13, 1998, Executive Directors endorsed this analysis and welcomed the authorities' measures to lower the corporate and personal income tax burden, improve the public infrastructure, and diversify the economy. Directors also noted that ensuring the long-run sustainability of Luxembourg's large-scale social insurance system should be a key priority. Finally, Directors advised the authorities to contemplate more fundamental reforms of labor market institutions, notably by removing rigidities in the wage formation process.

2. Since the last consultation, real activity has remained buoyant—the global financial crisis left hardly a dent in Luxembourg's long-standing economic expansion. At the same time, underlying price and wage pressures have remained subdued. At the political level, following the general elections held in June 1999, the new coalition government's program stressed the imperative of continuity in economic policies: steadfast commitment to fiscal prudence; cultivation of Luxembourg's locational advantages; and firm adherence to policies based on social consensus.

3. Luxembourg's short-term prospects remain bright, but longer-term prospects for continued fast-paced growth are much less assured. This leitmotif calls for a proactive policy agenda tailored to the requirements of Luxembourg's small, open, and highly specialized economy. Such an agenda would seek to bolster the robustness of the economy and the public finances to large adverse shocks—with a focus on diversifying the financing risks of the social insurance system; improving the management of the public sector's vast financial

¹ The consultation discussions were held during February 21-29, 2000. The mission met with Prime Minister Juncker; Budget Minister Frieden; Economics Minister Grethen; Central Bank of Luxembourg (CBL) President Mersch; other senior public sector officials; and representatives of the trade unions and employers' associations. Mr. Jacoby (Office of Executive Directors) attended all of the meetings. The staff team consisted of Messrs. Jaeger and Ubide-Querol, and Ms. Kollau (all European I Department).

On January 1, 1999, Luxembourg became a founding member of the Eurosystem. Luxembourg is an Article VIII Fund member (Appendix I). Recent improvements notwithstanding, Luxembourg continues to lack a full complement of economic statistics (Appendix II). Luxembourg participates in the pilot project for the voluntary release of Article IV staff reports.

asset holdings; mitigating labor market rigidities; and ensuring effective oversight and governance of the large and mainly foreign-owned financial sector.

II. BACKGROUND TO THE DISCUSSIONS

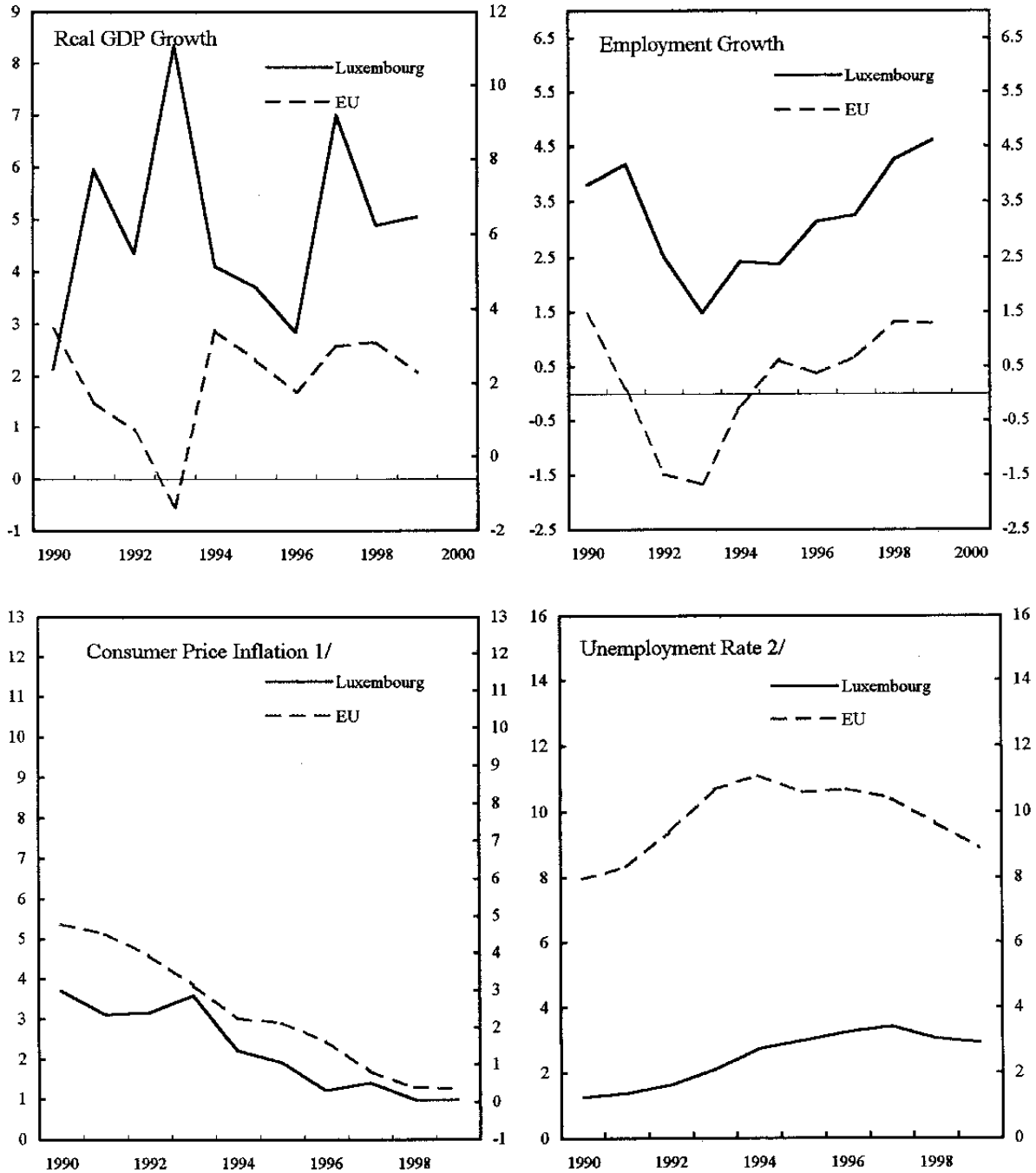
A. Economic Developments

4. **Luxembourg's fast-paced growth since the early 1980s reflects a *virtuous circle* driven by sound policies and regional specialization (Box 1).** A slump in the long-dominant steel industry in the mid-1970s initiated a marked shift of activity from steel production to a new cluster of specialized service industries, particularly financial services. Since the early 1980s, real GDP has expanded at a trend growth rate of some 5 percent, roughly twice the EU's trend output growth rate.² Deft policy management—including the provision of favorable tax and regulatory regimes—provided an auspicious initial setting for locating and creating businesses. Once growth took off, and against the background of a rapidly growing tax and contribution base, fiscal policy largely resisted the temptations to profligacy. At the same time, Luxembourg's social partnership model added predictability and stability to labor relations. Finally, locational external economies—knowledge spillovers between related activities; thick labor markets for specialized skills; and the ability of producers to share specialized service industries—added sustained impetus, allowing Luxembourg to reap the “growth dividend” of regional specialization.

5. **Buoyant private services sheltered overall GDP growth from the adverse effects of the recent global financial crisis.** Luxembourg's real GDP expanded by some 5 percent in both 1998 and 1999, exceeding EU output growth by sizable margins (Figure 1, Table 1). The global financial crisis crimped foreign manufacturing orders and production in late 1998, but goods exports have recovered strongly since the beginning of 1999. The private service sectors remained the fulcrum of growth (Figure 2). In particular, the financial sector's expansion was hardly affected by the advent of Stage 3 of EMU, which inter alia led to the introduction of (remunerated) minimum reserve requirements and the loss of foreign exchange business (Box 2). Moreover, Luxembourg's proactive approach to fostering financial market niches has been highlighted by recent initiatives to provide legal frameworks for mortgage banking, funded pension schemes, and Internet banking. Outside financial services, communication services have emerged as an additional engine of growth, as reflected in Luxembourg's steadily expanding satellite network.

² Moreover, real GDP growth fluctuations have been concentrated at higher frequencies (1-2 year cycles) than the conventional business cycle frequencies (3-6 year cycles) (Box 1; Figure 1). Thus, there is little evidence for a well-defined output cycle, and the report does not present estimates of the cyclical output gap and the structural fiscal position.

Figure 1. Luxembourg: Macroeconomic Performance Indicators
(In percent)

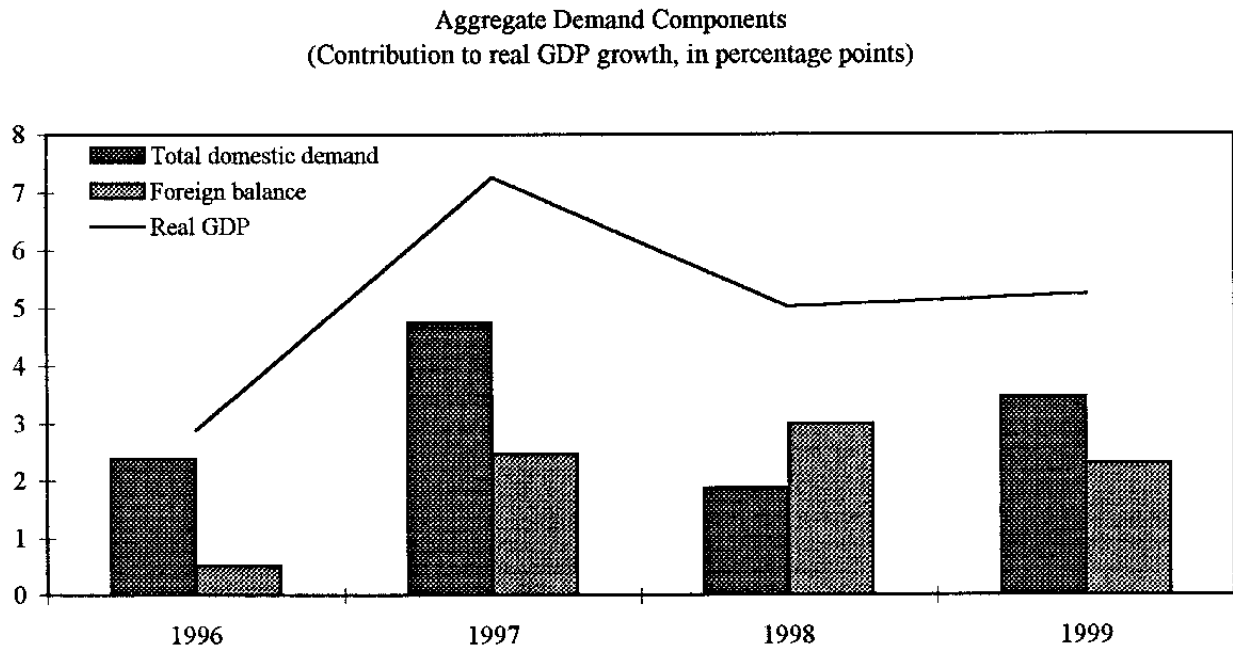
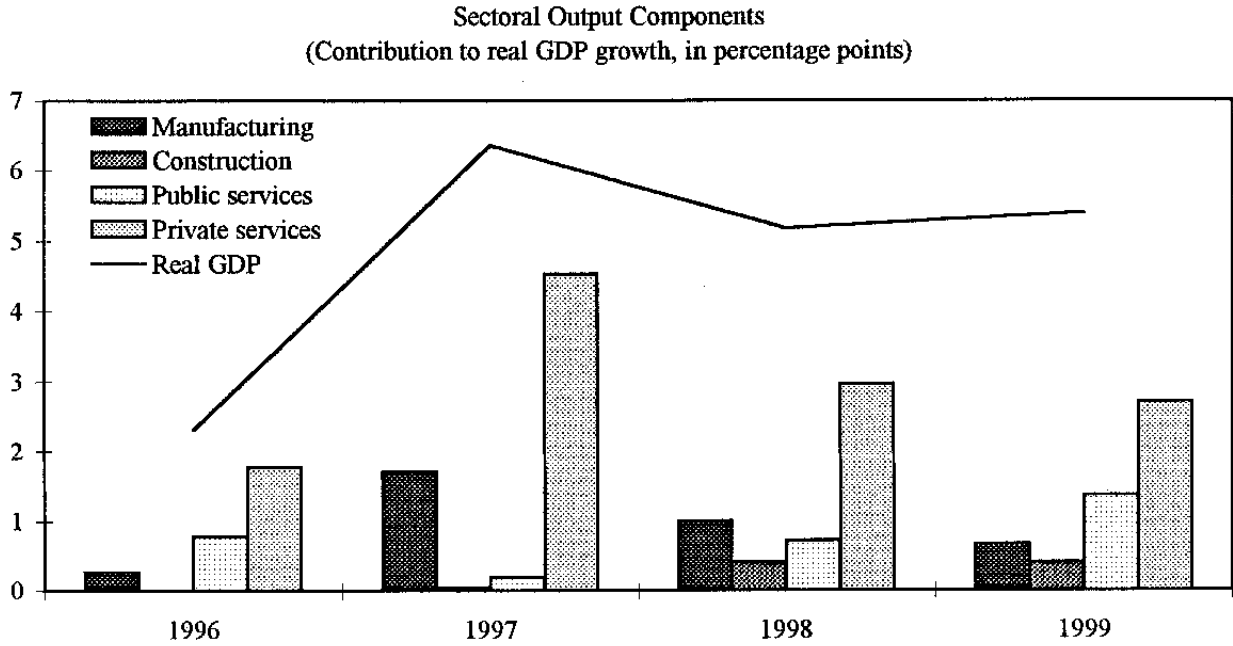


Sources: Service central de la statistique et des études économiques (Statec); and IMF, World Economic Outlook.

1/ Harmonized consumer price index.

2/ Standardized unemployment rate.

Figure 2. Luxembourg: Real Output Developments



Sources: Statec; and staff estimates for 1999.

6. **Strong labor demand has been accommodated by a rapidly growing number of cross-border workers.** Luxembourg can draw on a highly elastic supply of labor from the surrounding regions, and additional labor demand has increasingly been met by inflows of cross-border workers (Figure 3 and Table 1). By 1999, cross-border workers accounted for almost one-third of total employment. The economic incentives that favor employment of cross-border workers include Luxembourg's relatively low labor tax wedge—which boosts cross-border workers' take-home pay at comparable labor cost—and, to a lesser extent, the depressed state of labor markets in the surrounding regions.³ The labor force participation rate of Luxembourg residents remains, however, relatively low, particularly for women and older age groups, the latter in large part reflecting generous early retirement schemes.

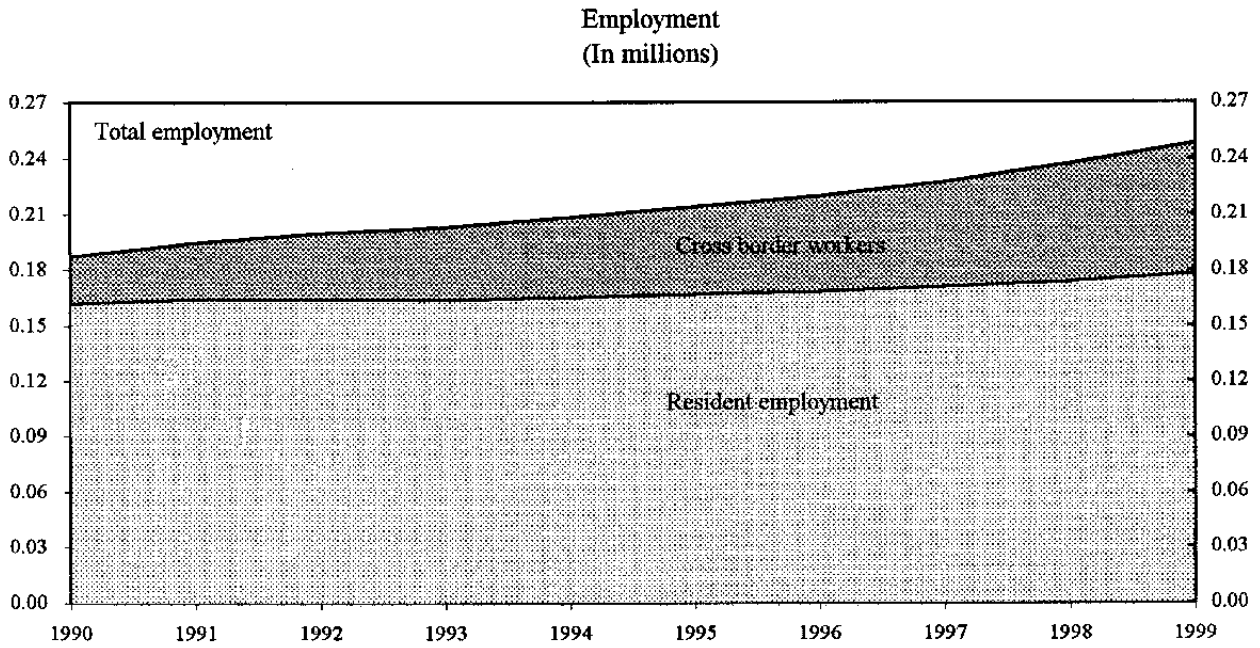
7. **Luxembourg's labor market holds a seeming paradox—labor market institutions are rigid, but unemployment has been low and stable (Box 3).** At about 3 percent, Luxembourg's unemployment rate is less than one-third of the EU's unemployment rate (Figure 1). At the same time, Luxembourg's labor market institutions combine many of the rigidities found in neighboring countries suffering from poor labor market performance: a high minimum wage; automatic wage and benefit indexation; collective bargaining at the sectoral level; administrative extension of sectoral wage agreements; a large-scale pay-as-you-go (PAYG) social insurance system; strict employment protection rules; and a generous social safety net for the long-term unemployed. The staff's empirical work—based on cross-country data on labor market outcomes, institutions, and economic environments—suggests that the paradox can be largely resolved by recognizing that Luxembourg's exceptionally buoyant economic environment may have acted as an offset to labor market rigidities.⁴

8. **Underlying price and wage pressures have been subdued, and external competitiveness has been maintained.** Luxembourg's inflation rate has followed the declining inflation trends in neighboring countries, with the underlying CPI inflation rate close to 1 percent (Figure 4). This reflects moderate nominal wage cost increases and, until recently, declining commodity prices, as well as absolute price declines triggered by deregulation in the communications sector. However, at the beginning of 2000, headline CPI inflation picked up sharply—to almost 3 percent the first quarter—mainly reflecting a run-up in oil prices. Owing to low unit labor cost growth, Luxembourg's industrial export competitiveness has remained broadly stable in recent years.

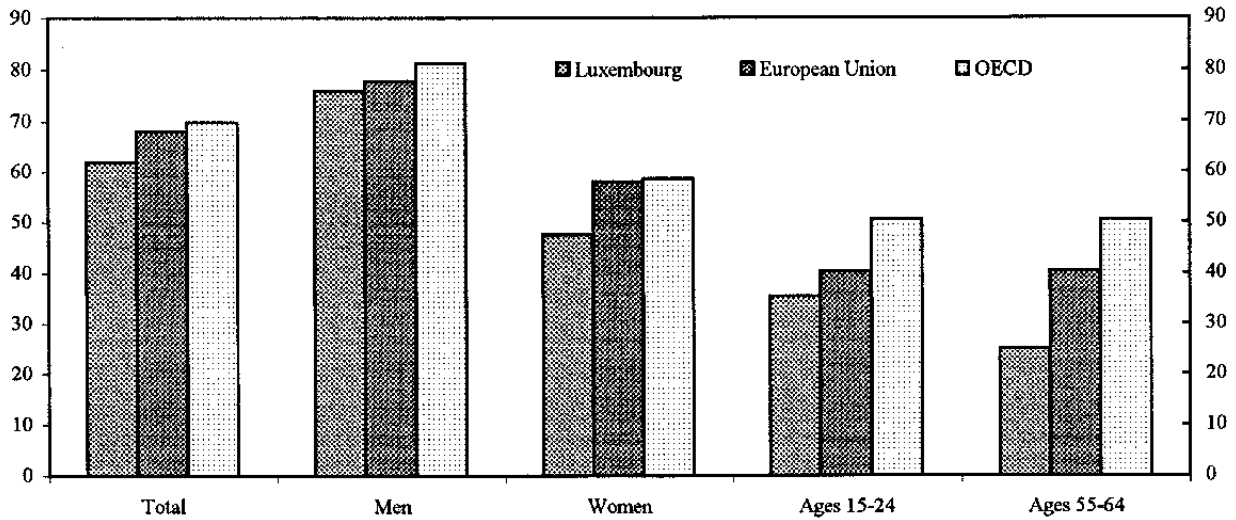
³ In 1999, unemployment rates in the regions around Luxembourg were: 11.8 percent (Saar, Germany); 9.9 percent (Lorraine, France); and 10.8 percent (Province of Luxembourg, Belgium).

⁴ Chapter III of the Selected Issues Paper summarizes this analysis.

Figure 3. Luxembourg: Labor Market Developments

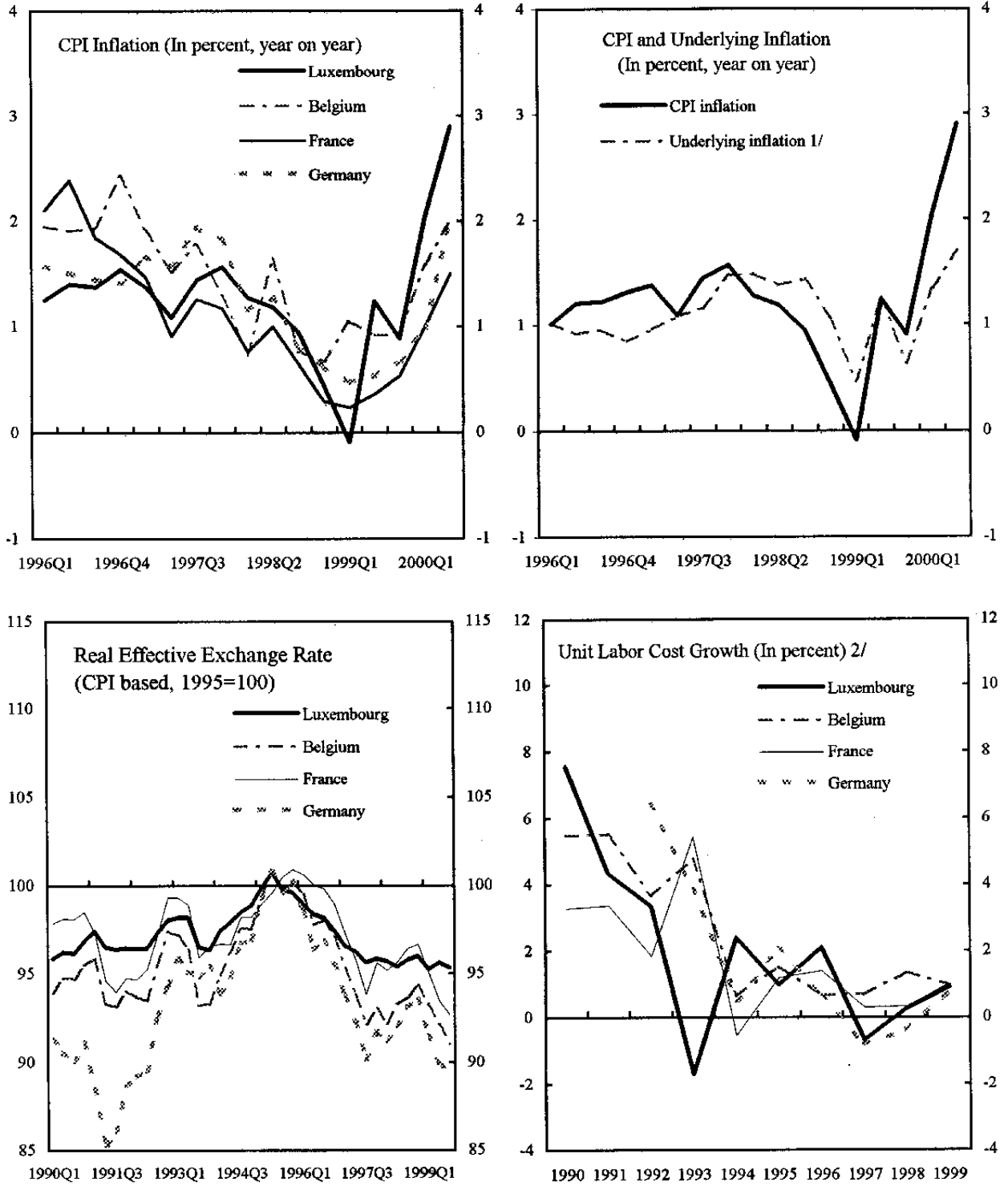


Labor Force Participation Rates, 1998
(In percent)



Sources: Stateg; and OECD Employment Outlook.

Figure 4. Luxembourg: Prices, Labor Costs, and Competitiveness



Sources: Stateg; IMF, International Financial Statistics; and IMF, World Economic Outlook.

1/ CPI inflation excluding energy and selected food items.

2/ Total economy.

9. **The current account has continued to register large surpluses—but measurement issues caution against conventional interpretations of Luxembourg’s strong foreign position.** Luxembourg’s specialization in producing export services has been mirrored by its current account: the trade and employees’ compensation balances show large deficits, but these have been more than offset by massive nonfactor service and investment income surpluses (Table 1). In recent years, the overall current account surpluses averaged to some 12 percent of GDP a year. In the absence of reliable statistics on Luxembourg’s international investment position, it is difficult to assess the economic significance of the ostensibly strong foreign position. In particular, a large portion of Luxembourg’s capital stock is controlled by foreign-owned institutions, which, however, are considered to be Luxembourg residents for the purpose of the current account statistics.

B. Policy Developments

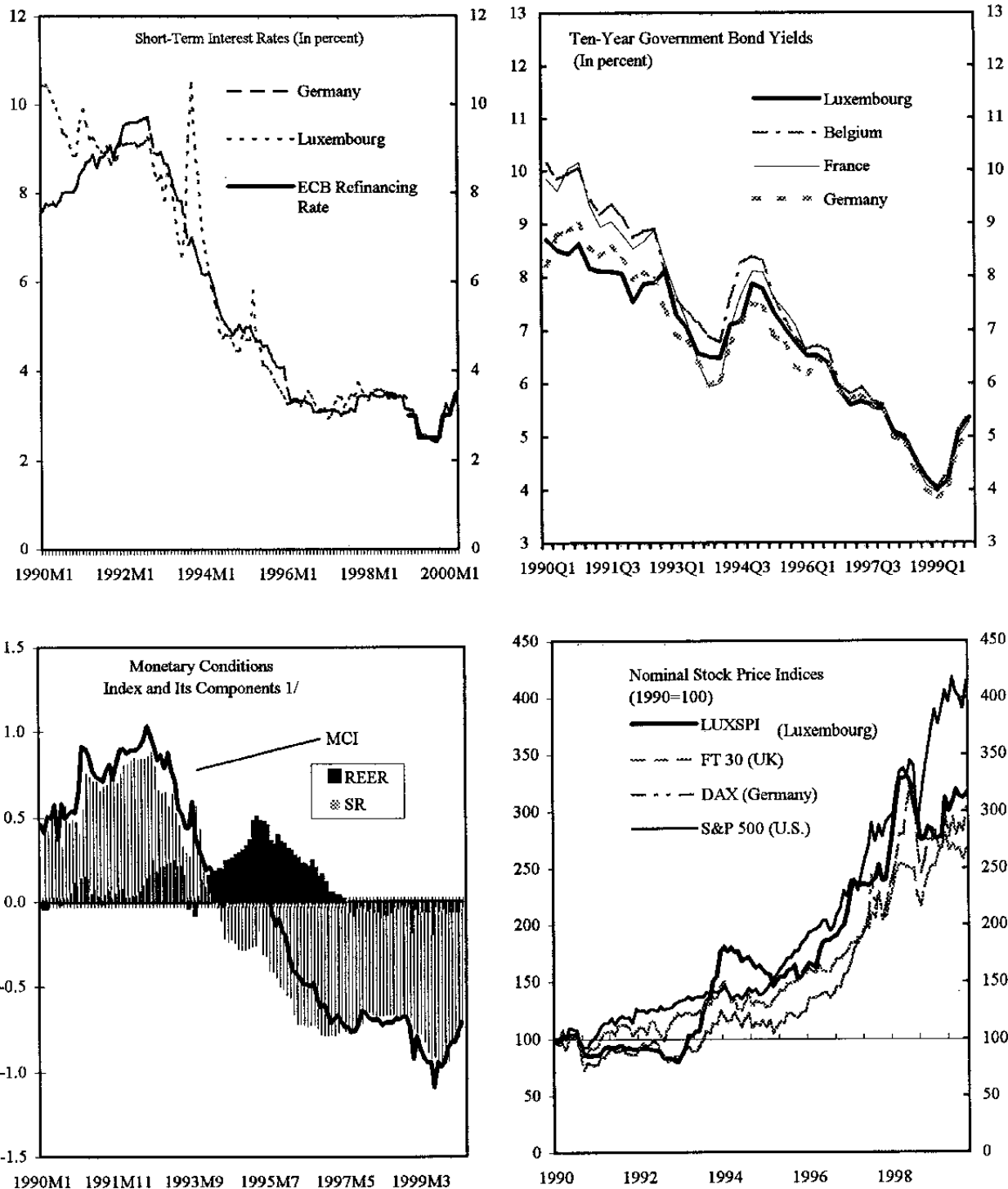
10. **Monetary conditions remain relaxed.** Notwithstanding the European Central Bank’s (ECB) rate increases since early November 1999, monetary conditions are highly supportive, with Luxembourg’s monetary conditions index remaining close to a 10-year low (Figure 5). As elsewhere in the euro area, nominal long-term yields drifted down until the beginning of 1999, reaching the lowest levels in 30 years, but have since edged up by about 150 basis points.

11. **Fiscal policy has steered a prudent course.** Since 1994, fiscal policy at the central government level (excluding social security) has been guided by medium-term spending norms that aim at restraining spending growth below projected medium-term GDP growth. This approach left ample room for real growth of general government spending—some 4 percent a year during 1994–99—and persistent general government surpluses (Table 2). Moreover, in 1999, gross debt amounted to only about 6 percent of GDP, while the public sector’s net financial assets (including the social security system’s reserves) are estimated to have risen to over 30 percent of GDP—a fiscal performance unmatched by any other EU country (Figure 6).

12. **Recent discretionary fiscal actions curtailed civil service pensions but also added new social entitlements.** Although Luxembourg’s social spending-GDP ratio is close to the EU’s average (Figure 6), political pressures to upgrade and expand the large-scale social insurance system abound. Nevertheless, the previous government persevered in its efforts to reduce pension benefit levels of the civil servants’ pension scheme to the levels of the generous scheme for private sector workers.⁵ At the same time, a new long-term nursing scheme, financed through a 1 percentage point increase in social contributions and a new tax

⁵ A pre-reform civil service pension (30 years of service) amounts to about 80 percent of final salary. A private sector pension (40 years of service) amounts to about 70 percent of averaged insured lifetime earnings. The reform preserves the acquired pension rights of current civil servants and pensioners.

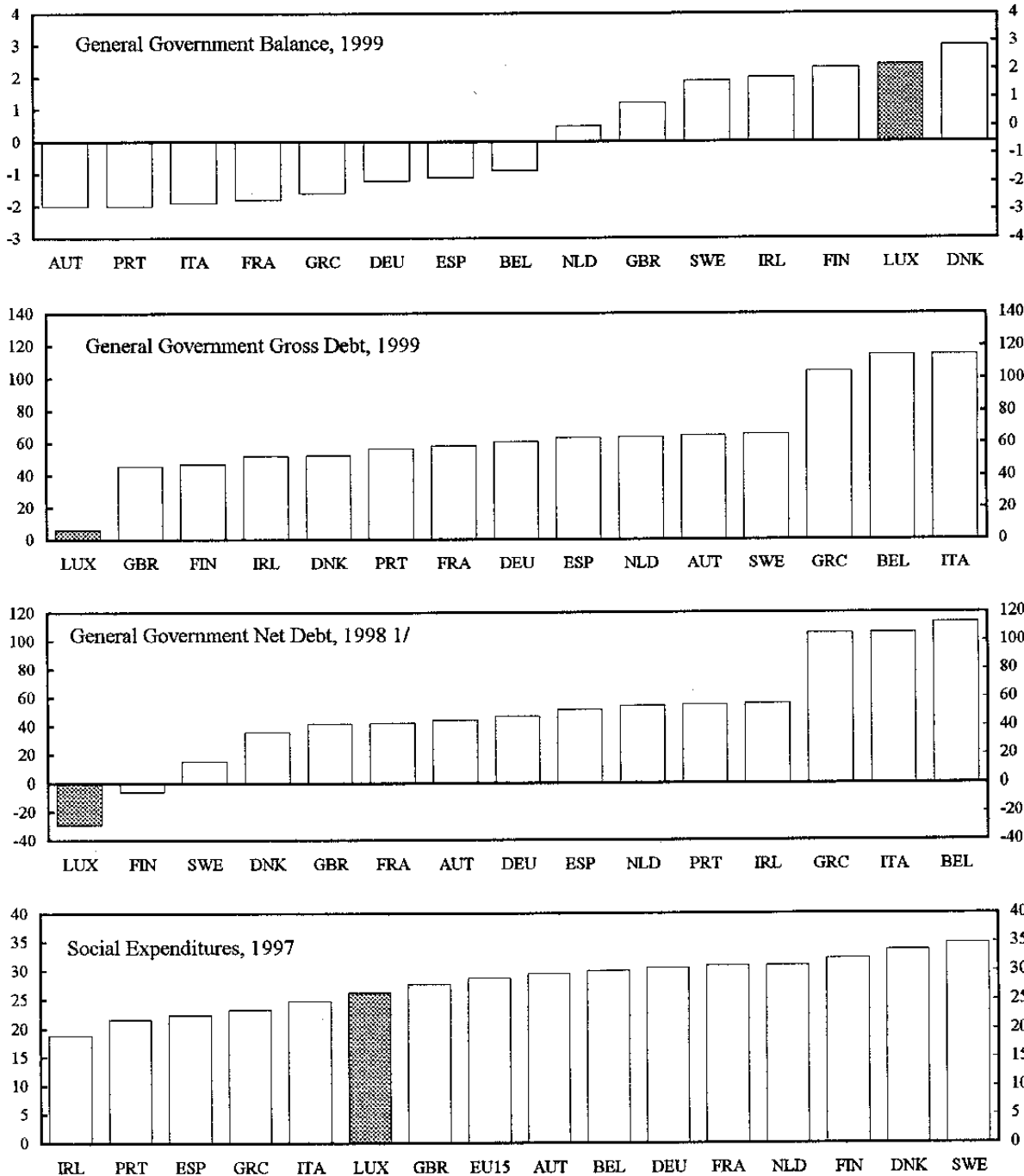
Figure 5. Luxembourg: Monetary Conditions and Asset Market Developments



Sources: IMF, International Financial Statistics; Bloomberg; and staff calculations.

1/ Average 1981-99=0. Calculated using as weights 2.5 for the short-term real interest rate (SR) and 1 for the real effective exchange rate (REER).

Figure 6. Luxembourg: General Government Finances in the EU
(In percent of GDP, unless otherwise indicated)



Sources: Eurostat; OECD Economic Outlook; IMF, World Economic Outlook; and staff calculations.

1/ For Ireland, general government gross debt.

on electricity, was enacted in 1998, with initial fiscal costs in 1999 estimated at $\frac{3}{4}$ percent of GDP. Moreover, in 1999, a new parental leave scheme was introduced, with the short-term budget cost estimated at $\frac{1}{4}$ percent of GDP. Fiscal policy also aimed at bolstering Luxembourg's attraction as a business location. The 1998 budget included significant cuts in corporate and personal income taxes—equivalent to about 1 percent of GDP in 1998—reducing Luxembourg's overall statutory business income tax rate to 37.5 percent, in line with rate levels in most neighboring countries. Investment in public infrastructure—in part on highways to facilitate better transportation for cross-border workers—increased markedly in recent years.

C. Prospects

13. **Looking ahead, and beyond the favorable short term, prospects for continued fast-paced growth are subject to substantial downside risks.** Short-term growth prospects are excellent, not least in view of the projected cyclical expansion in the EU. Luxembourg's strong macroeconomic performance could well extend into the far future—growth differentials due to regional specialization tend to be persistent. However, there are substantial downside risks to mechanically extrapolating status quo trend growth to the longer run. First, experience elsewhere shows that the growth dividends from regional specialization accrue at the cost of increased vulnerability to largely idiosyncratic and unpredictable shocks to preferences or technology, which can drastically change a specialized region's trend growth outlook. Second, ongoing European integration is likely to eat into Luxembourg's remaining locational advantages, in particular those based on regulatory structures and taxation. And third, environmental and social constraints could eventually act as brakes to continued fast-paced growth.⁶

14. **Pervasive uncertainty about longer-term growth prospects implies a wide range of plausible long-term scenarios for the financing base of the public pension system (Box 4).** This is borne out by stress testing simulations of Luxembourg's public pension system. As a baseline, assuming status quo growth persists during 2000-50, the pension system's support ratio (contributors per pensioner) would remain stable—and the system's generous benefits could be financed comfortably despite population aging setting in after 2010. However, alternative simulations based on less buoyant growth scenarios show that pensioner support ratios could decline precipitously after 2010 if population aging were to combine with an abrupt stop or, more drastically, a reversal in cross-border worker flows.

⁶ A recent report (available at: www.etat.lu/ces/avis98b.htm) by the *Economic and Social Council*—a consultative body charged with examining economic and social issues—explored the theme of “sustainable growth” in the context of Luxembourg.

III. POLICY DISCUSSIONS

A. Overview

15. **The discussions were based on the shared understanding that Luxembourg's economy has several atypical characteristics.** First, Luxembourg is able to draw on a highly elastic supply of labor from the surrounding regions. With potential factor supplies largely unconstrained, the pace of aggregate demand growth determines the trend growth rate of output. Thus, in response to large and persistent aggregate demand shocks, the economy's trend growth rate can undergo large changes without triggering wage and price pressures—labor mobility acts as the primary adjustment mechanism. Second, Luxembourg is particularly vulnerable to large adverse price shocks, as demonstrated by the oil shock and devaluation episodes in the 1970s and early 1980s—with automatic wage and benefit indexation acting as an unhelpful propagation mechanism. Third, an exceptionally favorable fiscal outlook for the next few years provides ample budgetary scope for a reform-oriented policy agenda. And fourth, reflecting Luxembourg's status as a rich and cohesive society, equity objectives and social consensus rank high among the authorities' priorities.

16. **In this setting, the scope for discretionary policy responses to large and persistent adverse shocks was likely to be limited.** The effectiveness and desirability of compensating fiscal policies in case of adverse aggregate demand shocks was seen as undermined by a host of factors: fiscal multipliers were likely to be small in Luxembourg's highly specialized economy;⁷ it would be difficult to identify and react to persistent shocks in a timely manner; the efficiency of additional spending programs would be doubtful; and Luxembourg was committed to the undertakings of the Stability and Growth Pact (SGP). Moreover, the large share of cross-border workers was likely to provide an effective buffer against the impact of adverse shocks on the labor market. As regards the possibility of large adverse price shocks, the mission expressed concern about the propagation effects of automatic wage and benefit indexation.⁸ The authorities noted that when concerns in this respect had arisen at the time the devaluation of the Luxembourg franc in the early 1980s indexation had been temporarily suspended.

17. **Against this background, the discussions centered on policies that would bolster the robustness of Luxembourg's economy and public finances to economic reversals.** The mission started from the premise that the main challenge to policymakers would be to resist complacency and adopt a proactive policy agenda—with a focus on diversifying the financing of social insurance, particularly pensions; improving public sector asset management; and mitigating labor market rigidities. Moreover, maintaining effective

⁷ The import-GDP ratio in 1999 was 0.99.

⁸ Automatic indexation was first introduced in 1921. Among industrial countries, only Belgium appears to operate an indexation scheme similar to Luxembourg's.

oversight and governance of the large and mainly foreign-owned financial sector should remain a key concern of public policy. While agreeing with the thrust of this assessment, the authorities noted that a cautious, gradualist approach to reforms had served Luxembourg well in the past. Moreover, Luxembourg's long-standing tradition of social consensus imposed speed limits on the pace of institutional reforms—particularly for social insurance and labor market reforms.

B. Public Finances

18. **The medium-term fiscal outlook was seen as exceptionally bright.** Luxembourg's revised stability program projected a rise in the general government surplus from 2½ percent of GDP in 2000 to over 3 percent of GDP in 2003 (Table 2).⁹ The revised stability program assumed continued spending restraint and a rather conservative revenue elasticity (0.7 with respect to nominal GDP). To illustrate the authorities' margin of maneuver, the staff's medium-term fiscal outlook is based on constant services assumptions—equivalent to medium-term real spending growth of 3½ percent a year—and a primary revenue elasticity of 1. The projections suggested that the general government surplus could increase to over 5 percent of GDP by 2003, while the level of the public sector's net financial assets could climb to some 40 percent of GDP. The authorities noted that a desirable path for the medium-term fiscal position should allow for the operation of automatic fiscal stabilizers under the SGP and, at the minimum, stabilize the present high level of net financial assets (as a percent of GDP). The latter objective suggested a surplus of about 2 percent of GDP as a desirable medium-term fiscal position.¹⁰

19. **The mission advocated a decisive shift to a much more diversified pension system.** The financing of Luxembourg's public pension system was viewed as vulnerable to the risk of large declines in pensioner support ratios—this being principally a reflection of Luxembourg's small size and specialized economic structure. An early shift to a much more diversified pension system, possibly benchmarked on Switzerland's long-standing multipillar approach, would have significant long-term benefits apart from spreading financing risks: future required social contribution rates could be lower than otherwise; the likelihood of higher rates of return of funded schemes (relative to rates of return in PAYG schemes) would

⁹ The authorities' revised stability program in Table 2 was based on fiscal data compiled according to cash accounting principles. By contrast, the staff's fiscal outlook is based on recently released fiscal data, which were compiled according to the *European System of Accounts 1995* (ESA95).

¹⁰ The required medium-term fiscal surplus for allowing the operation of automatic fiscal stabilizers was estimated at 0.5 percent of GDP (assuming a constant trend GDP growth rate). The required medium-term surplus for stabilizing the level of present net financial assets was estimated at 2 percent of GDP (again assuming a constant trend GDP growth rate and a trend inflation rate of 1½ percent).

add to Luxembourg's locational advantages in terms of labor mobility; and Luxembourg could draw on extensive local financial expertise to develop funded pension schemes.

20. **The authorities took a more cautious view on the urgency of pension reform—as already announced in the government's coalition agreement, more study of reform options would be needed.** A study, to be prepared by the International Labor Organization, would consider a wide range of reform options, including changing pension indexation arrangements and increasing Luxembourg's relatively low level of labor force participation. The staff noted that the low labor force participation rate for older workers appeared to be in large part related to the generosity of early retirement schemes. Moreover, higher labor force participation rates, while helpful in augmenting resources to finance pensions in the short run, would further increase unfunded pension liabilities.

21. **The authorities' plans for significant income tax reforms in 2002 were at a preliminary stage.** The broad reform aims were to lower the statutory corporate tax rate to less than 35 percent, reform the local trading tax, broaden the personal income tax base, and cut marginal tax rates on personal income. The staff noted that it would be important to maintain a level playing field across different sources of income and resist new special tax incentives.

22. **The public sector's vast financial assets—at both the social security and the central government levels—yielded low returns.** The nominal rate of return on the public sector's financial assets holdings was considered low—e.g., in 1998, it was below 4 percent as compared to an effective nominal interest rate on government debt of 6 percent. This low rate of return reflected constraints on investment policies, including the extension of mortgages to contributors to pension schemes, the requirement to place funds in Luxembourg, and the dispersion of assets across a wide range of special funds. The authorities noted that a study of management issues as regards the reserves of the social security system was under way.

C. Labor and Product Markets

23. **The discussion of Luxembourg's seeming labor market paradox—rigid labor market institutions coupled with favorable labor market outcomes—elicited complementary explanations.** The mission stressed the impact of the exceptionally benign economic environment, which had likely sheltered Luxembourg's labor market from the experiences of high and persistent unemployment observed in neighboring countries with similar labor market institutions. The authorities noted that special circumstances might also have helped mitigate labor market rigidities: cooperative social partnership arrangements had assured overall wage moderation; and collective bargaining agreements at the sectoral level sometimes covered only a few firms, thereby allowing the social partners to effectively tailor wage contracts to the economic circumstances of individual firms. Moreover, the authorities pointed to both the steel crisis in the 1970s and the oil shock and devaluation episodes at the beginning of the 1980s as illustrating the short-term adaptability of Luxembourg's institutions under circumstances of economic duress.

24. **As regards desirable labor market reforms, the authorities favored a gradual approach based on the EU's *Employment Guidelines*.** Luxembourg's *National Action Plan for Employment* had adopted a number of measures to improve the functioning of the labor market, including: new tools to reintegrate the unemployed; cuts in red tape for small- and medium-sized companies; and more flexible working time arrangements. In a separate context, the government had also announced that the legal regular work week would remain at 40 hours. The staff observed that other smaller continental European countries, in particular Denmark, the Netherlands, and Switzerland, while broadly sharing Luxembourg's objectives regarding distributional equity and social consensus had, at least in some areas, adopted markedly more flexible labor market institutions.

25. **Progress in liberalizing product markets was seen as uneven.** Luxembourg was fulfilling its commitments in transposing the EU's Single Market directives in the product market area—in particular telecommunications had been liberalized; and electricity and gas were areas where progress had been made recently. At the same time, the liberalization of railways and the postal services was proceeding at a slower pace.

D. Financial Sector

26. **The authorities were guardedly optimistic about the financial sector's prospects.** In their view, Luxembourg's financial sector was evolving from an offshore center (driven mainly by regulatory and tax advantages) to an onshore center (driven mainly by specialized knowledge)—as assessment that was shared by financial market participants. Recent initiatives that established legal frameworks for mortgage banking and pension funds would likely help accelerate this trend. Against this background, Luxembourg was no longer opposed to an EU-wide minimum withholding tax on interest income. But the authorities cautioned that the introduction of a withholding tax would have to be part of a more comprehensive package that also addressed unfair corporate tax practices in the EU.¹¹ Moreover, in the authorities' view, a plethora of issues remained unresolved, including: the exact definition of the withholding tax base; the level of the minimum withholding tax rate (Luxembourg had proposed a minimum tax rate of only 10 percent, lower than the 20 percent proposed in the EC's draft directive); the treatment of associated EU territories; and the sharing of revenue from the withholding tax.

27. **On joining the Eurosystem, the *Luxembourg Monetary Institute* became the *Central Bank of Luxembourg* (CBL).** The authorities observed that setting up a central bank was a complex undertaking—nevertheless, the CBL had quickly acquired the necessary competencies to fulfill its functions. Moreover, the CBL's role in implementing the ECB's

¹¹ A recent report on unfair tax competition presented to the *Council of Economic and Finance Ministers* (ECOFIN) (*Primarolo Report*) identified a total of 66 instances of harmful corporate tax practices in the EU member states; the report cited Luxembourg for five harmful practices, of which two have been phased out already.

monetary policy and in operating a payments system had added new growth opportunities to the financial center.

28. **The discussions with the *Financial Sector Surveillance Commission (FSSC)* focused on the challenge of effective supervision and governance of a large and mostly foreign-owned financial sector (Box 5).** In December 1998, the new and independent FSSC had taken charge of consolidated financial sector supervision—however, consolidation of supervision stopped short of integrating insurance supervision. This was not of much concern at this point because tie-ups between banks and insurance companies (*bancassurance*) remained rare in Luxembourg. The authorities noted that a broad array of vulnerability indicators suggested that the banking sector could be viewed as sound and liquid (Table 1). Regarding the challenge of supervising a large and mainly foreign-owned financial sector, the authorities thought that the present approach—based on the principles of home-country control and mutual recognition, underpinned by bilateral agreements—had proven effective. In their view, the alternative approach of delegating coordination and exchange of information to a pan-European supervision agency would not generate major efficiency gains. As regards governance, the authorities highlighted the broadly favorable assessment of Luxembourg's efforts to prevent money laundering by the Financial Action Task Force (FATF). Moreover, to ensure the integrity of bank secrecy provisions, pending legislation being discussed by parliament would allow for international cooperation in cases of tax fraud.

E. Other Issues

29. **The authorities underscored recent progress in improving economic statistics.** Progress was made in particular in compiling national accounts and general government data in the framework of the European System of Accounts 1995 (ESA95) (Appendix II). The mission noted that there remained considerable room for improvements in coverage, periodicity, timeliness, and quality. The authorities responded that this year's budget substantially increased resources for implementing Luxembourg's undertakings in the statistical area. At the same time, the tightness of the market for statisticians continued to act as a bottleneck to deploying the additional budgetary resources.

30. **Official development assistance (ODA) had increased sharply in recent years.** The authorities noted that in 2000, Luxembourg was likely to meet the United Nations' ODA objective of 0.7 percent of GNP. Moreover, the government had announced its intention to aim at a further increase of ODA to 1 percent of GNP by 2004—a policy based on the unanimous support of all political parties and public opinion. At the EU level, Luxembourg had taken the position—albeit unsuccessfully—that the EU should open up markets to all imports from the least developed countries.

IV. STAFF APPRAISAL

31. **Luxembourg's economic and fiscal performance has remained impressive.** Real activity has continued to expand vigorously. Unemployment is low and stable. There are no underlying price or wage pressures. And Luxembourg's fiscal performance is virtually

unmatched. This outstanding performance reflects a virtuous growth circle driven by sound domestic policies, social consensus, and the external economies of regional specialization. While sound policies and social consensus provided conducive domestic conditions and bolstered external competitiveness, the role of regional specialization in an environment of high labor mobility was key to the rapid expansion of Luxembourg's cluster of specialized service industries, particularly financial services.

32. **Luxembourg's economic prospects for the next few years are bright, but longer-term prospects for fast-paced growth are more uncertain.** The experiences of regions in other integrated economic areas suggest that significant growth differentials due to regional specialization tend to be persistent. But the "growth dividend" of regional booms also tends to be accompanied by increased vulnerability to regional busts—with the shifts in regional growth fortunes often triggered by largely idiosyncratic and unpredictable shocks.

33. **Reflecting regional labor mobility and Luxembourg's membership in the euro area, cyclical policy issues are not highly germane, and the scope for counteracting large and persistent growth shocks is limited.** The effectiveness of compensating fiscal demand management would be obstructed by the small size and specialization of Luxembourg's economy. Moreover, the efficiency of large-scale spending programs would be doubtful, and Luxembourg is committed to its undertakings within the SGP. At the same time, the impact of adverse shocks on resident employment would likely be buffered by the large share of cross-border workers and Luxembourg's extensive social safety net. The present system of automatic wage and benefit indexation has become increasingly anachronistic and should, at a minimum, be handled flexibly in the case of large price shocks.

34. **A proactive policy approach focused on institutional reforms would bolster the robustness of Luxembourg's economy and public finances to growth reversals.** Notwithstanding Luxembourg's proven short-term flexibility in adjusting policies under duress, a proactive approach would provide additional insurance against the possibility of future reversals. Against the background of Luxembourg's impressive economic and fiscal performance, the challenge to policymakers will be to avoid complacency and to aim at building early on the social consensus needed to underpin a proactive reform agenda.

35. **An exceptionally favorable fiscal outlook for the next few years provides a wide window of opportunity.** Assuming continued spending restraint and unchanged tax policies, the general government's fiscal surplus is projected to rise well above the medium-term fiscal position needed to allow for the operation of automatic fiscal stabilizers and to meet the objective of keeping the public sector's net financial assets at a high level. Thus, there would likely be ample budgetary scope for reforms, even if such reforms carried fiscally expensive price tags in the short run.

36. **A decisive and early shift to a more diversified pension system should be a policy priority.** The previous government's reform of the civil service pension scheme was an important, proactive step—it put an effective ceiling on the pension replacement rate of a very generous system. But Luxembourg's public pension system continues to face the longer-

term risk of possibly large declines in pensioner support ratios owing to Luxembourg's small, open, and highly specialized economy. Moreover, similar risks apply to other parts of the social insurance system, including health care and the recently introduced long-term nursing scheme. Luxembourg would be exceptionally well placed to handle the difficult transition to a diversified system, both as regards the financing of the implied transitional fiscal burden and given the ready availability of local financial expertise to build up a funded pension pillar.

37. **Further income tax reforms would be desirable—a lower tax burden would boost competitiveness and a more neutral tax system would improve the overall functioning of the economy.** The government's plans to implement a significant income tax reform by 2002 are welcome. These plans are at a preliminary stage; in their design, due attention should be paid to broad efficiency principles including the need to level the playing field across different sources of incomes and to resist the introduction of new special tax incentives.

38. **The management of the public sector's vast holdings of financial assets should be improved.** A more professional asset management approach would aim at achieving a more balanced profile of risk and return by removing unwarranted constraints on investment policies. The authorities' plan to review asset management practices for social security reserves is welcome; but attention should also be given to improving the management of other central government assets.

39. **An exceptionally favorable economic environment appears to have blunted Luxembourg's pervasive labor market rigidities—but without reforms, the labor market would likely prove less resilient in a less favorable economic environment.** This analysis suggests that there is a case for going beyond the approach adopted in the *National Action Plan for Employment*. Reforms should include promoting more flexible labor cost structures, especially at the lower end of the labor market, and tightening eligibility criteria for social benefits, particularly as regards the widespread use of early retirement schemes.

40. **There is scope for a bolder approach to product market deregulation.** Luxembourg has been slow in transposing EU Single Market directives and would be well placed to benefit from accelerated and more comprehensive product market deregulation, particularly in the energy and transportation sectors.

41. **The newly established CBL has been quick and skillful in acquiring the necessary competencies to fulfill its tasks within the Eurosystem of central banks.** Moreover, the CBL's operations within the Eurosystem have added new growth possibilities to Luxembourg's financial sector.

42. **Maintaining effective banking supervision and governance should remain a priority of public policy.** The FSSC, which took over supervisory responsibilities in December 1998, is well equipped to meet the challenge of supervising Luxembourg's large, evolving, and mostly foreign-owned financial sector. But full consolidation of financial sector supervision by integrating insurance supervision should be considered. Recent measures to

reinforce anti-money-laundering arrangements and the legislative initiative to ensure the probity of Luxembourg's bank secrecy laws in the case of tax frauds are welcome.

43. **Luxembourg's economic statistics remain weak, but prospects for further improvements are good.** While the statistics are adequate for Fund surveillance, they remain weak by the standards of most other advanced economies. The substantial increase in budgetary resources should prepare the ground for a marked improvement in economic statistics, including the closure of gaps in national accounts and balance of payments data. Additional efforts should also be made to allow Luxembourg to subscribe to the Fund's Special Data Dissemination Standard.

44. **Luxembourg's determination to live up to and go well beyond its international ODA commitments is to be commended.** In 2000, Luxembourg is likely to join the exclusive circle of countries whose ODA volume meets the United Nations' objective of 0.7 percent of GNP. Moreover, the government has announced the even more ambitious aim to further increase ODA to 1 percent of GNP by 2004.

45. The next Article IV consultation with Luxembourg is expected to be held on the 24-month cycle.

Table 1. Luxembourg: Macroeconomic and Financial Indicators

	1996	1997	1998	1999	2000 1/	2001 1/
Land area	2,586 square kilometers					
Population (1998)	426,500					
GDP per capita (1998)	US\$40,308					
	(Volume changes, in percent)					
Demand and supply 2/						
Private consumption	4.4	3.8	2.3	3.0	2.7	2.4
Public consumption	2.7	2.7	2.7	3.3	3.2	3.2
Gross fixed investment	-3.5	10.5	1.5	7.1	4.9	4.4
Inventory accumulation 3/	0.2	0.4	0.0	0.1	0.0	0.0
Total domestic demand	2.7	5.5	2.2	4.2	3.3	3.1
Exports of goods and nonfactor services	4.0	10.5	9.9	5.2	5.9	6.3
Imports of goods and nonfactor services	4.0	9.3	8.3	4.9	4.6	5.0
Foreign balance 3/	0.5	2.5	3.0	2.3	2.4	2.5
Gross domestic product	2.9	7.3	5.0	5.2	5.1	5.0
	(In thousands, unless otherwise indicated)					
Employment and unemployment						
Resident labor force	174.0	176.5	179.6	183.1	185.5	187.6
Unemployed	5.7	5.8	6.0	5.4	4.9	4.3
(As a percent of total labor force)	3.3	3.3	3.3	2.9	2.7	2.3
Resident employment	168.3	170.7	173.6	177.8	180.6	183.3
Cross-border workers (net)	51.5	56.4	63.4	70.2	76.1	82.4
Domestic employment	219.8	227.1	237.0	248.0	256.7	265.8
(Change in percent)	2.7	3.3	4.4	4.6	3.5	3.5
Of which: Employment in international organizations 4/	7.8	7.7	7.7	7.7	7.7	7.7
	(Annual changes, in percent)					
Prices and costs						
GDP deflator	1.7	3.3	1.5	1.2	1.3	1.4
Harmonized consumer price index	1.4	1.4	1.0	1.0	1.6	1.4
Average nominal wage growth 5/	2.3	3.1	0.9	1.3	2.5	2.5
Nominal unit labor costs 5/	2.1	-0.7	0.3	0.7	1.0	1.1
	(In billions of francs)					
Current account						
Trade balance	-53.7	-71.4	-71.9	-105.8	-110.4	-118.6
Nonfactor service balance	77.7	100.2	112.3	129.3	143.0	156.2
Factor income balance	77.3	75.3	57.6	49.9	67.9	70.7
Employees' compensation	-49.2	-56.2	-65.2	-76.7	-79.2	-85.9
Net investment income	126.5	131.5	122.7	126.6	147.1	156.6
Transfer balance	-15.5	-18.2	-12.8	-14.6	-22.6	-24.1
Current account balance	85.7	85.9	83.7	58.9	77.8	84.2
(As a percent of GDP)	15.2	13.8	12.6	8.3	10.3	10.5

Table 1. Luxembourg: Macroeconomic and Financial Indicators (concluded)

	1996	1997	1998	1999	2000 1/	2001 1/
	(Annual changes, in percent)					
Exchange rates (averages)						
Luxembourg franc per U.S. dollar	5.0	15.5	1.5	4.2	...	...
U.S. dollar per euro	-2.6	-12.3	-1.6	-4.2	...	...
Nominal effective rate	-1.2	-1.9	-0.3	-0.2	...	...
Real effective rate (CPI based)	-1.8	-2.2	-0.4	-0.3	...	...
Monetary data 6/						
Money (M1)	8.5	2.2	14.4	...	...	...
Broad money (M2)	-2.0	18.9	6.6	...	...	...
	(Period averages, in percent)					
Interest rates						
Three-month interbank money rate	3.2	3.5	3.6	3.0	...	...
Differential with Germany	-0.1	0.2	0.1	0.0	...	...
Government bond yield	6.3	5.6	4.7	4.7	...	...
Differential with Germany	0.1	0.0	0.2	0.2	...	...
	(In percent)					
Financial sector indicators						
Solvency indicators of the banking sector						
Solvency ratio 7/	12.5	12.4	12.7	13.5	...	...
Banks with ratio below 8 percent	0.0	0.0	0.0	0.0	...	...
Banks with ratio below 10 percent	17.0	16.8	14.1	13.5	...	...
Profitability of the banking sector						
Return on assets 8/	0.6	0.5	0.5	...	...	...
Return on equity 9/	15.4	17.1	21.5	...	...	...
Interest margin as a percent of gross revenue	61.9	55.4	45.2	...	...	...
Commissions as a percent of gross revenue	26.3	29.7	28.6	...	...	...
Liquidity indicators (ratios)						
Loans over deposits	0.9	0.9	0.9	0.8	...	...
Loans over total assets	0.7	0.7	0.7	0.7	...	...
Securities holdings over total assets	0.2	0.2	0.2	0.2	...	...
Asset quality						
Exposure to emerging markets 10/	10.7	11.2	11.0	...	...	...

Sources: Statec; Central Bank of Luxembourg; Bank for International Settlements; and staff estimates.

1/ Staff estimates and projections.

2/ 1999 figures are staff estimates.

3/ Contribution to GDP growth.

4/ Including Statistical Office of the European Communities (Eurostat) and European Investment Bank (EIB).

5/ Overall economy.

6/ Monetary aggregates are no longer published for Luxembourg following its joining the European Economic and Monetary Union in 1999.

7/ Own funds as a percent of risk-weighted assets.

8/ Profits before provisioning as a percent of average assets.

9/ Profits before provisioning as a percent of average equity.

10/ Loan exposures to Asia, Eastern Europe, and Latin America as a percent of total capital.

Table 2. Luxembourg: Medium-Term Projections of General Government Finances, 1995-2003

(In percent of GDP)

	1995	1996	1997	1998	1999 Est.	2000 Proj.	2001 Proj.	2002 Proj.	2003 Proj.
Staff projections 1/									
Revenue	47.3	48.1	46.8	46.5	47.8	47.3	47.6	47.8	48.0
Expenditures	45.1	45.4	43.3	43.2	45.4	44.7	44.2	43.5	42.5
Public consumption	18.1	18.8	17.8	17.2	17.0	16.8	16.4	16.0	15.6
Social transfers	20.8	21.1	20.1	19.5	20.6	20.3	20.0	19.7	19.4
Public investment	4.6	4.7	4.2	4.6	4.9	4.7	4.7	4.6	4.3
Other spending	1.6	0.9	1.1	1.9	2.8	2.9	3.0	3.1	3.1
Balance	2.2	2.7	3.6	3.2	2.4	2.6	3.4	4.3	5.6
Gross debt	5.6	6.2	6.0	6.4	6.1	5.8	5.4	5.1	3.8
Net financial assets 2/	27.3	27.9	28.3	28.8	30.9	31.7	33.2	35.5	39.8
Official fiscal targets 3/									
Revenues	...	...	...	44.9	46.4	45.2	44.3	43.4	42.4
Expenditures	...	...	...	42.3	44.1	42.7	41.7	40.5	39.3
Balance	1.8	2.8	3.9	2.6	2.3	2.5	2.6	2.9	3.1
Consolidated central government	0.0	1.3	2.3	0.9	0.7	0.3	0.4	0.5	0.6
Local governments	0.3	0.5	0.5	0.0	0.0	0.1	0.1	0.1	0.1
Social security	1.5	1.1	1.1	1.6	1.6	2.0	2.1	2.3	2.3
Memorandum items:									
Interest revenue	1.4	1.3	1.2	1.3	1.2	1.2	1.5	1.7	1.9
Real growth of expenditures (in percent) 4/	2.9	3.7	2.2	5.0	10.6	3.6	3.8	3.3	2.6
Real GDP growth (in percent)	3.5	2.9	7.3	5.0	5.2	5.1	5.0	5.0	5.0

Sources: Stateg; Ministry of Finance; and staff estimates and projections.

1/ Data are based on the *European System of National Accounts* (ESA95). Staff projections for 2000-05 assume a primary revenue elasticity of 1, annual growth of real current spending of 3.5 percent; and capital spending growth is based on the authorities' medium-term investment plan.

2/ Staff estimates.

3/ Data are based on cash accounting methodology, and reflect the government's revised stability program as published in February 2000.

4/ Adjusted by GDP inflation.

Box 1. Why is Luxembourg Growing so Fast?¹

Luxembourg's growth performance since the early 1980s has been impressive: real GDP and employment growth almost consistently exceeded the respective growth rates in the EU by large margins (Box 1; Figure 1). Real GDP has expanded at an average rate of some 5 percent a year, roughly twice the EU's average growth rate—as a consequence, the cumulative GDP growth differential in favor of Luxembourg has mushroomed to some 50 percentage points since 1980.

Three additional stylized facts are noteworthy: First, rapid GDP growth was accompanied by a massive sectoral shift from traditional manufacturing industries—Luxembourg was part of Europe's "rust belt"—to a new cluster of specialized service industries, particularly financial services. Second, rapid employment growth was largely accommodated by immigration and cross-border worker inflows. And third, since the early 1980s, Luxembourg's GDP growth fluctuations have been largely delinked from the EU's business cycle (Box 1; Figure 1). The first two stylized facts—regional specialization and high labor mobility—have also been the hallmarks of regional "success stories" in other closely integrated economic areas—e.g., over the last 20 years, several U.S. states had fast-paced growth experiences (relative to U.S. average growth) comparable to that of Luxembourg.

The initial or historical reasons for regional booms are usually far from clear. Luxembourg's case may reflect a host of factors, including: a skilled, multilingual workforce; cooperative social partnership arrangements; and regulatory and tax advantages. But since growth took off in the early 1980s, sound policy management and locational external economies appear to have been the main forces behind Luxembourg's virtuous growth circle:

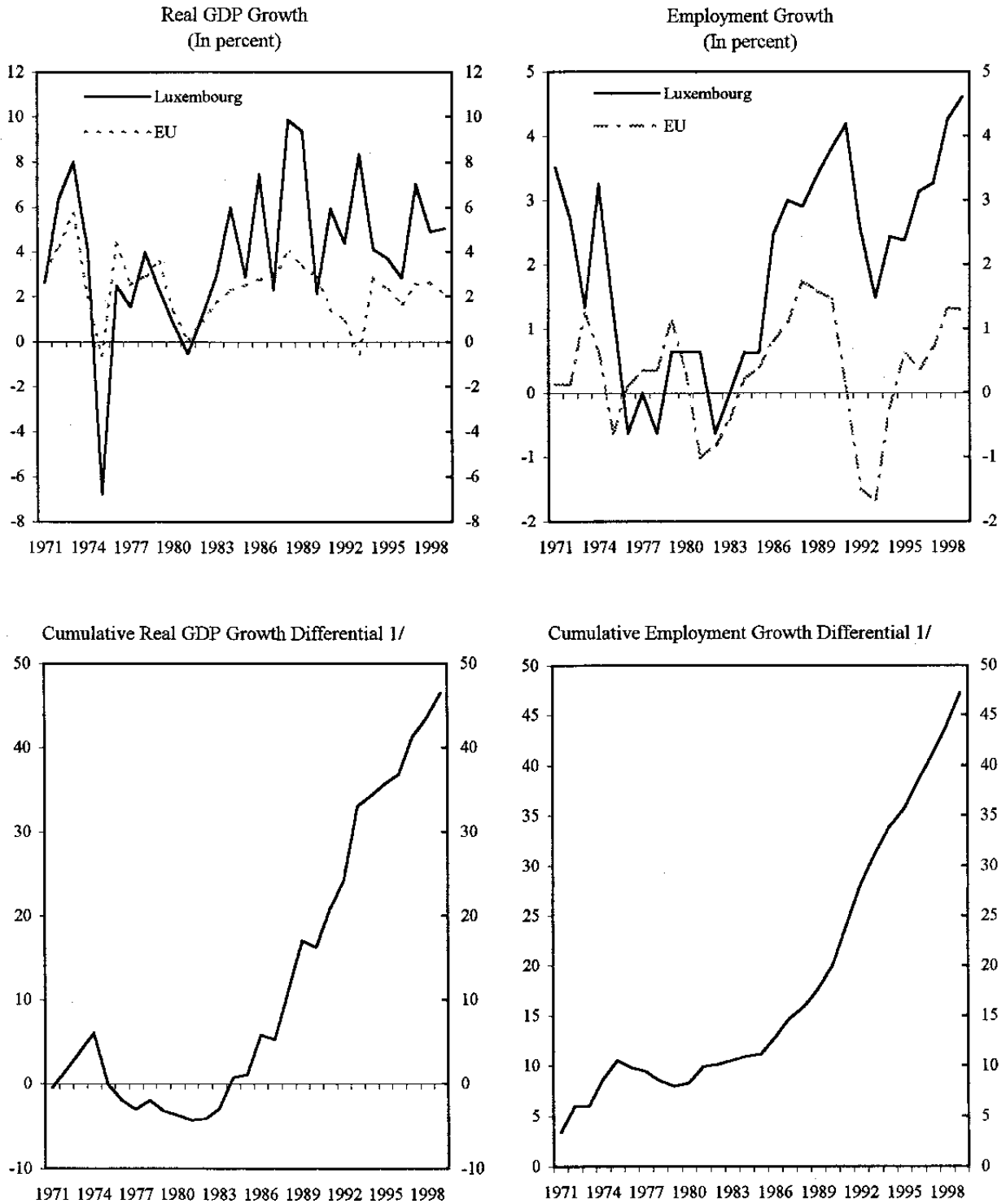
- Policies reinforced Luxembourg's locational advantages, particularly for financial services. At the regulatory level, the quick implementation of EU financial directives and the provision of flexible legal frameworks for specialized financial activities helped to develop market niches. At the macroeconomic level, fiscal policy steered a prudent course, despite a swelling tide of revenues, and provided financial stability, a favorable tax system, and a first-rate public infrastructure.
- Locational external economies generated increasing returns to spatial concentration and included knowledge spillovers between related activities, the advantages of thick labor markets in specialized skills, and the backward and forward linkages among suppliers and producers that arise with large local markets.

While specialization allows regional clusters of industries to grow rapidly in an integrated economic area, it has also been associated with the possibility of large and persistent shocks to growth, as exemplified by the experience of the U.S. state of Massachusetts during the late-1980s.² Within the EU, Luxembourg appears to represent an early example that has so far reaped the benefits of increased regional specialization based on labor mobility—but, in the longer run, Luxembourg may also have to face the downside risk of sharp reversals to its economic fortunes.

¹ This box summarizes Chapter I of the Selected Issues Paper.

² Krugman (1993), "Lessons of Massachusetts for EMU," in: *Adjustment and Growth in the European Union*, edited by Torres and Giavazzi, pp. 241-61.

Box 1. Figure 1. Luxembourg's Fast-Paced Growth Experience



Sources: OECD; Eurostat database.

1/ Luxembourg minus EU growth rates accumulated over time (in percentage points).

Box 2. A Sketch of Luxembourg's Financial Sector¹

The financial sector is the uncontested growth engine of Luxembourg's economy: in 1999, it accounted for 23 percent of GDP and 10 percent of employment; during the 1990s, the sector's real value added expanded at an average rate of 9 percent a year; and there are important forward and backward linkages from the financial to other service activities, including accounting, legal, and computer services.

The sector's activities are organized around three pillars: (i) an international banking center with some 210 mostly foreign-owned banks; (ii) an investment fund center—the second-largest in the world—that manages almost US\$700 billion in assets; and (iii) a rapidly expanding insurance industry that focuses on life- and reinsurance activities.

Private rating agencies have described Luxembourg's financial sector as pursuing low-risk activities.² As regards the banking sector, this characterization is broadly supported by available financial vulnerability indicators (Table 1).

Recent important changes in the sector's regulatory environment include:

- With the start of Stage 3 of EMU at the beginning of 1999, member countries adopted the euro and the Eurosystem assumed responsibility for monetary policy in the euro area. As a consequence, Luxembourg's banking center lost a long-standing competitive advantage—before Stage 3 of EMU, banks in Luxembourg were not subject to minimum reserve requirements, while banks in Germany had to hold unremunerated minimum reserves. In addition, banks lost a significant portion of their foreign exchange business—which was, however, small.
- The establishment of the Central Bank of Luxembourg (CBL) as part of the Eurosystem added new growth opportunities such as liquidity management—close to 10 percent of the ECB's liquidity operations are presently channeled through the CBL.
- New legislative frameworks for mortgage banking, international pension funds, supplementary pension schemes, and a pending law on Internet banking and e-commerce aim at providing Luxembourg's financial center with a flexible legal basis to develop new market niches in an increasingly competitive financial market environment.

¹ Supervision and governance issues are reviewed separately in Box 5.

² Moody's Investors Service (1999), *Banking System Outlook: Luxembourg*.

Box 3. Luxembourg's Labor Market Paradox¹

Luxembourg's low and stable unemployment rate contrasts sharply with the unemployment rates in its neighboring countries (Belgium, France, and Germany) and elsewhere in the EU (Box 2; Figure 1). At the same time, Luxembourg's labor market institutions run the gamut of practically all labor market rigidities found in neighboring countries:

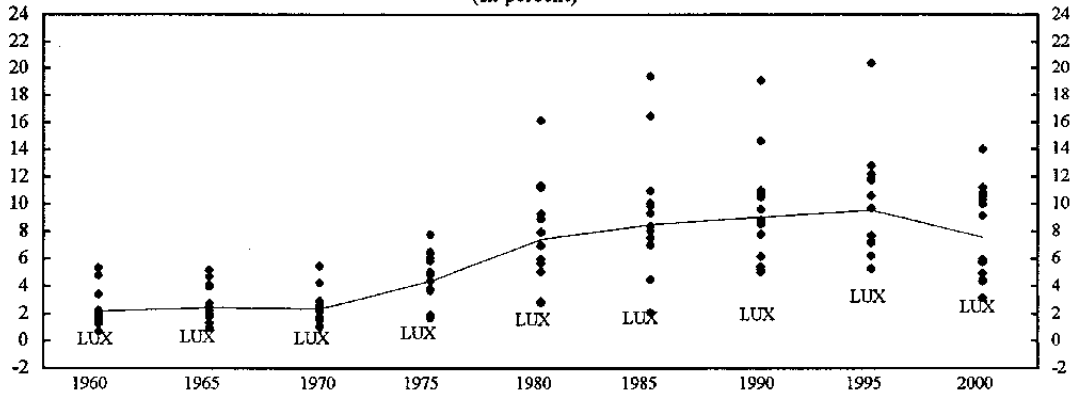
- **The flexibility of absolute and relative labor cost**, in particular at the lower end of the labor market, is obstructed by: (i) a high legal minimum wage (Box 2; Figure 2); (ii) full CPI indexation of all wages and salaries including the minimum wage; (iii) collective bargaining agreements that stipulate across-the-board improvements of wages and nonwage work conditions; and (iv) administrative extension of sectoral wage agreements to parties not included in agreements.
- **A large-scale public social insurance system** adds to labor cost and reduces take-home pay. However, social contribution rates remain relatively low owing to a rapidly growing contribution base and large budget transfers to social insurance (almost 50 percent of spending is financed by transfers). Taking account of an income tax system that provides for a large basic deduction and a low entry income tax rate of 6 percent, Luxembourg's labor tax wedge compares favorably with those in surrounding countries (Box 2; Figure 3).
- Luxembourg's **employment protection rules** are among the strictest in the OECD, in particular as regards dismissal procedures and rules for fixed-term contracts (Box 2; Figure 4). As for **reservation wages**, unemployment insurance benefits are time-limited (12 months) but a means-tested, generous social assistance scheme with unlimited duration of benefits is also available (Box 2; Figure 5).

Recent explanations of high and persistent unemployment stress the interaction of labor market institutions and economic environment (shocks).² Within this framework, the staff's estimates suggest that Luxembourg's unemployment rate would have at least doubled if Luxembourg had shared—counterfactually—the economic environment observed (on average) in other European countries. This analysis suggests that Luxembourg's labor market paradox—favorable labor market outcomes despite rigid institutions—may largely reflect the impact of an exceptionally buoyant economic environment.

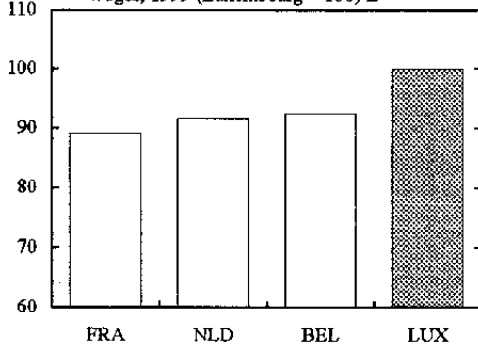
¹ This box summarizes Chapter III of the Selected Issues Paper.

² Blanchard and Wolfers (1999), "The Role of Shocks and Institutions in the Rise of European Unemployment: The Aggregate Evidence," NBER Working Paper No. 7282.

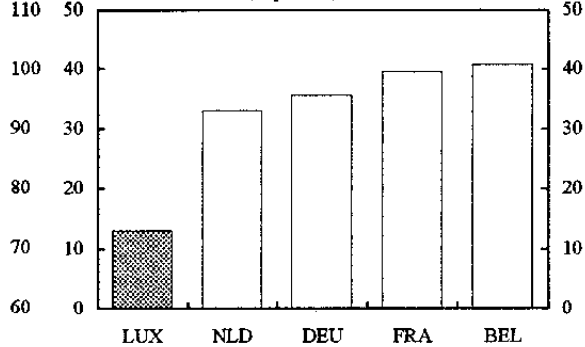
Box 3. Figure 1. Unemployment Rates in the EU, 1960-2000 1/
(In percent)



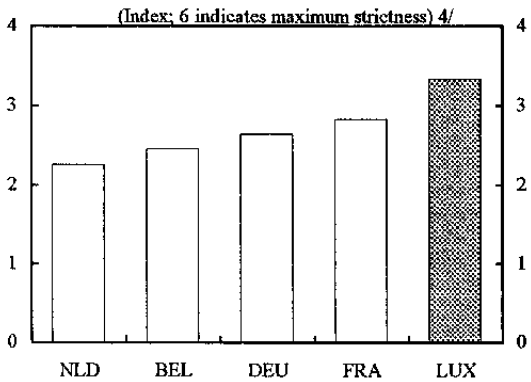
Box 3. Figure 2. Statutory Minimum Wages, 1999 (Luxembourg = 100) 2/



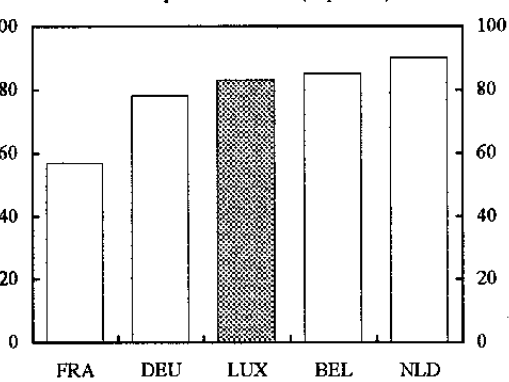
Box 3. Figure 3. Average Labor Tax Wedges, 1997 (In percent) 3/



Box 3. Figure 4. Employment Protection Legislation in the 1990s (Index; 6 indicates maximum strictness) 4/



Box 3. Figure 5: Unemployment Benefit Replacement Rates (In percent) 5/



Sources: OECD; Eurostat database; and staff estimates.

1/ Data describe five year averages (1960-1964 to 1995-1999), and a projection for 2000. Diamonds represent unemployment rates in the other EU countries.

2/ Index of the annual average minimum wage for 1999.

3/ Average tax wedge for a married couple, single earner (average income) with two children taking account of social contributions, personal income taxes, and family allowances, expressed as a percentage of gross labor costs.

4/ OECD Employment Outlook 1999; index for Luxembourg represents staff estimates.

5/ Net replacement rate of the unemployed in the 60th month (1997); low-paid workers at two-thirds of the average production worker's (APW) wage level.

Box 4. Stress Testing Luxembourg's Pension System¹

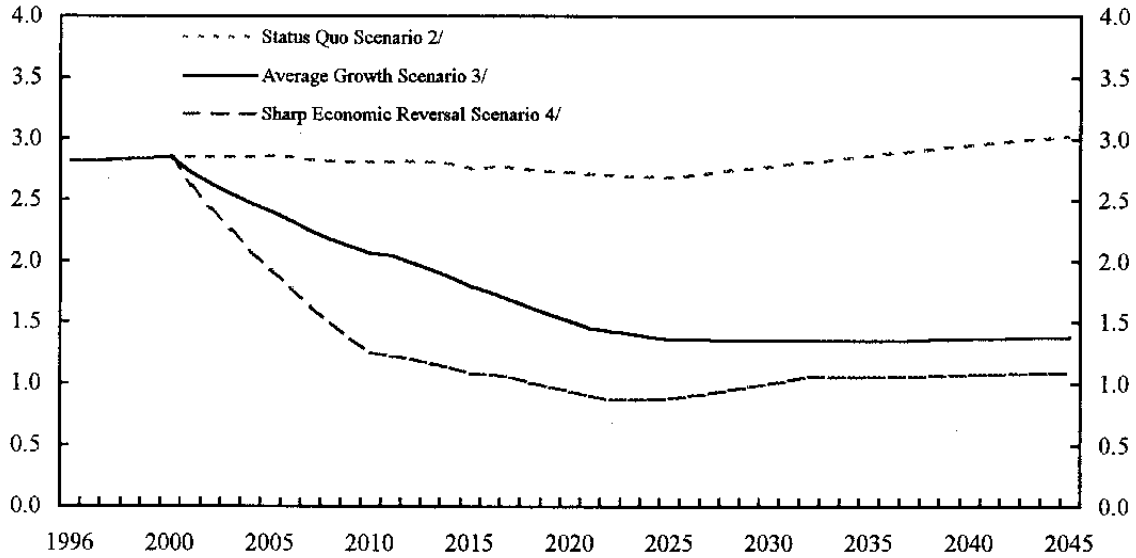
The population projections underlying the stress testing exercises are based on a scenario developed by the Luxembourg authorities, which, perhaps optimistically, assumes that large immigration flows during 2000-50 will continue to mitigate the impact of population aging on Luxembourg's elderly dependency ratios. Labor productivity growth in all scenarios is assumed to be 2 percent per year.

Three long-run projections for the period 2000–50 were used to study the sensitivity of the pension system's support ratio (contributors per pensioner): (i) a status quo scenario that assumes a persistent and large positive growth differential between Luxembourg and the EU; (ii) an average growth scenario that assumes Luxembourg's growth from 2006 onwards will be driven by the demographic characteristics of the resident population and the level of the cross-border work force will stay at the level reached in 2005 (at some 40 percent of employment); and (iii) an economic reversal scenario that assumes the level of Luxembourg's cross-border work force will linearly decline to zero during 2005-15 and stay at that level throughout the rest of the projection period.

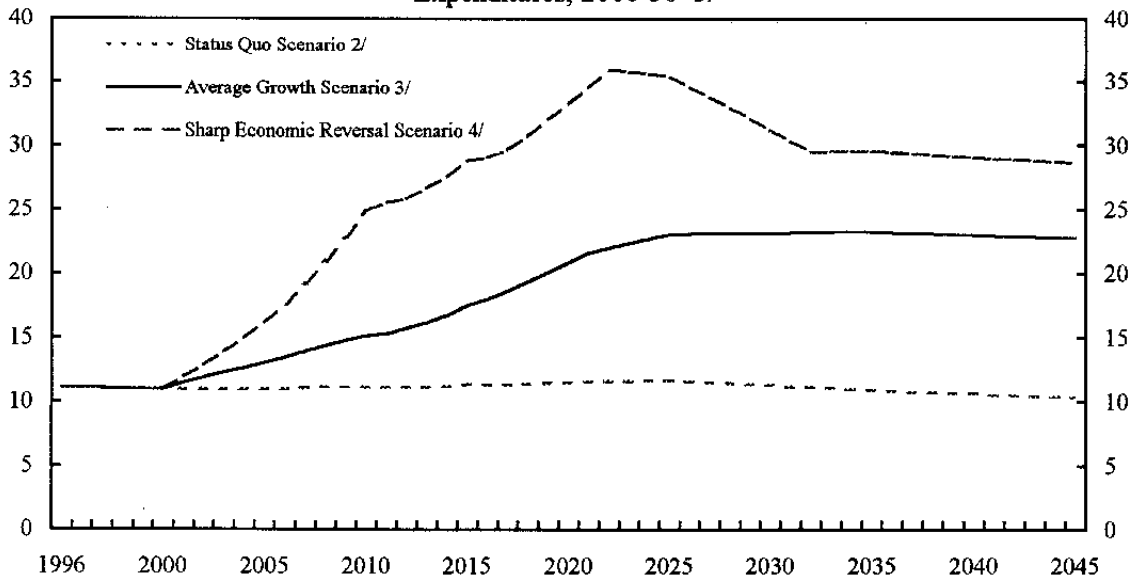
The pension system support ratios that arise in the three illustrative scenarios vividly illustrate the sensitivity of Luxembourg's pension system to marked changes in long-term growth prospects (Box 4; Figure 1). While the status quo scenario results in a stable support ratio, the two less favorable growth scenarios imply large declines in pensioner support ratios. Moreover, the implied pension spending (as a percent of GDP) scenarios can also vary from an effectively stable spending ratio (status quo scenario) to what could be very large increases as contingent pension liabilities built up earlier—which reflect a combination of earlier cross-border worker inflows and population aging—come due (Box 4; Figure 2).

¹ This box summarizes Chapter II of the Selected Issues Paper.

Box 4. Figure 1. Luxembourg: Alternative Scenarios for Pension System Support Ratios, 2000-50 1/



Box 4. Figure 2. Luxembourg: Alternative Scenarios for Pension Expenditures, 2000-50 5/



Source: Staff estimates.

1/ Number of contributors per pensioner.

2/ Constant annual real GDP growth of 5 percent during 2000-50.

3/ Average annual real GDP growth of 2.2 percent during 2000-50.

4/ Average annual real GDP growth of 1.2 percent during 2000-50.

5/ As a percent of GDP.

Box 5. Financial Sector Supervision and Governance¹

Ensuring a stable and sound regulatory and supervisory environment for the financial sector's activities is a key objective of Luxembourg's public policy. At the same time, the dominance of foreign banks, financial conglomerates, and holding companies poses considerable challenges for effective supervision and governance.

Supervision and regulation of the financial sector is based on the EU's *Second Banking Directive*. This directive established the principles of mutual recognition of authorization and prudential supervision systems and of home country control. It also incorporates the Basel Committee's *Minimum Standards* for supervision of international banking groups and cross-border activities, as agreed by the international community in 1992 following the failure of BCCI. These principles and standards are applied by Luxembourg as follows:

- Any bank registered in Luxembourg must have a transparent shareholding structure and clearly indicate who is the bank's ultimate supervisory authority. In addition, licensing will only be granted to banks whose home supervisory authority complies with the *Basel Core Principles*.
- Oversight of subsidiaries of foreign banks is carried out by the Luxembourg authorities through on- and off-site inspections. Prudential rules must be observed on both a consolidated and a subconsolidated basis. At the EU level, bilateral memoranda of understanding have been signed with other supervisors. Moreover, exchange of information takes place at frequent bilateral meetings and at the *Groupe de Contact*. Foreign supervisors are granted partial access to information from on-site inspections. As regards non-EU counterparts, memoranda of understanding (e.g., with Switzerland and the United States) or exchanges of letters (e.g., with some emerging market economies, including Korea, Turkey, and Russia) define the responsibilities of supervisors.
- Oversight of branches of foreign banks is the responsibility of their home supervisor. Nonbank holding companies are supervised only if they own a bank in Luxembourg.

Luxembourg has intensified anti-money-laundering efforts in recent years. In particular, legislation has been passed to incorporate the Financial Action Task Force's (FATF) recommendations regarding the enlargement of the scope of money laundering offenses and the extension of the preventive legislation to nonfinancial professions. A draft bill pending in parliament would reform the judicial procedure for mutual international assistance. In addition, in order to avoid abuse of Luxembourg's bank secrecy laws, pending legislation would strengthen international cooperation in tax fraud cases.

¹ Chapter IV of the Selected Issues Paper provides a more detailed discussion of financial sector supervision issues.

Luxembourg: Fund Relations

(As of March 31, 2000)

I. Membership Status: Joined December 27, 1945; Article VIII.

II. General Resources Account:	SDR Million	% Quota
Quota	279.10	100.0
Fund holdings of currency	223.65	80.1
Reserve position in Fund	55.47	19.9
Operational budget transfers (net)	4.00	

III. SDR Department:	SDR Million	% Allocation
Net cumulative allocation	16.96	100.0
Holdings	2.09	12.4

IV. Outstanding Purchases and Loans: None

V. Financial Arrangements: None

VI. Projected Obligations to Fund: (SDR million; based on existing use of resources and present holdings of SDRs): None

VII. Exchange Rate Arrangement:

On January 1, 1999, Luxembourg entered Stage 3 of the European Economic and Monetary Union (EMU) at a rate of 40.3399 Luxembourg franc per euro.

VIII. Exchange Restrictions:

Luxembourg maintains exchange restrictions vis-à-vis Iraq and the Socialist People's Libyan Arab Jamahiriya. These restrictions were notified to the Fund under Decision No. 144-(52/51) in EBD/90/280 (9/4/90) and EBD/96/43 (3/28/96), respectively.

IX. Article IV Consultations:

The last Article IV consultation was concluded at EBM/98/52 (5/13/98).

Luxembourg: Statistical Issues

Luxembourg's economic statistics have traditionally been weak, at least by the standards of most other advanced economies. This, in part, reflects Luxembourg's status as a very small open economy that formed—until the beginning of 1999—a monetary union with Belgium. Moreover, the sectoral shift away from manufacturing to producing services has raised difficult methodological issues.¹ Data provision has recently improved in several areas, reflecting in part Luxembourg's undertakings in the context of EU/EMU membership:

- In March 2000, Luxembourg's Statistical Office (Statec) released fiscal data for the general government based on the European System of Accounts 1995 (ESA95).
- In November 1999, Statec released national accounts data (excluding private household, corporate, and government accounts) based on ESA95.
- Monetary statistics, which were reviewed by a Fund mission in December 1999, have improved significantly in terms of coverage, periodicity, and timeliness.

Moreover, since the start of 2000, Statec has begun publishing an additional CPI that excludes spending by nonresidents in Luxembourg. This index appears to be somewhat less volatile in response to shocks to energy and food prices and will be used for automatic indexation of wages and social benefits.

The following two data lacunae continue to impede analysis:

- National accounts data based on ESA95 are only available at the annual frequency, and, at this point, the annual data only cover the short time period 1995–99. Moreover, data are not available for some of the institutional sectors of the economy (households, and financial and nonfinancial corporations).
- As regards the balance of payments statistics, there are no data on financial and capital account transactions. A joint effort by the Central Bank of Luxembourg and Statec is scheduled to provide financial and capital account data by 2002.

The authorities intend to subscribe to the Fund's Special Data Dissemination Standard (SDDS), and efforts to provide the requisite metadata are under way. The main obstacles to subscription include the SDDS requirements to provide sub-annual national account and central government data.

¹The difficulties in measuring Luxembourg's GDP are vividly brought out by Als, 1988, "The Nightmare of Economic Accounts in a Small Country with a Large International Banking Sector," *The Review of Income and Wealth*, pp. 101–10.

Luxembourg: Core Statistical Indicators
As of End-March 2000

	Exchange Rates	Int'l Reserves	Central Bank Balance Sheet	Interest Rates	Consumer Price Index	Exports/Imports	Current Account Balance	Overall Government Balance	GDP/GNP	External Debt/Debt Service
Date of Latest Observation	Mar 31	Nov 99	Mar 24	Mar 31	Feb 00	Dec 99	99Q4	1999	1999	1999
Date Received	Mar 31	Feb 00	Mar 31	Mar 31	Mar 00	Feb 21	Feb 21	Feb 00	Feb 00	Feb 00
Frequency of Data	Daily	Monthly	Weekly	Daily	Monthly	Monthly	Quarterly	Annual	Annual	Annual
Frequency of Reporting	Daily	Monthly	Weekly	Daily	Monthly	Monthly	Quarterly	Irregular	Irregular	Irregular
Source of Update	Reuters	Central Bank	Central Bank	Reuters	Statec	Statec	Statec	Ministry of Finance/ Statec	Statec	Statec
Mode of Reporting	Electronic	Electronic	Electronic	Electronic	Paper	Paper	Paper	Paper	Paper	Paper
Confidentiality	Published	Published	Published	Published	Published	Published	Published	Published	Published	Published
Frequency of Publication	Daily	Monthly	Weekly	Daily	Monthly	Quarterly	Quarterly	Irregular	Irregular	Irregular



INTERNATIONAL MONETARY FUND

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FOR IMMEDIATE RELEASE
May 16, 2000

International Monetary Fund
700 19th Street, NW
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IMF Concludes Article IV Consultation with Luxembourg

On May 8, 2000, the Executive Board concluded the Article IV consultation with Luxembourg.¹

Background

Luxembourg's growth performance has remained impressive: during 1998-99, real GDP grew at an annual rate of some 5 percent, while employment increased by some 4½ percent. Buoyant private sector services, particularly financial services, remained the main engine of growth and sheltered activity from the adverse effects of the global financial crisis. Moreover, strong labor demand was accommodated by a growing number of cross-border workers.

Price and wage pressures have been subdued, and external competitiveness has been maintained. Reflecting moderate wage increases and, until recently, declining commodity prices, CPI inflation remained at about 1 percent during 1998-99.

Fiscal policy has continued to follow a prudent course, aiming at restraining central government spending growth below projected nominal GDP growth. This has allowed for persistent and sizeable general government surpluses (2.3 percent of GDP in 1999). As a result, general government gross debt was a mere 6 percent of GDP in 1999, while the public sector's net financial assets totaled some 30 percent of GDP. The 2000 budget targets a surplus of some 2.5 percent of GDP.

¹ Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. A staff team visits the country, collects economic and financial information, and discusses with officials the country's economic developments and policies. On return to headquarters, the staff prepares a report, which forms the basis for discussion by the Executive Board. At the conclusion of the discussion, the Managing Director, as Chairman of the Board, summarizes the views of Executive Directors, and this summary is transmitted to the country's authorities. In this PIN, the main features of the Board's discussion are described.

The financial sector continued its expansion at a healthy pace, despite the removal of some regulatory advantages, such as the introduction of minimum reserve requirements following the advent of Stage 3 of European Economic and Monetary Union (EMU). In addition, the establishment of the Central Bank of Luxembourg, and new regulatory frameworks for mortgage banking, funded pension schemes, and Internet banking and E-commerce are expected to add to the growth potential of the financial sector.

Luxembourg's impressive growth experience since the early 1980s reflects a virtuous circle between sound policies, cooperative social partnership arrangements and, most of all, external economies based on regional specialization. The latter have underpinned the rapid expansion of Luxembourg's specialized cluster of service industries, particularly financial services. Short- to medium-term prospects are bright, and the staff projects real GDP growth during 2000-2003 to average about 5 percent. The longer term outlook for continued fast-paced growth is, however, much less assured: (i) experience elsewhere shows that the growth dividends from regional specialization accrue at the cost of increased vulnerability to largely idiosyncratic and unpredictable shocks; (ii) ongoing European integration is likely to eat into Luxembourg's remaining locational advantages, in particular those based on regulatory structures and taxation; and (iii) environmental and social constraints could eventually act as brakes to continued fast-paced growth.

Executive Board Assessment

Executive Directors agreed with the thrust of the staff appraisal. They warmly commended Luxembourg's macroeconomic and fiscal performance: real activity had continued to expand vigorously; unemployment was low and stable; there were no underlying price or wage pressures; and Luxembourg's fiscal performance was unmatched among European Union (EU) countries. Directors commented that Luxembourg's impressive performance reflected a virtuous growth circle driven by sound domestic policies, social consensus, and economic specialization in a regional environment of high labor mobility.

Looking ahead, Directors generally thought that the economic prospects for the next few years were bright. At the same time, they noted that the long-term prospects for strong output growth were less assured. In this context, Directors noted that the scope for effectively counteracting by fiscal demand management any shocks that might occur would be limited in view of the openness and specialization of Luxembourg's small economy.

Against this background, Directors recommended a proactive policy approach, focused on institutional reforms, to strengthen the robustness of Luxembourg's economy and public finances. In this connection, they welcomed the authorities' progress in diversifying the services sector of the economy. Directors noted that the favorable fiscal outlook for the next few years would provide a wide window of opportunity for implementing reforms. They recommended that the authorities resist pressures to further

expand the large-scale social security system, and that they build the needed social consensus to underpin a proactive reform agenda.

Directors noted that Luxembourg's public pension system was subject to longer-term challenges, particularly if population aging were to combine with an abrupt halt or reversal in cross-border worker flows. They felt that a shift to a more diversified multi-pillar pension system would be desirable, and observed that Luxembourg was exceptionally well placed to handle the difficult transition to a more diversified pension system.

Directors welcomed the Government's plans to implement a significant income tax reform by 2002—as a lower tax burden would boost competitiveness and a more neutral tax system would improve the overall functioning of the economy. They also urged the authorities to improve the management of the public sector's holdings of financial assets, and welcomed the authorities' plan to review present constraints on investment policies.

Directors observed that the exceptionally favorable economic performance in recent years appeared to have blunted the effects of Luxembourg's pervasive labor market rigidities. Nevertheless, they recommended that the authorities pursue greater labor market flexibility: such reforms could include promoting more flexible labor cost structures, especially at the lower end of the labor market, and tightening eligibility criteria for social benefits, particularly the early retirement scheme.

Directors noted that the Central Bank of Luxembourg, established in June 1998, had been quick and skillful in acquiring the necessary competencies to fulfill its tasks within the European System of Central Banks. They underscored that maintaining effective supervision and governance of the financial sector should remain a priority of public policy. Directors noted that the Financial Sector Surveillance Commission, which took over supervisory responsibilities from the central bank in 1998, appeared to be well equipped to meet the challenge of supervising Luxembourg's large, evolving, and mostly foreign-owned financial sector. Some Directors thought that full consolidation of financial sector supervision, by integrating insurance supervision, could be considered in due course. Directors welcomed the recent steps to strengthen anti-money laundering measures.

Directors welcomed the recent substantial increases in budgetary resources for addressing the remaining weaknesses in Luxembourg's economic statistics. In particular, they emphasized the need to close the remaining gaps in national accounts and balance of payments data. Directors also encouraged the authorities to take additional measures to allow Luxembourg's subscription to the Special Data Dissemination Standard.

Directors warmly welcomed Luxembourg's determination to live up to, and go well beyond, its commitments regarding official development assistance, noting in particular that, in 2000, Luxembourg was likely to join the exclusive circle of countries whose assistance met the United Nations' target.

It is expected that the next Article IV consultation with Luxembourg will be held on the 24-month cycle.

Public Information Notices (PINs) are issued, (i) at the request of a member country, following the conclusion of the Article IV consultation for countries seeking to make known the views of the IMF to the public. This action is intended to strengthen IMF surveillance over the economic policies of member countries by increasing the transparency of the IMF's assessment of these policies; and (ii) following policy discussions in the Executive Board at the decision of the Board. As part of a pilot project, the staff report (use the free Adobe Acrobat Reader to view this pdf file) for the 1999 Article IV consultation with Luxembourg is also available.

Luxembourg: Selected Economic Indicators

	1996	1997	1998	1999	2000 1/	2001 1/
Real economy (change in percent)						
Real GDP 2/	2.9	7.3	5.0	5.2	5.1	5.0
Domestic Demand 2/	2.7	5.5	2.2	4.2	3.3	3.1
CPI (year average)	1.4	1.4	1.0	1.0	1.6	1.4
Unemployment rate (in percent)	3.3	3.3	3.3	2.9	2.7	2.3
Gross national saving (percent of GDP)	35.3	32.6	30.2	31.8	32.4	32.4
Gross capital formation (percent of GDP)	20.3	20.1	19.2	20.2	20.1	20.0
Public finance (percent of GDP)						
Central government balance	1.0	2.1	1.4	0.9	1.1	1.3
General government balance	2.7	3.6	3.2	2.4	2.6	3.4
General government gross debt	6.2	6.0	6.4	6.1	5.8	5.4
Money and interest rates						
M2 (end of year, percent change) 3/	-2.0	18.9	6.6	...	...	...
Money market rate (in percent)	3.2	3.5	3.6	3.5	...	...
Government bond yield (in percent)	6.3	5.6	4.7	4.7	...	...
Balance of payments (in percent of GDP)						
Trade balance (percent of GDP)	-9.5	-11.4	-10.8	-14.9	-14.6	-14.8
Current account (percent of GDP)	15.2	13.8	12.6	8.3	10.3	10.5
Official reserves (US\$ million) 4/	73.7	64.1	...	77.1	...	...
Exchange rates						
Exchange rate regime					Member of euro area 5/	
Nominal effective exchange rate (1995=100)	98.8	97.0	96.7	96.4	...	...
Real effective exchange rate (1995=100)	98.2	96.1	95.7	95.4	...	...

Sources: Data provided by the authorities; IMF, International Financial Statistics; and IMF staff estimates.

1/ Staff projections.

2/ 1999 figures are IMF staff estimates.

3/ Monetary aggregates are no longer calculated for Luxembourg following its joining the European Economic and Monetary Union in 1999.

4/ Excluding gold. From 1999, euros system definition.

5/ While the Luxembourg franc to euro rate was irrevocably fixed on January 1, 1999, the external exchange rate of the euro is market determined. The Luxembourg franc will remain in circulation until 2002, when euro Banknotes and coins will be issued.

**Statement by J. Prader, Alternate Executive Director,
and A. Jacoby, Assistant Executive Director,
for Luxembourg
May 8, 2000**

The Luxembourg authorities would like to express their appreciation to Mr. Jaeger and his team for their hard work on Luxembourg's Article IV consultation and their report and background papers which address a number of important core issues.

Economic Developments and Prospects

The Luxembourg economy continues to perform well. Real GDP growth for 1998 and 1999 is estimated at around 5 percent. The thriving financial sector, which was hardly affected by the global financial crisis or by EMU, remains the primary engine of growth, generating roughly one fourth of GDP, and about 14 percent of growth in 1999 came from the commercial telecommunication and transport sectors. Manufacturing is expected to show a decline. After two years of vigorous growth of 8 percent annually, the figures for industrial output in 1999 may reflect some slowing caused by the global financial crisis. But the current upward trend of Europe's economy, together with competitive boost provided by the exchange rate, should somewhat cushion this decline.

Against this backdrop, it is not surprising that the Luxembourg economy continues to create jobs at an impressive rate. Unemployment, hovering around 3 percent, still compares favorably with other industrial countries. Employment rose by 4.6 percent in 1998, and is expected to add another 5.3 percent in 1999. This strong increase in employment did not create tensions in the labor market because of the elastic supply of workers from nearby Saarland, Lorraine, and the Belgian Province de Luxembourg, whose high unemployment explains not only the lack of labor market tension in Luxembourg, but also the large share of cross-border workers in Luxembourg's total employment.

The harmonized CPI began to rise in 2000, due to the lagged effects of a series of oil price increases, but core inflation remains subdued for the time being. It is expected that inflation for 1999 will turn out to have been modest.

Overall, Luxembourg's growth in 1999 was mainly driven by domestic demand. Gross fixed investment in particular rose by around 9 percent in 1999, while household demand rose by a more modest 3 percent. External demand was also strong: exports of goods and services increased by around 5.2 percent and thus contributed significantly to the economy's present buoyancy.

The Luxembourg authorities are confident that the satisfactory growth of recent years will continue. Given the recovery of the international economy and especially the growth of the European economy, the growth prospects for the near term are considered bright.

As a small, open economy, Luxembourg seeks to protect itself against external shocks by diversifying its productive base and by ensuring the soundness of its public finances.

Fiscal Policies

The principle of prudence that governs the management of Luxembourg's public finances reflects the authorities' recognition of the challenges and opportunities that confront small, open economies. Fiscal prudence is Luxembourg's hallmark, as shown by the latest version of Luxembourg's stability program. The program clearly indicates that the government is guarding against asymmetrical shocks by pursuing a very cautious fiscal policy aimed mostly at building up surpluses to cushion the effects of a possible slowing of growth or even a recession.

Luxembourg's present fiscal position is sound, and budgetary problems can be ruled out for the foreseeable future.

The authorities agree that most serious issues are structural in nature, and concern the financing of the social security system, the long-term sustainability of the pension system, and the efficient management of the public sector's massive financial assets. While they recognize in principle that structural reforms are needed, the authorities avoid idle activism and prefer to move gradually in resolving what are essentially long-term issues.

Luxembourg's social security system seems less threatened by flaws in its financing scheme than those of some other European countries. The 1999 public sector pension bill represents a first step toward reforming the pension system, and the government is prepared to give careful consideration to additional reform options including a funded complementary pension system, and shifting to a multi-pillar structure. Another issue is how to improve the return on the investment of Luxembourg's vast pool of public reserves. The authorities are already studying plans for more productive ways to invest public assets, considering *inter alia* broadening of the range of investment instruments, including stocks.

Diversification

The Luxembourg authorities are well aware that their small, open economy may have a tendency to overspecialize, and needs to cultivate diversity and flexibility as safeguards against adverse shocks. It is true that services accounted for 70 percent of GDP in 1999, but this does not necessarily mean that Luxembourg is unduly exposed to external shocks, from which it is protected by the considerable heterogeneity of its so-called "services sector."

The financial sector's resilience to unanticipated shocks and its continued steady growth is greatly assisted by Luxembourg's ability to take the necessary legislative actions with a minimum of difficulty or delay, and to flexibly adopt into its legal order any applicable EU directives. Protecting that resilience is also why the authorities have always taken special care to ensure that the supervision of the financial sector is effective. By the same token, they regard the Central Bank of Luxembourg, newly established to take over

from the National Bank of Belgium such essential functions as foreign and domestic payments services and supplying liquidity to the markets, as indispensable to the smooth functioning of the financial sector.

The Luxembourg authorities do agree with the staff that part of their economy's outstanding performance comes from feedback of the positive externalities of their vigorously developing financial services sector.

Labor Market Reforms

Luxembourg's active economic policies have considerably strengthened its resilience to potential shocks. The authorities agree with the staff that large and persistent supply shocks would have severe consequences. But they regard the chances that such a shock would occur as rather remote. In any case, it is very likely that in Luxembourg a labor market shock would be at least partly offset by a change in the share of cross-border workers in total employment.

It also seems unlikely that the automatic indexation of wages and benefits will transmit large adverse price shocks. This risk is minimized because indexation can be suspended during periods of severe economic stress, as it was shortly after the devaluation of the Luxembourg franc. Nor would indexation undermine competitiveness, since wage negotiations have to abide by the 1994 wage moderation agreement requiring real wage increases to stay behind productivity growth.

The Luxembourg authorities are convinced that their long established wage indexation is a very effective and very progressive means of ensuring social peace. Given the high cost of wage bargaining, and the potential disruption of strikes on the smooth functioning of this small, open economy, the Luxembourg authorities remain convinced that wage indexation is an appropriate instrument of economic policy.

Luxembourg's labor market problems are relatively minor compared to the rest of Europe. It is true that labor market regulations are strictly drawn, but their implementation is frequently pragmatic and flexible enough to accommodate the specific needs of different sectors. Progress in increasing employment flexibility has been good. In 1999, parliament voted a new collective bargaining law which establishes a minimum reference period of four weeks for all workers, and makes it possible to adopt longer reference periods, of up to a year, through collective agreements. And in Luxembourg, where some sectors contain just one firm, it is not clear that collective bargaining inevitably leads to labor market rigidities.

The Luxembourg authorities are determined to promote competitiveness through the pursuit of active labor policies and to attack remaining rigidities. But future structural reforms must continue to respect the essential goal of the Luxembourg model, which is social cohesion. To guarantee social peace, labor market reforms can only be accepted by a consensus among the social partners.

Financial Sector Supervision

The stability of European financial markets depends on a harmonized regulatory framework defined by the Maastricht Treaty and EC directives. The euro's speeding up of the integration of banking sectors and financial markets does not challenge the present supervisory framework, as suggested by the selected issues paper. The Luxembourg authorities wish to stress that the European supervisory framework, based on the home country principle and on close cooperation between national supervisors, is still the most flexible, versatile, and reliable way of dealing with threats to financial stability. This being so, it would seem inappropriate to discuss alternative supervisory arrangements for Europe during a meeting devoted to the Article IV consultation of a single country.

Statistics

The Luxembourg authorities are well aware of the shortcomings of their statistical apparatus. Luxembourg's present cadre of qualified statisticians cannot furnish a full range of statistics in a timely manner, which obliges the Office of National Statistics (STATEC) to focus on producing a small number of key indicators. Substantially increasing STATEC's budget will permit coverage to be expanded and will improve the periodicity of data series. In addition, the Central Bank of Luxembourg and STATEC will collaborate closely to separate Luxembourg's balance-of-payments statistics from Belgium's. The present plan is to issue the first separate current account and national financial account figures in 2002.