

European Commission
Directorate-General for Economic and Financial Affairs
Economic Policy Committee

**Efficiency and effectiveness of public
expenditure
on tertiary education in the EU**

**ANNEX : COUNTRY FICHE
LUXEMBOURG**

**Joint Report by the Economic Policy Committee
(Quality of Public Finances)
and the Directorate-General for Economic and Financial Affairs**

Table of contents

- Brief characterization of the tertiary education system 3**
 - 1. *Main features*..... 3
 - 2. *Structure of institutions and funding arrangements*..... 5
 - 3. *System's strengths and weaknesses* 6
- Explanatory factors for efficiency 7**
 - 1. *Staff Policy* 7
 - 1.1. *Hiring/Firing*..... 7
 - 1.2. *Wages* 7
 - 2. *Output flexibility*..... 7
 - 2.1. *Course content and exams* 7
 - 2.2. *Offer of short studies and other diversifies studies* 8
 - 2.3. *Student choice* 8
 - 2.4. *Numerus clausus* 9
 - 2.5. *Regional/ European/ global mobility* 9
 - 3. *Evaluation* 10
 - 3.1. *Institutional evaluation*..... 10
 - 4. *Funding rules* 11
 - 4.1. *Public funding* 11
 - 4.2. *Impact of quality assessments on funding*..... 12
 - 4.3. *Private funding* 12
 - 4.3.1. *Tuition fees and/or households* 12
 - 4.3.2. *Business, other* 12
 - 4.3.3. *Grants/loans*..... 12
 - 5. *Impact on Employability* 12
 - 6. *Recent and planned reforms of the tertiary education system* 13
 - 6.1. *Description of recent reforms*..... 13
 - 6.2. *Planned reforms (or reference to ongoing policy debate)* 13

Brief characterization of the tertiary education system

1. Main features

Traditionally Luxembourg did not have a university until the creation of the “Université du Luxembourg” in 2003. This entails that Luxembourg’s students were trained abroad and article 23 of the Constitution stipulates: “Chacun est libre de faire ses études dans le Grand-Duché ou à l’étranger et de fréquenter les universités de son choix, sauf les dispositions de la loi sur les conditions d’admission aux emplois et à l’exercice de certaines professions »(17 octobre 1868). The freedom to choose a university of one’s predilection became a constitutional right at a time when the creation of universities was very much linked to the concept of nation-building. This still exerts its influence today since despite the existence of the University of Luxembourg the majority of Luxembourg students continue to be trained and educated at foreign institutions. The tertiary education system in Luxembourg does therefore not cater exclusively for the educational need of its own population, but it is one that is highly open and international.

The system is organized as follows:

- a short cycle of a duration of two years and a volume of 120 – 135 ECTS credit points and with the mission of providing vocational training linked to level 5 of the European Qualifications Framework, the award being “brevet de technicien supérieur, BTS)
- first cycle university programmes with a volume ranging between 180 – 240 ECTS credit points and linked to level 6 of the EQF, second cycle university programmes with a volume ranging between 60 – 120 ECTS credit points and linked to level 7 of the EQF and third cycle university programmes of a three to four-year duration linked to level 8 of the EQF. The awards are: “bachelor académique” and “bachelor professionnel” (1st cycle), “master académique”, “master professionnel” (2nd cycle) and “doctotorat” (3rd cycle).

The tertiary education sector has four schools providing short cycle programmes and one university. Foreign providers have entered into cooperative agreements with two Professional Chambers (Chambre de Commerce, Chambre des Salariés) and one public research institute (Centre de recherché public Henri-Tudor) to run several master programmes.

The short cycle was reformed in 2009. The rationale behind the reform is to anchor this short cycle more firmly in the higher education sector thereby giving more students access to higher education. Moreover, upskilling the future labour force is necessary in an economic environment in which 55% of the jobs newly created in the last ten years require a qualification awarded within tertiary education.

Some key figures 2008

1. Luxembourg student population by nationality and residence:	8356
2. University of Luxembourg	
1.1. student population:	4137
2.2. student population by nationality:	
• Luxembourg:	2052 (49,6%)
• French, German, Portuguese, Belgian	1394 (33.7%)
2.3. Number of degrees awarded	1251
2.4. budget	71 298 993.99€
• of which government lump sum financing	59 604 273.58€
2.5. Number of staff:	653
• of which professor and associate professors	165
• of which post-docs and doctoral candidates	137
2.6. Research capacity in full time equivalent:	223.9 (2009 figure)
2.7. Number of teaching hours organized	60 948
number of ECTS	4220
2. Financial aid for students	
3.1. Number of aids granted	8077
3.2. Grants	12 314 360€
3.3. Loans	48 678 840€
• subsidized interest rates:	9 537 431€
4. tertiary education graduates - 2007	
4.1. Percentage of persons with tertiary education	
age group 25 – 34	35.7% (29.9% EU-27)
age group 35 – 44	27.3% (24.8% EU-27)
age group 45 – 64	20.7% (19.4% EU-27)
4.2. Unemployment rate of people aged 20-34, high educational attainment 2003-2007 cumulated:	5.0% (7.1% EU-27)

2. Structure of institutions and funding arrangements

Short cycle: This type of training is organised in lycées, which are public administrative bodies. The sector is regulated by law and implementation is regulated through by-laws (règlement grand-ducal; règlement ministériel). The main objective is vocational training in a field of study that builds upon general secondary education. The knowledge, skills and competences gained provide an underpinning for a specialised area requiring informed knowledge as well as creative and independent responses in projects related to that area of specialisation. The programmes are designed and run in close cooperation between the relevant business sector and the school. Business involvement is f.i. required in the teaching of the programme.

The University of Luxembourg is a private government-dependent institution (établissement public). Its mission is to be a research led university and among the founding principles multilingualism, interdisciplinarity and internationalization feature prominently.

The university is a university with a board composed of seven external members, three of whom have a business/NGO background in Luxembourg and four of whom have an academic background. The board is appointed by the government. The board appoints the rector (CEO) of the university. The board also hears the university rector, a student representative and a staff representative, all of whom attend the meetings with an advisory voice. Finally, a government commissioner also sits on the board with an advisory voice.

The board oversees the strategic orientation of the university, the latter's financing and appoints the senior management as well as the senior members of staff.

The university is managed by the "rectorat", composed of the university rector, three vice-rectors and one administrative executive.

Student and staff representatives (academic and administrative) sit on the university council. As an "établissement public", the university has complete scientific, pedagogical, administrative and financial autonomy. The staff contracts are private law ones.

In terms of financing, public funding is by lump sum.

The University structure is a matrix with three faculties and three interdisciplinary centres. The three faculties are:

- Faculty of Science, Technology and Communication
- Faculty of Law, Economics and Finance
- Faculty of Humanities, Arts and Education

Two interdisciplinary centres have been set up:

- IC Security, Reliability and Trust (in information systems)
- IC Biomedicine

Foreign providers run master programmes in the field of commerce, health and administration.

3. System's strengths and weaknesses

The institutional set-up of the University is characterized by a high degree of autonomy including the responsibility of the institution to set wages both individually and collectively and to include an incentive scheme. Certain salaries contain incentive schemes and bonuses that make up to 25% of the overall salary. This flexibility makes the University an attractive place for academics with a high reputation since salaries and bonuses can be fixed on an individual basis.

The revenues generated from the commercial exploitation of a patent owned by the University of Luxembourg are shared as follows: 50% of the gross revenue generated by the direct exploitation of the patent to the inventor, 50% of the gross revenue to the university.

Moreover, the workload can be adapted. Generally speaking, the research part accounts for 50%, the teaching part for 40% (180 -210 teaching hours per academic year including preparation and setting exams) and the administrative part for 10% of the yearly workload of an academic. These shares can be individually adjusted.

The academic staff can be hired for either positions as “assistant professeur” (associate professor) or professor. For both positions, Phds, peer reviewed articles are necessary.

The intermediate positions are filled by doctoral candidates, who have a labour contract, and post docs.

This leads to a highly international university in terms of its staff, which is echoed by an international student body.

The University, which was only created in 2003, is still a young university so that it is still in a phase of development. However, the creation of the university has enriched the country’s research landscape especially linking research to education. The OECD Review of Innovation Policy in Luxembourg (2007) formulated an overall assessment of and recommendations for the research and innovation policy. It states for example that “the university should be encouraged to play its full role in the development of industry-science relationships to avoid a drift towards blue-sky projects with low social returns” (pp12/13). The university has responded on the one hand by putting into place professor chairs sponsored by industry and

on the other hand by engaging in a biotech/biomedicine project on personalised medicine including the creation of a biobank foundation. This project is worth 140M€ over a five-year period added to the lump sum funding of the university and other public research institutes.

Explanatory factors for efficiency

1. Staff Policy

1.1. Hiring/Firing

The lycées providing short cycle vocational training abide by the rules and regulations of the civil service as far as their permanent staff is concerned. External staff has a private law contract.

Within the framework of general labour law, the University has complete autonomy in terms of personnel policy. For each person hired it defines the nature and duration of the contract. It also decides about dismissing personnel. Private labour law regulations entail that two types of contract can be concluded: a fixed term contract, meaning a period of up to 5 years and non renewable as well as a permanent contract. The translation of directive 2005/71/CE of October 12, 2005 into Luxembourg law regulates Non- EU immigration of researchers into Luxembourg and is an essential tool for the internationalization of the University.

1.2. Wages

For the lycées, the civil service pay scheme is applied. External staff receive a fee for each service rendered (teaching, student evaluation, etc); the fee is regulated by a by-law (règlement grand-ducal ou règlement du gouvernement en conseil).

The university has complete autonomy to set wages.

Private operators determine the wages and fees they pay.

2. Output flexibility

2.1. Course content and exams

The short cycle programmes run by the lycées are subject to ex ante accreditation. The course content has to be defined together with the economic or NGO sector concerned by the programme. It also has to match the qualification profile of the specialisation concerned. In the case of the regulated professions like the training of nurses responsible for general care or midwives the course content is to a large extent regulated by the directive 2005/36/CE on the

recognition of professional qualifications. Moreover, as far as the design of the course is concerned, the latter has to be defined in terms of learning outcomes categorized into knowledge, skills and competence. Apart from these provisos, the lycées are free to determine the content.

The University of Luxembourg has the degree awarding power and as such has the autonomy to define and determine the areas referred to in the question. There is no provision for state exams in the Luxembourg system. The definition and presentation of the study programmes and the courses are laid out in terms of learning outcomes (knowledge, skills and competence).

2.2. Offer of short studies and other diversifies studies

cf above The short cycle is part of tertiary education.

2.3. Student choice

All study programmes are modularized and besides the definition in terms of learning outcomes, each module is also defined in terms of student workload and is therefore weighted according to the ECTS (European Credit Transfer System) system. This holds true for the short cycle as well as for the university programmes. Flexibility is achieved through this modular organization, which also caters for the needs of part-time learners. The latter have a specific status. Professional experience is recognized for admission to study programmes and can lead to exemption from certain modules or even total exemption.

Optional modules can be offered in various programmes, but there is no fixed rule or regulation as to whether this has to be the case.

The figure for the first year enrolment is not available. However, 13,7% of the students enrolled at an institution of tertiary education in Luxembourg are part-time students.

Adult students, being defined as adults aged 30 or over, are represented as follows at the University of Luxembourg:

bachelor programmes :	3,7 % (relative weight of bachelor programmes: 60% of students)
master programmes :	28,6% (relative weight of master programmes: 16,2% of overall student enrolment)
doctoral programmes :	37,2% (relative weight of master programmes: 6,0%)
other programmes :	27,9% (relative weight of other programmes: 17,8%)

Lifelong learning is an area under development in tertiary education.

The entry road for students over 25 years of age and without formal qualifications is through recognition of prior learning, formal, non formal and informal. The system of RPL is defined as “validation des acquis de l’expérience”.

The university offers a number of non consecutive master programmes which do not necessarily require a bachelor degree in the same discipline.

It is mainly through recognition of prior learning that admission through non traditional is granted.

2.4. Numerus clausus

Numerus clausus falls under the autonomy provision of the institutions.

Institutions decide on whether numerus clausus is applicable for which programmes and what the admission criteria are.

2.5. Regional/ European/ global mobility

Outgoing mobility: based on the criterion of nationality, out of a total of 8745 students (source: number of students on the financial aid system) 2235 (25,5%) are enrolled in an institution in Luxembourg and 6510 (74,4%) are enrolled in an institution outside Luxembourg.

Incoming mobility: based on the criterion of nationality 49,6% (2008) of the students enrolled at the University of Luxembourg are Luxembourg passport holders.

The following figures describe the situation at the University of Luxembourg: out of a total enrolment of 4934 students (2009) 422 (8,5%) have moved house/flat to study in Luxembourg.

University of Luxembourg:	new enrolments 2009/10:	49,7%
	bachelor programmes 2009/10:	25,2%

Short cycle programmes:	49,1%
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The procedure of recognition of diplomas must not take longer than 6 weeks. Recognition is free of charge.

Nationality and/or the country where qualifications were awarded are no criteria for the hiring of staff. There is automatic recognition.

University of Luxembourg: During the first cycle (bachelor level) student mobility is compulsory for the equivalent of 30ECTS credits (one semester of full time study abroad). On average, 24.5 credits are recognized on return. The system is based on agreements between the University of Luxembourg and partner institutions.

The University also awards joint degrees.

3. Evaluation

3.1. Institutional evaluation

Short cycle: Each programme has to undergo ex ante accreditation. This procedure is carried out by an external committee composed of 3 “accreditors” from international agencies (Switzerland, France and UK-Scotland) and 3 representatives from Luxembourg economic sectors (employers and employees). The committee bases its decision on reports by expert groups, the composition of which has to include a student. The lycée applying for accreditation has to produce a self evaluation report. The accreditation procedure also includes a site visit.

The University of Luxembourg: Internal quality assurance is the responsibility of the institution. External evaluation which is based on a self evaluation report covers teaching, research and administration. The report contains both an assessment of the teaching programmes and of research expressed by a four-point grading scale (AA, A, B, C) as well as recommendations to support its further development. The main objectives of this external evaluation are functional improvement and robust accountability.

The external evaluation is the main responsibility of a Committee for external evaluation composed of experts from various international QA agencies (France, Belgium-Flemish community UK-Scotland and EUA-European University Association) as well as a student and a further stakeholder. The Committee sets up specific expert panels for the evaluation of the teaching programmes and the research units; these expert panels are composed of a Committee member chairing the panel, two international experts and one PhD student and supported by a Higher Education Quality assurance professional functioning as an academic secretary. The area of Organisation and Management is evaluated by the Committee itself. Besides the self assessment report of each unit and the Committee and the panels gather further information during in-situ visits; moreover, students, staff or others from the academic community involved in a unit can ask to be heard in private meetings with the panel.

Private programmes are subject to ex ante accreditation.

Student evaluation of teaching programmes is being introduced.

The final reports are publicly available. The external evaluation report is also presented to Parliament.

Accreditation decisions are valid for a five-year period.

The external evaluation of the University is carried out every four years with a midterm review of the progress made while implementing the recommendations formulated in the report.

4. Funding rules

4.1. Public funding

University of Luxembourg: As far as public funding is concerned, the University is financed by a yearly lump sum allowance determined by a contract of four-year duration between the Government and the University.

Lump sum funding:

period 2005 – 2009: 31.24M€ ⇒ 72.21M€

period 2010 – 2013: 82.90M€ ⇒ 119.00 M€

Personnel

2009: staff : 588 permanent contracts of which 313 academic staff /students: 4635 (June 2009)

2013: staff : 929 permanent contracts of which 539 academic staff/ students : 5400

The four-year contract contains a series of performance indicators:

- teacher/student ratio; overall number of modules to be organized
- research output: number of publications in peer reviewed journals – impact index: number of citations; number of patents and licences; number of published PhDs; participation in European research programmes (FP7 or ERC grants)

University of Luxembourg: Research funding is determined by:

- the research output of academic staff expressed in “full time equivalent researcher”:
2009: 305.3 ⇒ 2013 : 410,1 (1 fte = 1760/hours/year // 1 professor = 50% research, 40% teaching, 10% administration/ doctoral student + post-doc: 80% research, etc)
- external and competitive funding: 2009: 13.04M€⇒ 2013: 23.00M€
- externally funded professoral chairs: 2009: 3 ⇒ 2013: 6

4.2. Impact of quality assessments on funding

Accreditation of programmes: If a programme is not accredited, there is no funding.

External evaluation of the university: The impact on funding is an indirect one, since the University has to respond to the recommendations issued by the committee for external evaluation, which in turn can influence the definition of the performance indicators.

4.3. Private funding

4.3.1. Tuition fees and/or households

Tuition fees are 100€par semester. For some master programmes tuition fees can be higher. Tuition fees account for 1.87% in the overall university budget.

4.3.2. Business, other

External funding: 2009: 14.1% (13.04M€) ⇒ 2013: 16,5% (23.00M€). This corresponds to a 76% increase.

4.3.3. Grants/loans

A means tested financial aid is available to students in the form of grants and loans, the share of the grant increasing and the share of the loan decreasing for students from lower socio-economic backgrounds. Furthermore the interest rate to be paid on the loan is subsidized by the State. The financial aid is fully portable.

Moreover, there is an incentive scheme for students obtaining their degree/diploma within the official course duration.

5. Impact on Employability

- percentage of persons aged 25 – 34 with tertiary education (ISCED 5-6), 2007 : 38% ;
- proportion of people aged 25 -34 with tertiary education and employed in ISCO 1 and 2 (legislators, senior officials, managers and professionals) or in ISCO 3 (technicians and associate professionals), 2007 : 98% ;
- percentage of economically active tertiary education graduates aged 20-34 in employment, 2003 .-2007 : 95% ;
- Recent graduates are more affected by unemployment than those who graduated at least three years ago. Recent graduates have an unemployment rate four to five times higher and being recently graduated is especially impeding for women.

Short cycle: The learning outcomes of each programme have to be defined together with representatives from the economic sector concerned. Each programme has to have a stage or traineeship of at least 228 hours within the two-year duration of the programme.

Students concerned: 100%

University of Luxembourg: For some programmes in commerce and in finance the university relies on either steering committees composed of university staff and representatives from the sector or has created buffer organizations together with the sectors concerned.

Students concerned: figure not available

The programmes are defined in terms of learning outcomes with relevance for the employability of the degree holders.

A job fair with around 100 participating firms is organized yearly.

6. Recent and planned reforms of the tertiary education system

6.1. Description of recent reforms

The main reforms were carried out in 2003 by the creation of the university and in 2009 by the reform of the short cycle in tertiary education and accreditation procedures for both the short cycle and transborder education. The period 2009 – 2014 is based on implementation.

The role of the ministry has changed over the decade, from an administrative body it has evolved into a body that defines the overall framework and the main strategic goals.

6.2. Planned reforms (or reference to ongoing policy debate)

The main challenge for Luxembourg higher education is to attract more young people from underprivileged socio-economic background into higher education.