

The Economy of Luxembourg (1973–2001) : With Special Reference to the Transition from a Steel to a Financial Economy

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1. Introduction

The Grand Duchy of Luxembourg is the smallest country among the 15 members of the European Union [EU]. It has an area of only 2,586 square kilometers and a population of approximately 440,000.

Luxembourg, however, is one of the wealthiest states in the world. It ranks high within the EU in terms of economic performance. National income per capita was \$US31,531 in 1997¹⁾. This figure was significantly higher than the average in the EU as a whole. The annual growth of gross domestic product [GDP] from 1992 to 1995 was 2.8%, 1.9%, 2.3% and 3.7% for each of the four years. Compared with these figures, the average annual increase among the 15 EU countries was 1.0%, -0.6%, 2.8% and 2.4%. GDP growth in Luxembourg was higher than the EU average in every year except for 1994. Moreover, the forecast of real GDP growth for 2002 was 2.9% in Luxembourg and 1.5% in EU-15²⁾.

Regarding monetary union, the superior performance of the Luxembourg economy is obvious. Aldcroft writes, "On a strict reading of the Maastricht criteria, only tiny Luxembourg would have qualified."³⁾

Luxembourg is a country that, following the oil crisis of 1973, has furthered the development of its economy by making a transition in its main sector from the iron and steel industry to services and finance. The purpose of this paper is to study the transition of the Luxembourg economy from 1973 to 2001.

1) Statec 1999.

2) Statec 2002.

3) D. H. Aldcroft, *The European Economy, 1914–2000*, 4th edition, London & New York, p. 274.

2. Development of the Steel Industry and the Oil Crisis

A few years ago, an article on the economic history of Luxembourg was published. The increase in the production of iron and steel by the 1920s is impressive. The production of pig iron increased from 617,422 tons in 1919 to 2,960,093 tons in 1929⁴). In the same period, the production of steel grew from 366,231 tons to 2,702,257 tons. Luxembourg became a country known for its steel industry more than anything else, and this did not change after the Second World War⁵).

For this reason, when the European Coal and Steel Community (ECSC) was established, Luxembourg joined this organization with France, West Germany, Italy, the Netherlands and Belgium. When the EC was founded in 1967, Luxembourg was a founding member. The progress of the economy in Luxembourg after the war traced the same path of market integration as the rest of Europe.

Economic activities in Luxembourg depended mainly upon the steel industry. By 1974–75, it accounted for approximately 50% of total industrial production, approximately 67% of total export value, and 25% of gross domestic product. However, these percentages have become significantly reduced since then, and on the other hand, the proportions for the service and financial sectors have increased rapidly. The number of workers in the service sector increased from approximately 80,000 in 1980 to around 150,000 in 1996⁶).

The 1980s was an era of economic development for Luxembourg. The gross national product was 1,494 million Luxembourg francs in 1980, and increased to 3,416 million Luxembourg francs in 1991⁷). In 2001 the number of employees in industry was 35,800 and the number in financial, real estate, renting and business activities was 76,400⁸). The average growth rate in Luxembourg from 1989 to 1997 was 3%, compared to the EU average of 2%. The question here is, why was only Luxembourg able to achieve economic development like this?

The reason, as stated above, was the shift of the major focus of industry from steel to services and finance. The rate of industrial contribution, including power plants, hydraulic power, and mining, to the gross domestic product was 40% at the beginning of the 1970s. Twenty years later, however, the contribution from services increased to 60% and the contribution from industry decreased to less than 20%⁹).

3. Diversification in the industrial sector

The world economy was greatly shaken by the first oil crisis in 1973. At the end of the 1970s,

4) Hans Pohl, “Grundzüge der Wirtschaftsgeschichte Luxemburgs von der zweiten Hälfte des 19. Jahrhundert bis in die 1920er Jahre”, *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte*, Vol. 86, No. 2 1999, pp. 309–342.

5) *Ibid.*, p. 335.

6) *OECD Economic Surveys, Belgium/Luxembourg*, 1999, p. 119.

7) P. Clark, *Luxembourg*, London & New York, 1994, p. 12.

8) Statec 2002.

9) Statec 1999.

a second oil crisis occurred at the time of the Iranian Revolution. Western economies lagged significantly behind Japan in making a transition to a resource-saving type of economy. The steel industry in Japan transformed to resource saving quickly, but the steel industry in Western countries could not transform its structure so fundamentally as Japan did. Luxembourg was one country in a similar situation. Production in the minerals and metals sector of the nation's economy for 1975 decreased by 28% compared with the previous year¹⁰.

As already indicated, at the beginning of the first oil crisis the Luxembourg economy depended significantly on the steel industry. In 1960, metals were the most important products; they accounted for 83.1% of all export goods. This figure decreased significantly to 68.1% in 1970, 35.5% in 1991, and 30.9% in 1998. In contrast, machinery exports increased. Machinery accounted for only 2% of all export goods in 1960, but increased to 23.6% by 1998¹¹.

However, a decreasing trend in the industrial sector was undeniable. Although 35% of all employees were working in this sector in 1970, the number had decreased to only 13% by 1993. Presumably one of the reasons the rate decreased in the industrial sector was because it has come to rely heavily on sub-contractors (out-sourcing) from the service sector. Specifically, accounting, computing services and legal consultation were transferred from the secondary to the tertiary sector. Accordingly, one might suspect that the decrease in the ratio for the industrial sector might actually be exaggerated.

Diversification in the industrial sector had already begun in the 1950s. The Framework Law on Economic Expansion was enacted in 1962. Based on this law, the Government of Luxembourg provided financial support in various areas. It gave preferential treatment to encourage the establishment of new enterprises, including providing subsidies and lowering interest and tax rates. During the period from 1962 to 1976, approximately 60 new enterprises were attracted by applying the Framework Law and by sending representatives to the USA regularly to attend promotions. As a result, 11,000 new jobs were created. Du Pont de Nemours and General Motors were among the new companies.

In 1993, a new Framework Law was introduced. If the principle of free competition in the European regional market were to be followed, the type of assistance provided under the general assistance plan was no longer possible. For this reason, the following three schemes were introduced.

- 1) a scheme of aid for investments by small and medium-sized enterprises.
- 2) a preferential scheme for the implementation of research and development projects and programs.
- 3) an aid scheme in favor of investments being made in the protection of the environment.

There were some examples of failures; however, they were few. In general this diversification plan was highly successful. Of the companies which had been established in 1977–79, the number of workers in formal employment in 1988 was 1,060. This number increased to 1,153 in 1993. It can be seen that the numbers in the labor force from newly started industries had increased.

10) http://statec.gouvernement.lu/html_en/statistiques/portrait_economique/index.html

11) Gorges Als, "Vers la déindustrialisation l'économie luxembourgeois" in Statec, *L'économie Luxembourgeois au 20e siècle Luxembourgeois*, Luxembourg, 1999, pp. 312–313.

The decline in the steel industry seems to have been made up for by the growth of the chemical, rubber, and plastics industries, which are called 'new industries'. The economic system in Luxembourg places emphasis on exporting goods, because their domestic market is so small. Traditionally, industrial goods for export primarily consisted of intermediate goods and semi-manufactured products. Relatively few export goods were finished for final consumption¹²⁾.

The chemical, rubber, and plastics industries in Luxembourg have been primarily producing rubber tires and processing plastics. The reason this sector increased production of rubber tires stems from the fact that the well-known US tire company, Goodyear, founded a branch in Luxembourg in 1951. These industries have become significantly developed, especially after the 1970s. The group took second place to iron and steel in the industrial sector.

Figure 1 compares the numbers employed in the iron and steel sector with those in the rubber and plastics sector. The number of workers in the iron and steel sector has decreased significantly, but

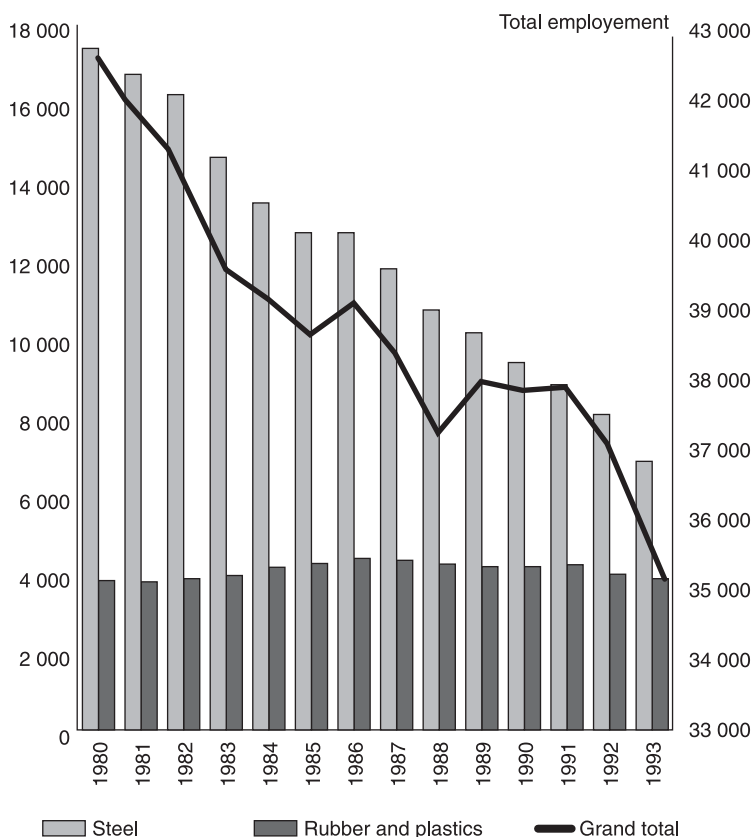


Fig. 1. Trend in employment in the two major industrial activities and trend in total employment in industry (apart from construction)

[source] http://www.statec.lu/html_en/portrait_economique_du_luxembourg/english/chap5/graf/trend.gif

12) http://statec.gouvernement.lu/html_en/statistiques/portrait_economique/index.html

the number in the labor force in the rubber and plastics sector has not changed so much. Therefore, when comparing these two sectors, the number of the labor force in the latter sector has relatively increased. The influence of diversification has also been seen here.

4. Development in the service and financial sectors

(1) Outline

Luxembourg is the seventh largest financial center in the world today. It is Luxembourg which is most suitable for the word 'borderless'. Luxembourg has been setting a significant trend toward the formation of a regional market, which is actually an expanded national market. There are about seven million people living close to the borders of Luxembourg in France, Belgium, and Germany.

There were 202 banks in Luxembourg in 2001 and 189 in 2002¹³⁾. Approximately 30 banks in Luxembourg are among the top 50 banks in the world. Formerly, there was no organization like a central bank in Luxembourg. The National Bank of Belgium (Banque Nationale de Belgique) had to assume this role¹⁴⁾. The Luxembourg Monetary Institute (Institut Monétaire Luxembourgeois = IML) was established in 1983. The role of the IML was to monitor the banks as well as other financial activities in Luxembourg. When the euro was introduced, a central bank was required. The IML was developed and founded by the Luxembourg Central Bank (Banque Centrale du Luxembourg = BCL) in June 1996, which functions under cooperative relationships with the European Central Bank.

Why did Luxembourg become a financial center? It focused on the possibility of a European common market from an early stage. Luxembourg came to play an important role in the public bond market during the 1970s. The banks in Luxembourg belonged to a syndicate which accepted Eurobonds when issued. They were thus completely suitable for the development of the European common market. Not only banks, but also the securities exchanges and the insurance business became important foci for finance in Luxembourg¹⁵⁾.

Luxembourg, as a financial center, has been expanding its activities widely. Today, it is possible not only for groups but for individuals to obtain all kinds of financial services. Money laundering is strictly prohibited in Luxembourg. Furthermore, the banks contribute to holding companies and investment funds¹⁶⁾.

(2) Holding companies

The Luxembourg economy was dependent mainly on the steel industry before the first oil crisis. If a country's economic structure specialized only in one industry, the country could only react to economic change with a passive response. In Luxembourg, signs of change toward diversification were first observed in the 1950s, but real change began in the 1970s.

13) Statec 2002.

14) Clark, *op. cit.*, p. 42.

15) Banque centrale du Luxembourg, "1999 Rapport Annuel", 2000, p. 9.

16) <http://www.abbl.lu/uk/default.htm>

The holding company law had been issued in 1929. The definition of a holding company in Luxembourg is a company obtaining benefit from a special tax system introduced on July 31, 1929. The only purpose of the company is to invest in other enterprises in Luxembourg and in foreign countries¹⁷⁾. The most significant growth in the number of holding companies occurred after the 1980s.

Luxembourg offered many advantages in taxation to the holding companies. The holding companies (as regulated by law in 1929) were exempt from many of the taxes of Luxembourg. Furthermore, financial holding companies are a special form of holding companies. They differ from ordinary holding companies in that they can lend money to companies belonging to the same enterprise group. It is not necessary for the directors, stockholders, court auditors, and owners of the holding company to be resident in Luxembourg¹⁸⁾.

This is probably the reason why the number of holding companies has been increasing rapidly. Namely, free participation in a holding company from a foreign country should attract foreign business people. The fund inflows from overseas, through holding companies, should have a significant influence on the economy of Luxembourg. However, there is a negative aspect. It is impossible to say clearly how much funding actually flows into Luxembourg from owners resident overseas. However, if it should stop, it could bring about serious effects on the economy. Luxembourg is destined to open its doors to overseas investors in the future as well. The number of holding companies has increased continuously to this day. There were 2,596 in 1970, with a 3.5-fold increase to 8,653 in 1989. Furthermore, their funds have increased from 82 million Luxembourg francs to 91.5 million Luxembourg francs in the same period¹⁹⁾. This indicates the pace of financial development in Luxembourg.

(3) Banking

The first bank in Luxembourg was founded in 1856. The number of banks in Luxembourg rapidly increased in the 1960s and 1970s. Since then, the activities of German banks have been increasing rapidly in this country.

During the 1960s and 1970s, international banks centralized their wholesale activities in the European common market. However, in these days their weight has shifted to activities to generate income from private banking, trade financing, asset control and commissions. As there are no strict laws concerning strict maintenance of secrecy, and there is no withholding tax regulating interest earned, Luxembourg is very attractive to foreign banks. In addition, the high quality of banks in Luxembourg and the government policies are instrumental in attracting and acquiring large deposits. Luxembourg is an attractive market for neighboring countries because there are many countries geographically close, and workers in Luxembourg can communicate in many languages. Moreover, the number of banks has been increasing more and more in response to the activities of holding companies, investment funds, and more recently the reinsurance business. There are

17) Clark, *op. cit.*, p. 33.

18) *Ibid.*, p. 32.

19) *Ibid.*, p. 34.

European financial institutions starting a European investment bank there, which is attracting more banks from overseas.

At first, the number of banks in Luxembourg did not increase rapidly. It reached 111 in 1980 and only 117 in 1990. However, the number then sharply increased to 209 by 1994. The number in 2000 was 202 and 189 in 2001. Nevertheless, this does not mean that banking activities in Luxembourg declined but means that the size of banks has been increasing. When examining the number of bank headquarters in European countries, as of December 1998, Luxembourg and Belgium each had 27, Germany 64, Italy 22 and France 18. The total number of the labor force in the banking industry increased from 7,600 in 1980 to 16,335 in 1990, and then to 17,669 in 1994. Net profit after tax was 2.5 billion in 2000 and 2.9 billion in 2001²⁰⁾.

As indicated, the number of German banks is largest. The main reason is that Germany is a neighbor of Luxembourg. Also, Luxembourg adapted to the requirement for European monetary union at the beginning of the 1970s. There was a requirement for monetary reserves to be deposited in a central bank of West Germany or Switzerland. Therefore, West Germany and Switzerland adopted a policy to reduce deposits by foreigners who were resident there using their own currency. This policy gave the other countries the opportunity to participate in international financial business. The financial market in Luxembourg was geographically close to West Germany and Switzerland, similar languages were spoken, and their laws regulating finance were advantageous. These are the reasons why banks based in Luxembourg began to flourish.

Banks in Luxembourg are permitted to act as universal banks and provide many services including trading in the short term financial market, deposits from retailers and wholesalers, domestic and international loans, rental business, trade financing, trading securities and precious metals within the responsibility of the bank, or as a representative for their customers, custody services, asset controls, investment funds, managing holding companies, accepting issued public bonds and company bonds, managing, assurance, transferring currencies and trustee business.

Payments between companies and individuals are done by transfer from a bank account. Most of the banks permit opening a bank account and making term deposits in many different currencies. Banks in Luxembourg belong to an acceptance group for Eurobond issues. They are well matched to the development of the European common market. Luxembourg made an important contribution to the use of an artificial currency unit [ECU] as a method of payment. In 1991, the Luxembourg Bankers' Association (ABBL) built a training center, the Luxembourg Institute for Training in Banking (IFBL), because they realized that staff training would soon become important. Through this institute they aimed to equip the workforce to deliver high quality banking services²¹⁾. In 1994, the bank and insurance sectors accounted for 25% of GDP in Luxembourg²²⁾.

Banks in Luxembourg are closely associated with European ones. At the end of 2001, about 50 per cent of banks' assets were loans and advances to credit institutions, mainly to European financial groups²³⁾.

20) Statec 2002.

21) <http://www.abbl.lu/uk/default/htm>

22) *OECD Economic Surveys Belgium/Luxembourg*, 1995, p. 123.

(4) Investment Funds

Investment funds in Luxembourg fall into two categories based on the direction from the Undertaking for Collective Investment in Transferable Securities (UCITS). These are termed Part I funds (Investment Fund Law part I) and trust or Part II funds (Investment Fund Law part II). The European investment fund directive permits registered investment funds to be traded freely in any of the countries within the EC²⁴.

When the first investment fund company was founded in 1959, there was no legal framework regulating investment trusts. The first law regarding investment funds was introduced in August 1983. The European investment fund directive was enacted in December 1985, and in March 1988, a law relating to Undertaking for Collective Investment (UCIs) was established. The purpose of this law was to satisfy the conditions of the European investment fund directive²⁵. Investment funds from Luxembourg were disseminated throughout the EC in a short time. UCIs established in Luxembourg take the form of mutual funds—open-ended type investment companies (SICAVs)—or closed-end type investment companies (SICAFs)²⁶.

The Luxembourg Investment Fund Association (ALFI) was established in 1988²⁷. Moreover, a taxation committee was formed in order to maintain and develop its status as a financial center, and especially its standing in the investment fund business. Discussion and suggestions from this committee made it possible for the Government to gradually reduce capital contributions to the investment funds in Luxembourg, in contrast to other countries²⁸. Investment funds in Luxembourg do not serve the domestic market, but are created by promoters who sell the funds overseas²⁹. Of the 651 investment funds approved to the end of 1989, 268 were EU UCITS³⁰ so that it might encourage the development of financial market.

There was a movement to abolish exchange control over transfer of capital between EU member countries, which further stimulated the development of investment funds. Promoters from Europe and other countries, especially the US and Japan, tried to use Luxembourg as a base for a European integrated market, attempting to exploit an underdeveloped market in Europe especially southern Europe³¹.

Regarding the investment funds, there is no tax in Luxembourg either on income or on capital gains. The only tax to be paid on investment funds is a registration tax. This is paid at the

23) International Monetary Fund, "Luxembourg: Financial System Stability Assessment, Including Reports on the Observance of Standards and Codes on the Following Topics: Monetary and Financial Policy Transparency, Banking Supervision, Securities Regulation, Insurance Regulation, and Payment Systems", June 2002 IMF Country Report No. 02/116, p. 23.

24) Clark, *op. cit.*, p. 60.

25) http://www.alfi.lu/html/legal_framework/index.html

26) Clark, *op. cit.*, pp. 61–63.

27) ALFI, *Association Luxembourgeoise des fonds d'investissement (Luxembourg Investment Funds Association), 1988–1998*, Luxembourg, 1998, p. 15.

28) *Ibid.*, p. 11.

29) *Ibid.*, p. 19.

30) *Ibid.*, p. 29.

31) Clark, *op. cit.*, p. 62.

beginning of each quarter on the net asset value of the trust at an annualized rate of 0.06%. There is no corporate income tax in Luxembourg on investment funds. Also, there is no tax of any kind in Luxembourg for non-residents who invest in the investment funds of the country³².

Until recently, most of the investment funds licensed by Luxembourg were sold in specific regional markets. It is only in the last few years that the investment funds of Luxembourg have begun to attract international attention. Clearly, Luxembourg today has developed a large, worldwide base of investment funds.

Luxembourg investment funds reached a net asset value of ten trillion Luxembourg francs in 1999. This was a 50.8% increase compared with 1998³³. The investment fund business has grown rapidly since 1983, particularly since 1988³⁴. In 1988, there were 439 funds with a total asset value of approximately \$US 400 million. This increased to more than 5,000 funds with a total asset value of \$US 5,000 million by the end of 1998. In 2001, the number of unit trusts was 994 and their net assets were €482.1 billion³⁵. Currently, the total asset value of Luxembourg investment funds is the second largest in the world. The scale of investment funds in Europe is approximately only half of the scale of investment funds (mutual funds) in the USA. Investment funds in Europe are clearly expanding currently. Luxembourg is the most representative case of this trend.

(5) Stock Exchange

The Luxembourg Stock Exchange was founded in 1929. Today, it is one of the centers for listing Eurobonds. To list on the Luxembourg Stock Exchange is relatively fast and simple. One does not have to pay tax to trade on the Luxembourg Stock Exchange.

Its membership is based on the approval obtained from Luxembourg. If a person is to obtain a passport, he or she must get it from the Finance Sector surveillance committee (Commission de surveillance du secteur financier = CSSF) founded in 1998. To become a member of the Luxembourg Stock Exchange, a financial organization or investment company must obtain permission from the authorities in their own country and at the least, it must carry out payments on financial instruments listed on the Luxembourg Stock Exchange, and trade at financial institutions on their own³⁶.

In order to promote the stock exchanges of the EC, the Stock Exchange Law was enacted in Luxembourg on September 21, 1990. This law gave privilege to the Luxembourg Stock Exchange until 2027. Currently, more than two-thirds of the bonds issued in the European common market are quoted on the Luxembourg Stock Exchange. The head office of Cedel, the largest clearing house in the world, is in Luxembourg, which gives them greater power to set bond prices. The Luxembourg Stock Exchange is very active in the volume of European common market activities and is a place of issue for a number of Eurobonds³⁷.

32) *Ibid.*, p. 79.

33) http://www.alfi.lu/html/legal_framework/index.html

34) Clark, *op. cit.*, p. 59.

35) Statec 2002.

36) <http://www.bourse.lu/english/communication/index.html>

37) <http://abbl.lu/uk/default.htm>

The Luxembourg Stock Exchange is a completely automated de-centralized market. All of the workers who are resident or non-resident in Luxembourg are connected via network on screen. This is called the Automated System of Trade (Système Automatisé Marché). This system started first in 1996 and called the Multi Fixing Market (MFX). This is a completely automated systematic leadership market, and it covers all securities listed on the Luxembourg Stock Exchange. The second sector is the On-demand Continuous Market (MCD). This is a completely automated quote-driven market, which was launched in 1997.

For both the MFX and the MCD, a trading member can access the market via their own workstation and carry out orders such as input, change and delete. All the trades and market prices are displayed on workstations instantly. Also, it is possible to use any method permitted by the Luxembourg Stock Exchange for trade settlement. With regard to brokerage fees, they completely depend on the negotiations between the participants. There is no tax on any business transaction carried out at the Luxembourg Stock Exchange.

Only the approved members can do business transactions at the Luxembourg Stock Exchange. Initially there were two types of member—credit institutions and brokerages.

Because of the Investment Service Directive issued in 1994, it became possible for an investment company, approved in its own country, to participate in the Luxembourg Stock Exchange without any influence from Luxembourg. For investment companies belonging to EU member countries, it became possible to provide their services to other countries after January 1, 1996.

The Benelux Alliance was formed on December 14, 1998. The following year, on January 4, 1999, members of the Amsterdam Stock Exchange and the Brussels Stock Exchange began to invest directly in the Luxembourg Stock Exchange. Members of the Luxembourg Stock Exchange were also able to invest directly in the Amsterdam Stock Exchange and the Brussels Stock Exchange. Within the framework of the Benelux Alliance, 42 investment companies became new members of the Luxembourg Stock Exchange³⁸⁾.

The value of trade on the Luxembourg Stock Exchange was €2,814. million in 1998. This fell by more than 10% to €2,499.4 million in 1999. In 2001 trading decreased to €2,419.5 million³⁹⁾.

(6) Trade

a. Imports and Exports

The Luxembourg economy seems to be making a very smooth transition at present. However, if industrial production decreased and the center of economic activity shifted to services and finance, the trade balance would be in deficit. What would be the result on export and import business in the country?

There has been a significant change regarding the makeup of exports from Luxembourg, although intermediate goods still account for 80% of total exports. The reason for this lies in the scale of economy in Luxembourg, that is their smallness, and also in a specific international tendency towards a partition of the production process.

38) <http://www.bourse.lu/english/communication/index.html>

39) <http://www.bourse.lu/english/communication/index.html> (Press Release Communiqué de presse 1/2002)

As Luxembourg is located in the center of Europe, exports to the EU account for 80% of total exports, with exports to adjacent countries accounting for more than 60% of total exports. However, exports to Belgium have decreased, while the share of trade with Germany and France has increased. The reason the EC area has such a high ratio will be due to the influence of the European common market.

Looking at export value, goods other than iron metal increased after 1981. According to the data for 1993, metal accounted for 33.9%, machinery 13.9%, and plastics and rubber tires 13.2%. For the same year, classifying according to export destination, the share of Germany was 28.2%, France 17.8%, Belgium 18%, Netherlands 5.4% and Britain 6.5%.

Imported goods have increased five-fold in the last 20 years. Traditionally, Luxembourg's imports depended on products, including raw materials for production and energy. However, the import of semi-manufactured products is increasing today. The main sources of imports are Belgium and Germany. The total amount of imported goods (estimated value) in 1993 was approximately 260 billion Luxembourg francs. The value of imports from Belgium and France was approximately 1,013 million and 75 billion Luxembourg francs, respectively. 80 per cent of Luxembourg's imports come from the Old Continent. Machinery, metals, transportation equipment, and mineral products are the main imports and the estimated values in 1993 were respectively 41 billion, 37 billion, 36 billion, and 33 billion Luxembourg francs⁴⁰.

b. The Trade Balance

Table 1 describes the current balance of payments on Luxembourg's goods and services. As is clear from this, the trade balance for goods in Luxembourg is in deficit, which is compensated for by exports from the service sector, which serves as a principal axis of the financial sector⁴¹.

Luxembourg's trade balance has always been in deficit since the 1970s. The main reasons for this are dependence on foreign countries for energy, increasing imports of intermediate goods, and a three-fold increase in household expenditure. The change in Luxembourg's economy has contributed to this tendency. A large amount of initial investment was required for most of the service industries. Importing capital goods was especially needed. Furthermore, in the process of production of services, tangible goods were required as mediation for trade of intermediate consumption or services, and they were purchased from foreign countries. Imports of capital and intermediate goods were recorded in the trade balance, but sales in the third sector were recorded in the services balance.

Therefore, the trade balance for goods has always been in the red, and the service sector is filled with black figures. In recent years, the deficit in the trade balance has fundamentally been made up from revenue surpluses gained from banking services. For example, in 2001 trade in goods for Luxembourg showed a deficit of €2,691 million, but services achieved a surplus of €6,960 million⁴².

40) http://statec.gouvernement.lu/html_en/statistiques/portrait_economique/index.html

41) According to Banque centrale du Luxembourg, the value of trade deficit is €3,275.4 million in 2001 (http://www.bcl.lu/html/fr/menu_statistics.html)

42) "OECD Main Economic Indicators November 2002", 2002, p. 151.

Table 1 Current balance of payments

							LF billion	
	Average 1990-93	1994	1995	1996	1997 ¹	1997 S1 ¹	1998 S1 ¹	
Current balance of payments	95.0	90.8	84.8	87.0	74.1	33.9	32.3	
As a per cent of GDP	23.7	18.2	16.3	15.9	12.6			
Goods and services								
Goods	-55.7	-58.7	-46.9	-51.9	-66.3	-32.4	-29.0	
Exports	209.1	216.6	272.4	259.9	308.5	143.1	167.0	
Imports	264.8	275.3	319.3	311.8	374.8	175.5	196.0	
Services	39.7	46.1	69.2	76.6	82.8	46.3	42.0	
Exports	95.7	121.7	246.1	283.5	334.9	160.3	183.1	
Imports	56.0	75.6	176.9	206.9	252.1	114.0	141.1	
Income (net)	119.3	115.4	80.9	77.7	74.5	29.3	27.3	
Compensation of employees	-22.4	-37.5	-43.1	-48.8	-56.0	-26.3	-30.2	
Investment income ²	141.7	152.9	124.0	126.5	130.5	55.6	57.5	
Current transfers (net)	-8.3	-12.0	-18.4	-15.4	-16.9	-9.3	-8.0	
General government	-4.5	-8.0	-3.9	-0.8	-1.5	-2.1	-2.0	
Other sectors	-3.8	-4.0	-14.5	-14.6	-15.4	-7.2	-6.0	

1. Provisional figures. 2. Without reinvested earnings.

[source] *OECD Economic Surveys 1999 Belgium/Luxembourg*, p. 125

(7) Population Employment Problem

a. Population

The population of Luxembourg was 338,500 on January 1, 1970. It increased to 406,600 on January 1, 1995. Of the 68,100 increase, natural increase accounted for only 8,100 and the other 60,000 were immigrants.

The natural mortality rate in Luxembourg was higher than the birthrate. The birthrate of 30.39‰ in 1900 fell to 13.71‰ in 1998. For this reason, the population native to Luxembourg fell from 277,340 in 1971 to 257,650 in 1988⁴³⁾. The naturalization (acquiring of Luxembourg nationality) of 15,133 foreigners in the last 17 years recovered the status quo. The declining birthrate has led to an aged population. Only immigration from foreign countries has mitigated this trend. In 2001 the total population of Luxembourg was about 440,000 and the number who were not Luxembourg nationals was around 37%⁴⁴⁾.

Foreign residents in Luxembourg are predominantly European. They may be roughly classified into three types. First there are those working in factories, work places, and construction sites, who are primarily Italian and Portuguese. Next, there are EU government officials who work in such EU organizations as the European Community, and accounted for 13% to 14% of foreign residents in 1990. Finally, there are workers in financial institutions. Their ratio presumably will continue to

43) Jean Langres, "La Croissance démographique: faits et analyss", in Statec, *L'économie Luxembourgeois au 20e siècle Luxembourgeois*, p. 191.

44) Statec 2002.

increase in the future. The proportion of foreign nationals in the population was less than 20% in 1970, but has increased to more than 30% at present. In 1991, 70% of the population had Luxembourg nationality, 10.2% were Portuguese, 5.0% Italians, and 3.4% French. The Portuguese population is large. Unlike EU organization staff, who tend not to associate with local people, the Portuguese and Italians are more likely to assimilate into Luxembourg society.

The number of people more than 80 years old has doubled over the last 25 years to reach a population of 13,000. This is 3.3% of the total population. The aging of the population in Luxembourg is accelerating. However, as already stated, it is balanced by an inflow of immigration. This may be more correctly characterized as an influx of foreign workers. There is especially significant immigration into the labor force in the 20 to 59-year-old age group. This age group has an approximate population total of 230,000, making up 57.3% of the total population. The Luxembourg economy can no longer function without foreign workers⁴⁵⁾.

When the composition of the population in 1998 is examined, it is found that the proportion of 30 to 49-year-old people was very high, while the proportion of 24-year-olds or less was extremely low⁴⁶⁾. This is a contrast to the perfect bell curve observed around 1900. The population of the labor force should decrease quickly if this trend continues. However, there will probably be a compensating effect from immigration. A potential consequence of this happening is that the proportion of residents with Luxembourg nationality would drastically decrease, and I cannot but suggest that this will inevitably become a serious problem for the future of Luxembourg.

b. Employment

There were 46,300 new jobs recorded between 1985 and 1994 in Luxembourg. It can be concluded that there was commensurate economic growth. As previously indicated, foreign workers are indispensable to Luxembourg's economy. More than 50% of those working in Luxembourg are foreigners. Nearly 25% of the domestic workers in Luxembourg entered the country since 1994. They consist of 5% German, 12% French, and 8% Belgian. Foreign residents increased to 28% over this period and only 47% of these residents have taken Luxembourg nationality. Increasing the number of foreign workers, immigration, and cross-border workers has fulfilled an increase in demand for domestic workers over the past 25 years. Cross-border workers showed a growth of 218% from 16,000 in 1985 to 51,300 in 1994⁴⁷⁾. The total number of workers in Luxembourg was approximately 160,000 in 1980, increasing to 220,000 in 1996. There was a 75% increase in the number of cross-border workers in the total workforce⁴⁸⁾.

The unemployment rate in Luxembourg is low compared with the other 15 EU nations. It was 1.4% in 1991, 2.1% in 1993, and 3.0% in 1995 and the average unemployment rates for the EU-15 during the same period were respectively, 8.3%, 10.9%, and 10.9%. In 2001, unemployment rate in Luxembourg was 2.4% and the rate for the EU-15 was 7.8%⁴⁹⁾. Since the 1960s, Luxembourg's

45) http://statec.gouvernement.lu/html_en/statistiques/portrait_economique/index.html

46) Langeres, *art. cit.*, p. 200.

47) http://statec.gouvernement.lu/html_en/statistiques/portrait_economique/index.html

48) *OECD Economic Surveys, Belgium/Luxembourg*, pp. 118–119.

Table 2 Labour force participation rates (resident population)

(%)

Age groups	1981				1991			
	Luxembourg men	Foreign men	Luxembourg women	Foreign women	Luxembourg men	Foreign men	Luxembourg women	Foreign women
15-64	79.0	89.4	38.0	48.2	75.4	84.6	42.5	54.4
15-19	43.5	52.9	42.6	47.8	26.7	34.9	22.9	30.6
20-24	79.8	87.2	71.5	67.8	71.8	82.6	71.1	71.0
25-29	94.4	97.3	57.2	59.6	92.9	96.2	68.3	68.5
30-34	98.0	98.9	43.0	51.4	97.1	97.7	53.6	62.2
35-39	98.2	98.9	38.2	49.4	97.7	98.1	51.1	60.8
40-44	97.2	98.4	34.4	43.4	96.6	97.3	48.1	58.6
45-49	95.5	97.3	28.3	36.9	94.5	95.4	40.4	52.9
50-54	89.7	91.5	24.2	31.3	85.7	86.8	30.6	39.5
55-59	49.5	74.2	18.9	25.7	52.0	64.4	18.4	25.6
60-64	25.3	50.2	12.0	15.3	16.8	31.3	8.7	13.3

[source] http://statec.gouvernement.lu/html_en/statistiques/portrait_economique/index.html

unemployment rate has been the lowest among the EU-15⁵⁰⁾.

The number of workers in the construction and engineering-works industries increased, but it fell in the manufacturing industry. The greatest increase in the number of workers was seen in the service sector where 89,300 were engaged in 1980. This increased to 138,800 in 1993. There was an increase in the number of workers employed in financial institutions, insurance and real estate agencies⁵¹⁾.

As shown in Table 2, the labor force participation rate for Luxembourg residents is increasing in the 15 to 64-year-old female group, but decreasing in the corresponding male group. A decline in the ratio of 15 to 19-year-olds in the labor force may also be due to an extension of education. An especially high ratio of females in the labor force can be seen in the 25 to 29-year-old age group. This tendency is especially significant for females with Luxembourg nationality. The reason the ratio of those over 55 years old in the labor force declines significantly may be due to early retirement. In the steel industry especially, because there is an early retirement system more people tend to retire when relatively young than in other sectors⁵²⁾.

5. Concluding Remarks

Luxembourg has become one of the most affluent countries in Europe through the development of

49) Facts about Luxembourg.

50) http://statec.gouvernement.lu/html_en/statistiques/portrait_economique/index.html

51) http://statec.gouvernement.lu/html_en/statistiques/portrait_economique/index.html

52) http://statec.gouvernement.lu/html_en/statistiques/portrait_economique/index.html

financial business. It is thought that this has been possible because Luxembourg adapted most successfully to the emergence of the borderless society. Luxembourg has eliminated the frame called a border and by this it has been developing. It became possible because it is a small country.

Of course, there are still occasional problems in the economy of Luxembourg. Probably the greatest problem is immigration. In order to continue to develop as it has been, Luxembourg must continue to accept workers from foreign countries. If their number exceeds the population of Luxembourg nationals, and if the differences in wages are too great, a significant rebound could occur inevitably.

It will be impossible to maintain differences in wages within a single market such as the EU. Wage differences in the EU-15 would soon disappear. Luxembourg has the highest wages in Europe and is the wealthiest country. If economic integration progresses, how long can this be maintained? Luxembourg became fundamentally a borderless economic nation more than other countries. Since it is a small country, it has been able to do so. Even for other countries, however, it is possible to replicate something of what Luxembourg has achieved. There is a possibility, therefore, for Luxembourg to lose the source of its wealth, especially if market integration continues. The greatest long-term consideration for Luxembourg is to hammer out a policy that can solve this problem. It will become most important for it to harness the advantage of being a small country, which can rapidly move through planning and execution of policies to bring about change in economic systems.

ルクセンブルグ経済（1973–2001年） ——鉄鋼業から金融経済への移行を中心に——

玉 木 俊 明

本稿の主旨は、1973年から2001年にかけてのルクセンブルグ経済発展の過程を明らかにし、この国が直面している経済的課題を提示することにある。1973年の第一次石油危機の影響で、ルクセンブルグ経済の構造は劇的に変わった。第一に、工業部門での多様化がおこり、第二に、より重要なことだが、金融部門、特に銀行業・投資信託・証券取引所の重要性が増大したことである。

ルクセンブルグ経済が抱える問題点の一つは、人口問題である。ルクセンブルグでの出生率が低下し、それを移民の増加で補っている。しかしもし彼らの間の賃金格差が増大すれば、大きな反発は避けられないであろう。