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1 Executive Summary

Pensions

During the upcoming decades, the pensions system in Luxembourg, which currently still looks extremely wealthy, will be challenged by a significant burden of an ageing population combined with retirement of many cross-border workers, the large influx of whom was long seen as the guarantor of continuous economic growth. By taking into account the effects of the current pension reform, the government estimates the expenditures for pensions as a share of GDP to rise from 7% in the 2012 period to 10.5% in 2060.

The last reform, which took effect as of January 2013, has come up with many valuable structural modifications to curb the unavoidable cost escalation. Wage and price indices have perceptively been mitigated and the lump-sum element of the pension formula been given much more weight. Overall these parametric measures are the financial cornerstone of the pension reform and will lead to a lowering of the replacement rate by almost 8% in 2052. Furthermore, the maintenance of the generous minimum pension provisions and the new concession to continue or retroactively buy pension periods underpins the continuous value of both inter-generational and cross-generational solidarity.

Other burning issues, however, such as curbing early retirement, increasing the effective retirement age and linking it to life expectancy remained almost untouched. Furthermore, the reform passed over many opportunities to attribute a more important role to the highly underdeveloped second and third pension tiers.

All in all, the 2012 pension reform has definitely paved the way in the right direction. In order to make the achievements more tangible at a faster pace, a further reform will have to follow in the upcoming years, i.e. much before the current one has reached its halfway point.

Health Care

Based on the principle of universal coverage, the Luxembourgish health care system offers a comprehensive package of health services with hardly any co-payments. Contribution to health insurance is mandatory for all economically active persons. A considerable share of persons covered by the national health insurance are not actually living in Luxembourg, which is beneficial to the social security system as it tempers the demographic trend.

The law of 17 December 2010 marked the beginning of the reform of the health care sector, aiming at a better quality of health, better flow of precise and valid health information, and incorporating austerity measures. The reform was introduced to counteract the increasing costs of the health system, temper the economic crisis and help to better manage the challenges facing the health care system.

System innovations and new tools were determined, such as the selection of an appropriate national classification for health interventions. The newly established e-health agency plans to launch a shared digital patient file. The recently introduced benefit-in-kind model for persons in financially difficult situations protects the most vulnerable persons and thus improves access to health care. The primary care physician model was introduced with a particular focus on the seriously or chronically ill and the older population. So far, it refrains from any measure to restrict direct access to specialists and from any noticeable financial incentives for patients.

Overall, the health system provides good quality services. The question remains for how long the system can perform at such a high level of benefits, and maintain its main characteristic feature of a social security protection scheme built on a one-tier health care system. Health expenditure is still increasing at a faster pace than real GDP growth and, according to latest forecasts, the national health insurance will risk slipping into deficit as of 2015. In the light of the transposition of Directive 2011/24/EU on the application of patients' rights in cross-border healthcare, it becomes central that the new medical documentation system will soon put an end to the lack of transparency and valid data on health performance. Likewise, a way needs to be found of involving the liberal medical professionals, who enjoy complete therapeutic liberty, in hospitals' strategic changes and in cost-containment efforts.

Hence, once the 2010 health care reform bears fruit, further well-targeted alterations are absolutely vital. Great challenges such as demographic change and the handling of costly technologies have not yet been sufficiently tackled.

Long-term Care

The long-term care insurance was introduced in 1999 as a separate pillar of the social security scheme and compensates for costs which occur when a third person's help is needed for activities of daily living. That law established priority for rehabilitation, at-home care and in-kind services over long-term care, institutional care and cash benefits respectively. It also put emphasis on continuity in the provision of long-term care.

Affiliation to the long-term care insurance is mandatory and access to continuous insurance benefits is guaranteed from the first day of membership without almost any co-payment. Contributions to the long-term care insurance have to be paid at a rate of 1.4% on all earnings without any upper threshold. This feature is unique in Europe and remains in contrast to the other social security branches (pension, health). The expenses for long-term care are expected to increase from 1% currently to 2.8 – 4.8% of GDP in 2060. The long-term care insurance is expected to be in deficit by 2016 unless the contribution rate is gradually raised to 1.7%.

There are no problems of access to long-term care benefits. The government provides means-tested financial support for those residents of nursing homes and integrated homes for the elderly who do not have sufficient revenue of their own. Beneficiaries cared for at home can receive all care services that they are entitled to from professional carers (in-kind services) or subcontract a certain number of hours per week to informal caregivers of their choice.

Thanks to positive net migration over recent decades, Luxembourg enjoys a comparably moderate old-age dependency ratio. However, the share of the elderly population will rise, accompanied by a decrease in the working population. As a result, the old-age dependency ratio will more than double by 2060 and the constant positive net migration might come to an end. This will have major implications on the demand for and provision of long-term care.

Whereas access to long-term care services is equitably guaranteed, the scope and quality assessment of services and in particular the long-term sustainability of the system requires some restructuring. A reform of the long-term care insurance system is planned for 2014, which might bring changes to the financing of long-term care and introduce uniform documentation standards to allow quality evaluations.

2 Pensions

2.1 System description

2.1.1 Major reforms that shaped the current system[1]

The Luxembourg pension system is based on Bismarckian-style mandatory insurance and began with the introduction of the law of 6 May 1911 with an exclusive system for industrial workers in full accordance with the international trends and requirements of that time. It expanded gradually. By 1964, when coverage was extended to self-employed persons, universal coverage was reached. Another 20 years later the four different private sector schemes were harmonised. Finally, in 2009, the implementation of a uniform social security status brought equal rights for the previous distinct groups of workers and employees under one employment status. Today, almost all residents belong as of their first economic activity to the universal pension system. Based on the European Regulation 883/2004/EC on the coordination of social security systems this holds also true for cross-border workers with a workplace in Luxembourg. In 2010, the latter group represented 45% of all insured persons under the public pension system.[2] Only civil servants, public employees at national and commune level and those employed by the national railway (CFL) are affiliated to separate schemes, although as of 1999 these apply the same rules as the general system. People employed by international organisations, such as the EU, do not participate in the Luxembourg pension system.

Over the last 50 years, the pension system has been subject to numerous reforms, of which a selection is presented as follows:

- Adjustment of pension benefits to the real wage level (1967)
- Enabling and modification of retroactive purchase of pension periods (1969, 1999)
- Definition and gradual raising of a minimum pension (1972-1980, 2002)
- Early retirement as of the age of 60 (1980) and 57 (1991) respectively
- Life-time earnings as the basis for calculation of pension benefits (1988)
- Introduction of the pension formula based on the two major benefit components, lump-sum and accrual rate (1991, 2002)
- Definition of conditions for staggered increases of the accrual rate (2002)
- Introduction of end-of-year allowance (2002)

The latest major pension reform dates back to the year 2002, the so-called *Rentendësch*, which was characterised by generous increases in pension benefits: the accrual rates for proportional and lump-sum benefits were raised, an end-of-year allowance and a special pension allowance for child-rearing (the "*Mammarent*") were introduced, and minimum pensions were raised by 7%. The level of the latter was made applicable for both pension and widow's benefits. From 1987 to 2002, the system experienced a 33% rise in benefits.[3]

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1 Government of the Grand-Duchy of Luxembourg 2012, 6-7.
2 Frontier workers are affiliated to the body of the country in which they work, while residing in another EU country. Source of data: IGSS 2012.
3 Luxemburger Wort 2013, 6.

As regards the financing of pensions, the contribution rate, to be covered in equal terms by employers and employees, was gradually raised from its original (pre-1964) level of 10% of gross salary up to a certain threshold to a final level of 16% as of 1976, since when it has been kept stable. However, the state contributes another 8% of gross salary to each pension. The latter measure, introduced in 1985, replaced the former covering of special benefits by the state, such as the lump-sum component of the pension benefits or the supplement to reach the minimum pension.

2.1.2 System characteristics

The public pension system in Luxembourg is divided into a general scheme for private sector employees and the self-employed as well as a special scheme for civil servants and other public sector employees. Both systems are organised as pay-as-you-go (PAYG) systems and, together, cover the whole of economically active society on a mandatory basis. Pension benefits are provided to the insured based on the length and accumulated amount of lifetime contributions. In addition, the system grants survivors' and invalidity benefits. The civil servants' scheme, despite being harmonised with the general scheme as regards contributions and determination of benefits, is still kept separate.

The financial model of the public pension system is based on a contribution rate which is always fixed for a period of ten years, and a reserve fund of a minimum 1.5 times annual expenditure. For the current period from 2013 to 2022, the contribution rate of 24% (stable value since 1976) of gross salaries has again been confirmed, and has to be paid in equal shares of 8% by employers, employees and the state.

Pension benefits accrue from both the length of contribution periods and the accumulated lifetime amount[4]. They are composed of two major shares, a proportional share as the accrual rate of the contributable life-time earnings, and a lump-sum, expressed as percentage of a reference amount, depending on the years of contributions. The reference amount equals the weighted cost-of-living index relative to the base year, 1948[5]. For a full pension career of 40 years, today's reference amount is more or less similar to the national minimum income.

Furthermore, pension benefits are linked to two indices, a consumer-price and a wage index. Price-linking happens automatically as pensions directly follow increases in the consumer-price index. If the six-monthly cost-of-living index exceeds the price index for the preceding period by 2.5%, an index-linked increase is made to pensions, at least once a year. The last automatic adjustment of the price index became effective from 1 October 2013 (+2.5%). Although not part of the 2012 pension reform, the law of 31 January 2012[6] temporarily modified the price index mechanisms for the period until 2014. It introduced a fixed interval of 12 months for any subsequent adjustment without compensating for any loss resulting from omitting intermediate adjustments. The measure has already led to the postponement of two index tranches in 2012.

General wage indexation is usually done bi-annually by means of a specific law. The wage index application to the pension benefits is added to the price index, but calculated by a separate procedure. It consists of two different instruments that both take into account the

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[4] Accrued benefit rights also encompass periods of involuntary unemployment and temporary work-incapacity due to illness and accidents.

[5] The price index uses 1948 as the base year (Art. 222 CSS). Its nominal value as of 1 October 2013 is EUR 775.15. MSS 2013a.

[6] Law of 31 January 2012, Memorial A16, 224.

weighted average annual wage development in relation to its base year 1984.[7] For the calculation of a pension at the year of entrance into retirement, the wage development related factor (revalorisation factor) from four years ago will be applied. Annual adjustments afterwards (adjustment factor) follow the annual rate of change of the revalorisation factor between the penultimate and the ultimate year. A full application of the latter equals a factor of 1 and is applied conditionally to the financial performance of the pension system. Once the balance between revenues and expenditures of the pension system turns negative, the adjustment factor can be abolished or applied to a reduced rate of maximum 0.5%.

The pension system guarantees a minimum pension of 90% of the above-mentioned reference amount for the calculation of pensions where 40 eligible pension years have been completed, or a proportion of that amount otherwise.[8] This minimum pension (of which the maximum amount equals EUR 1,703 in October 2013) is paid for an insurance career of at least 20 years, but then proportionally reduced by 1/40 for each missing year below 40. In 2011, the average gross pension amounted to EUR 2,042 per month for men and EUR 1,342 for women. These figures are somewhat misleading, as almost 50% of pensions represent partial pensions that are subject to international transfers according to European social security coordination under Regulation 883/2004/EC. In comparison, for the same year, the average gross pension of male residents was equal to EUR 3,214 per month. [9]

In order to become eligible for a pension at the legal retirement age of 65, a minimum of 10 contributable years have to be met. Early retirement is possible from the age of 60 by fulfilling a total of 40 pension or eligible years with a minimum of 10 mandatory insurance years. As soon as the professional career amounts to the minimum of 40 mandatory pension insurance years, a person can already qualify for early retirement from the age of 57.

In periods of unemployment, the benefits are subject to pension contributions, of which two-thirds are paid by the state and one-third by the beneficiary. The unemployment period is included in the qualifying periods. Baby-years are also credited as insured time, counting towards the qualifying period, with two years for one and four years for four children. Pensionable earnings are based on pay immediately before the baby years. Employees who could not claim baby-years due to an insufficient contribution period have the right to a special monthly allowance in retirement, the so-called “Mammarent”, of EUR 87 per child, which is only granted from the age of 65.[10]

Over recent decades, Luxembourg has enjoyed a period of continuous economic growth, which, along with a relatively young population based on a large influx of cross-border workers, has built a very solid economic basis for the pension fund. By the end of 2011 the pension system was able to accumulate a large reserve of 3.7 times yearly expenditure, which equalled 36.8% of GDP.[11]

The second and third pension tiers play an increasing but still marginal role in Luxembourg. Based on an estimated overall contributory amount, in 2011, of EUR 4,053 million to all pension systems together[12], the public system alone represents 90.70% of all pension

[7] Wage indices of pensions use a different base year (1984) (Art. 220, No. 6 CSS) than the one applied for adjustment to price developments (1948) For the year 2013, the revalorisation factor is at 1.405. MSS 2013a.

[8] Art. 223 of the Social Security Code (CSS).

[9] IGSS 2012, 191-192.

[10] Law of 16 December 2010, Memorial A236, 3909; MSS 2013a.

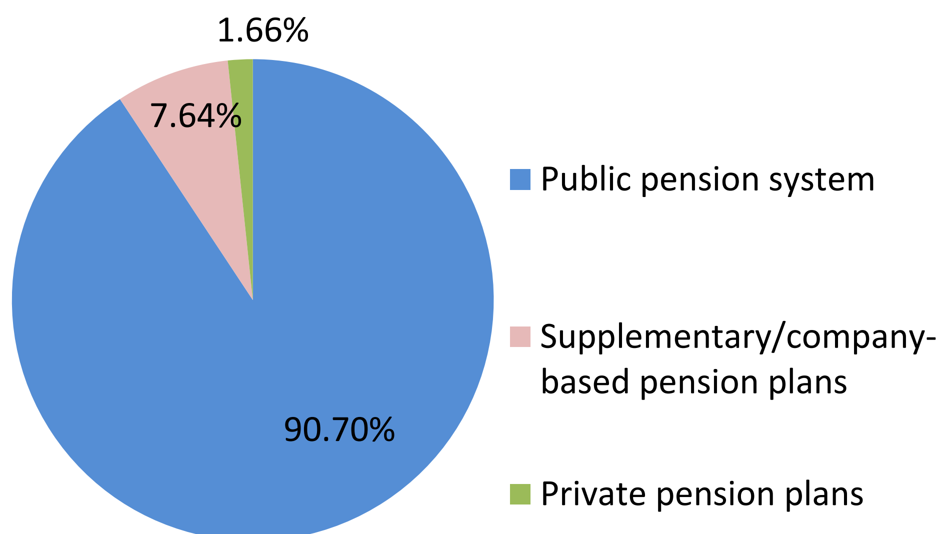
[11] MSS 2013, 43; IGSS 2012.

[12] MSS 2013, 43+73; Commissariat aux Assurances, 2012; own calculation. The public system includes both the general public pension system and the special civil servant scheme. As any information for the second tier

payments, followed by the supplementary company-based pension plan with 7.64%. Almost exclusively, the latter are provided by group insurance policies. Direct pension commitments and pension funds play only a marginal role.

Particular tax-favoured private pension regimes as the third pension tier enjoy a constant increase. With a total of 1.66% of all annual pension contributions to all pension tiers together they remain insignificantly low. Still, these products only represent 8% of all premiums collected for life-insurance products in Luxembourg.[13]

Figure 1: Annual contributions in 2011 to the different tiers



2.1.3 Details on recent reforms

The 2012 pension reform particularly focused on a slight reshaping of the underlying parameters of the pension formula with a very long transition period of 40 years. In 2013, the pension system has just reached the first year of implementation of the reform and, thus, still largely corresponds to the pension system prior to the reform.

The pension formula is composed of two major constituents:

1) Lump-sum (accrual rate on the national minimum income):

   a) The major part of the one-off amount of an old-age pension is granted in form of a percentage of the national minimum income. For a complete period of 40 years of acquired pension entitlements (contributable and recognised non-contributable pension periods, such as studies, child-raising, etc.) the currently applied value is at 23.61%.

is only available for 2003, the increase in contributions between 2003 and 2011 has been set equivalent to the increase in the number of supplementary pension plans, a method that is also used by Wictor 2009.

[13] Art. 111bis of the modified law on income tax of 4 December 1967; Commissariat aux Assurances, 2012, 127. As a significant number of the Luxembourg-written life-insurance contracts either represent risk life-insurance or are taken out with Luxembourg-based investment funds, the use of total amount of written life-insurance premiums would represent a misleading picture.

b) The second part of the lump-sum amount, the so-called end-of-year allowance, carries much less weight. It is paid at a value of EUR 1.67 (at index 100) per year of acquired pension entitlements. In October 2013, after price and wage indexation, this share amounts to a monthly sum of EUR 60.63 for a full career of 40 years.[14] The reform made this allowance conditional upon a contribution rate of maximum 24%.[15]

2) Accrual rate of life-time earnings:

a) This accrual rate, expressed as a percentage of the sum of lifetime contributable wages and/or income, is currently set at 1.844%, but will gradually be lowered to 1.6% between now and 2052.

b) Persons with a long pension career may benefit from additional, staggered increases in the accrual rate, if in sum their pension entry age and the years of career surpasses a specific threshold of years, which is currently set at 93 years. Above this threshold, the accrual rate will increase by 0.01 percentage point for each additional year.

Table 1: Pension formula

	Component	**Before 2013 (old pension system)**	**After 2052 (fully implemente d reform)**	**Example: October 2013[16]**	
				(current value)	**<u>Amount per month</u> for 40 pensionable years (€) at the age of 60**
1.	**Lump sum (with 40 recognised pensionable years)**				
1.a.	% of minimum income	23.5 %	28 %	23.613 %	446.84 €
1.b.	End-of-year allowance (annually/ index 100[1948]*index 100[1984])	€ 1.67	€ 1.67 (conditional)	€ 1.67 (annually/ subject to price and wage index)	60.63 €
2.	**Accrual rate of life-time earnings:**				
2.a.	General accrual rate (% of life-time salaries)	1.85 %	1.6 %	1.844 %	1,538.17 € (at constant minimum income level over 40 years)
2.b.	Increase of accrual rate (in % points per year), *if sum of pension entry age and years of career surpasses the defined threshold*	0.01 93	0.025 100	0.011 93	64.23 € (for 7 years) 60age+40y= 100 100-93 = 7

Furthermore, the reform opens a new window of opportunity to voluntarily continue the affiliation to the pension insurance or retroactively buy missing insurance periods due to career breaks for child-raising phases beyond the legal parental leave, periods spent caring for elderly relatives and other reasons that led to the loss of pension insurance obligation. For a maximum of five years the minimum contribution base of (usually) the national minimum salary can be lowered to one-third of this amount. This will allow the acquisition of additional

[14] MSS 2013a.
[15] Art. 219bis, No. 1 CSS.
[16] Source: IGSS; MSS 2013b, own calculations.

pension periods for a monthly contribution of approximately EUR 100. The measure as such is not all new, but the minimum contributions were previously set at EUR 300 per month, which exceeded the financial capacities of many. The amendment in particular targets women, who are still shouldering the major burden of child-rearing and caring for dependents and, thus, obtain pensions of half the level of men's, on average.[17]

As another more administrative measure of the recent pension reform, the contribution determining period has just been extended from 7 years previously to 10 years now. As countermeasure, however, it requires intermediate actuarial analyses to be conducted every five years. If any such medium-term actuarial report comes to the conclusion that the financial equilibrium up to the end of the next five-year-period can no longer be guaranteed, it will result in immediate adjustments of the contribution rate, to be adopted for another 10-year period.[18]

2.2 Assessment of strengths and weaknesses

2.2.1 Adequacy

The 2012 reform maintained the generous minimum pension provision, which grants at least 90% of the reference amount (leading to a monthly minimum pension of EUR 1,703 as of 1st October 2013) for a full pension career and thus underpins inter-generational and cross-generational solidarity. The same generosity applies to everyone who has completed or exceeded the minimum number of 20 pensionable years, in which case the minimum pension level will likewise be reduced proportionally. Survivors' pensions are subject to the same minimum levels.

This principle of solidarity is further nourished by the new measure that targets those affiliates who are faced with an interruption of their professional career and consequently adds another stipulation in favour of vulnerable pensioners. Periods of caring for children or older relatives as well as investment in further studies are prime examples of such situations. The measure allows people for a maximum of five years to continue contributing to the pension fund on a voluntary basis at the minimum level of one-third of minimum income (which equals a monthly contribution of around EUR 100). Although having no increasing impact on the future pension level, the periods of continuously paid basic contribution payments will account for the qualifying period necessary in order to fulfil eligibility criteria for a minimum or an early pension respectively.

In general, Luxembourg pensioners are in a very favourable situation as regards any risk of impoverishment. In 2011, the at-risk-of-poverty rate for the population aged 65+, at only 4.7%, was on the EU baseline and more than three-fourths below the EU-27 average (20.5%).[19] Other factors influencing this exceptional situation are a guaranteed minimum income of EUR 1,348 (as of October 2013) if not enough pension rights are acquired, a yearly tax credit of EUR 300 which applies equally to the elderly, and the compulsory membership of the social security system which avoids penalising the self-employed or people with interrupted careers or other career insecurities. Furthermore, long-term care insurance grants generous long-term care benefits with almost no co-payments.

[17] MSS 2013b.
[18] Article 238 of the Social Security Code (CSS).
[19] Eurostat 2013 [ilc_peps01]

The gross average replacement rate of 78.3% for public pensions in general[20] and 87% for an average-earner retiring after a 40-year contribution period (both 2010 figures) places Luxembourg together with Italy, Greece and the Netherlands at the top end of all EU countries[21] at a significant distance from the neighbouring countries France (49%), Germany and Belgium (both 42%). By including the voluntary private pension strands, the two latter reach 59% and 58% respectively. The OECD indicator “Gross pension wealth by earnings” expresses the total amount of pensions received over the pension period in relation to the gross average annual income during the professional career. According to this indicator, a Luxembourg average-earner receives a total pension income of 21.2 times the average of his gross annual salary during his professional career. Comparisons with the EU 27 average (10.2 times), France (9.3), Germany (7.7) and Belgium (6.8) require no further explanations.[22]

These challenges as regards the comparatively high replacement rate were very cautiously addressed by the 2012 pension reform. The moderate reduction of the accrual rate to 1.6% of life-time contributable earnings is only implemented on a quasi-voluntary basis as it can be fully compensated by postponing the retirement age by three years. The reduction will, at least for the better-off, only have narrow-reaching financial consequences and its use is likely to be influenced much more by future labour market opportunities for the elderly than by economic reasons.

In addition, the OECD (2011) underscores the huge gap between the effective and official retirement age (65 years). It shows Luxembourg, with a men’s effective retirement age of 57.3 years, at the bottom end of OECD countries.[23,24]

Considering early retirement pensions before the age of 65, studies reveal that almost 90% of men and women are early retirees. In 2010, the employment rate of workers aged 55-64 years at only 40% was at the bottom end of the EU.[25] Several incentives aimed at the voluntary extension of professional careers, which were introduced by the 2002 pension reform, have not shown the expected results.[26] The latest pension reform embarks on that form of incentive to grant staggered additional pro-rata points of the accrual rate for every additional working year in old age. It is, however, highly debatable whether the current extra 0.011 percentage point (and the future extra 0.025 point per additional year of service in 2052) provide sufficient economic incentives to stimulate postponement of the exit from employment after

[20] European Union 2012, 336. The aggregate replacement ratio measures the difference between gross retirement benefits and gross earnings. It is defined as the median individual gross pension of those aged 65 to 74 relative to median individual gross earnings of those aged 50 to 59, excluding other social benefits; it is expressed in percentage terms; this data is collected as part of the EU’s statistics on income and living conditions (EU-SILC).

[21] OECD 2011a, 129-135. European Union 2012. 336.

[22] OECD 2011a, 143.

[23] OECD 2011a. http://dx.doi.org/10.1787/888932381836, Sheet Data SS4.02, Luxembourg (women): 58; OECD average: 63.9 (men) and 62.4 (women).

[24] In contrast, life expectancy increased and evolved for women from 80.7 years in 2001 to 83.6 years in 2011 and for men from 75.1 to 78.5 years respectively. Thus, in only ten years, it climbed by 3 years for women and 3.5 years for men, which is among the highest increase in Europe (OECD Health Data 2013). Eurostat projections for 2060 anticipate a further increase of 5 years for women and 11 years for men (Eurostat EUROPOP 2010) [proj_10c2150a].

[25] European Union 2012, 73 +423.

[26] Beneficiaries of an early retirement pension may continue to engage in a salaried or non-salaried activity as long as the sum of pension and additional income earned over one calendar year does not exceed the average contributable income of the five most favourite income years, whereas 150% of the minimum income is defined as the lowest threshold. Otherwise, the additional income will reduce the early retirement pension accordingly (Article 226 CSS). For self-employed the threshold of additional income is set at one third of the minimum income (Art. 184 CSS). As of the statutory retirement age these thresholds do not apply any more.

full pension rights have been accumulated. Likewise, as the thresholds for penalising additional earnings during early retirement have significantly been expanded, it remains to be seen whether such supplementary earning will become more popular. In 2009, only around 10% of the pensioners below 65 received supplementary income from an additional job.[27]

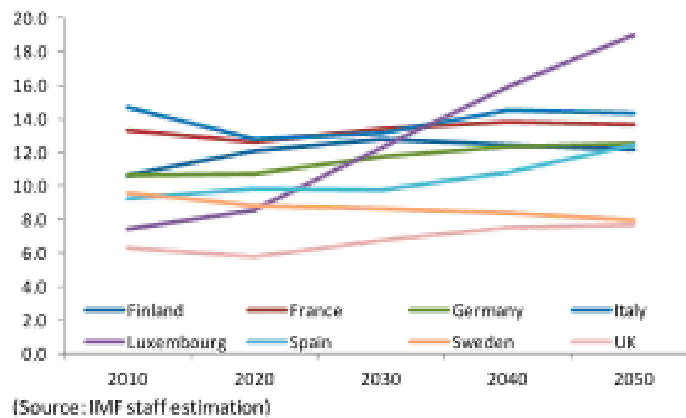
2.2.2 Sustainability

As good as the economic situation of the elderly in Luxembourg might sound, the drawback of this comfortable situation for today's elderly is that the long-term sustainability of the pension system is far from being secured. As of 2022, the combination of demographic and structural changes will bring the sustainability of the Luxembourg pension system into a really precarious situation. By then, the effects of labour-induced immigration and cross-border commuting will attain a high level of maturity. It will fall together with a significant increase in number of pensioners as well as the transfer of pensions outside Luxembourg, as the group of cross-border workers starts to retire en masse. Thus, the balance of current revenues and expenses will also turn negative and as of 2029, the currently huge reserve is expected to fall below the minimum level of 1.5 times annual contributions.

Costs associated with the ageing of the population will also put pressure on the sustainability of public finances of the Grand Duchy of Luxembourg.[28] In case increased contributions are necessary, it remains questionable whether the government will be able to enlarge its already considerable financial participation proportionally. The ageing population will create not only a new burden for the pension system, but will also result in significant rises in expenditure for health and nursing care, both also depending on public co-funding. By taking into account the current pension reform, the weight of the expenditures on pensions as a percentage of GDP is estimated to rise from 7% in the 2012 period to 10.5% in 2060.[29]

According to both EU and IMF estimates, over the next 40 years the system is challenged by the highest increase in pension expenditures in the EU (from below 10% in 2010 to 18.6% in 2060 (see figure 2)[30]. These scenarios are projected based on constant legislation without the 2012 reform.

Figure 2: Projected pension expenditure by IMF (in % of GDP)



Whereas the pension reform was based on the underlying assumptions of constant economic growth of annually 3% over the whole reference period of 40 years and for labour growth 1.5% respectively[31], the Government's mid-term macroeconomic forecasts do not confirm these optimistic trends at all. GDP is expected to increase by 1% in 2013, 2.2% in 2014, 1.7% in 2015 and 3.4% in 2016.[32] This discrepancy puts the achievement of the sustainability objective of the pension reform at highest risk.

27 Luxemburger Wort 2011.
28 MF 2013, 25-27.
29 MF 2013, 25.
30 IMF 2012, 15. European Union 2012, 101.
31 Government of the Grand-Duchy of Luxembourg 2012, 43.
32 MF 2013, 6.

Certainly, the reform has introduced a number of valuable mechanisms, which will allow consistent countermeasures as soon as a precarious financial situation emerges.

a) Mitigation of the price index: as mentioned above, the price index mechanism has temporarily been modified for the period from 2012 until 2014[33] and introduced a minimum span of 12 months for any subsequent adjustment. Despite the affirmation by the Prime Minister of re-establishing the original index mechanism in 2015[34], it is absolutely possible that this temporary measure of index deceleration will become a permanent solution.

b) Refinement and delimitation of the wage index: while the revalorisation mechanisms remain unchanged against previous legislation, the readjustment factor will be made subject to the overall situation of the pension system.

c) Giving more weight to the lump-sum element of the pension formula: in the pension formula, the lump-sum represents the baseline level of a pension and is calculated as a percentage of the minimum income. The measure, which will be particularly beneficial for low-income earners, provides for upgrading this part from currently 23.5% in 2012 to 28% in 2052. As a countermeasure over the same period, the accrual rate of the life-time contributable wages will be lowered from 1.85 to 1.6. Furthermore, additional working time after the age of 60 and 40 contributable pension years will still be compensated with further pro-rata enhancement, but will gradually be downrated from currently 0.1 to 0.025 supplementary percentage points to the accrual rate in 2052.

Overall these parametric measures are the financial cornerstone of the pension reform and the reason for lowering the replacement rate by almost 8% in 2052. It is absolutely incomprehensible why such a long transitional period is necessary.

In contrast, the reform still adds incentives to enter retirement at an early stage. For additional earnings during early retirement, the annual exemption limits are significantly increased. 1.5 times the minimum salary is set as the minimum and the average of the five highest contributable income years as the maximum. After reaching the legal retirement age of 65, no upper level exists any more. The measure as such also has its strengths, as it stops penalising paid work in old age up to a certain level, and excludes such revenues to further expand the pension level.

With the prospect of reducing early retirement, however, the measure actually sets perverse incentives. The potential additional earnings in parallel will, at least for a certain time, overcompensate for the advantages of a later pro-rata enhancement of the individual pension. Thus, a mini-job in parallel to the pension might be more attractive than full-time employment in old age. If it was this effect the legislator intended to promote, then the measure should have been applied quite differently. In order to encourage people to remain at work or to seek a supplementary income during early retirement, the early retirement pension (until the legal pension age is reached) could have been reduced by, for instance, a half or a third of the additional earning level, assuming that an early pensioner is by default seeking a limited additional income, of which a certain minimum will be considered as a necessity. In such a scenario, this measure could have contributed to achieving both the promotion of additional earnings and the voluntary postponement of retirement.

33 Law of 31 January 2012, Memorial A16, 224.
34 Juncker, 2013, 9.

2.2.3 Private pensions

The privately managed pension system differentiates between a supplementary company based pension scheme (second tier) established by private undertakings for a certain category of employees, and private pension plans (third tier) offered on an individual basis by financial institutions.

The legal framework of the law of 8 June 1999 puts the various company-based supplementary pension regimes to be covered by insolvency insurance or a pension security fund in order to guarantee the vested rights of the pension fund members. Contributions for supplementary pension benefits stem from taxed income, and hence are not subject to taxation but are tax deductible up to an annual amount of EUR 1,200.

Private pension plans are offered as financial products to individuals. They are governed by Art. 111bis of the Income Tax Law of 11 December 2002 and the Grand-Ducal regulation of 25 July 2002. They enable everyone to take out complementary pension provision to supplement the state pension system, and allow tax deduction on an amount of income between EUR 1,500 und EUR 3,200 per year depending on the age of the policy holder. Benefits are paid from the age of 60 at the earliest. The beneficiary can opt to receive up to a 50% share of the accumulated savings as a lump-sum capital payment. The remaining part is paid in the form of an annuity. 50% of both capital and annuity benefits are taxable at the time of their receipt. The tax concessions offered for private pension plans are by far the major incentive to join, and thus to supplement the public pension. However, the public system is neither subject to any restrictions nor has it declined in efficiency; privately managed pensions have neither become very popular nor are they considered financially substantial.

More than ten years after the introduction of the specific regulations, the complementary private savings of second and third tiers still play a marginal role in the Luxembourg landscape of pensions. Both strands together still represent less than 10% of annual contributions. Thus, there is ample room for measures aiming at the enhancement of private pension plans to increase pension income. Therefore and to make the respective tax advantages accessible for all economic active people, the promotion of complementary private savings should be high on the government's agenda. An important step in this direction might be to enlarge the second tier pension scheme for those population groups for which no such offer yet exists (civil servants, self-employed). Such a plan was already part of the last government programme 2009-2014.[35]

In view of the upcoming "portability directive"[36] the Law of 8 June 1999 as regards the complementary pension regimes will, in any case, require a certain number of amendments. Whereas the Art. 4 of the current text of the Draft Directive stipulates that a maximum of combined periods of vesting and/or waiting periods shall not exceed three years for outgoing workers, the corresponding Art. 9 of the Luxembourgish Law of 8 June 1999 demands a minimum of 10 years. Indeed, a substantial shortening of this time period has been discussed for many years, but is finally expected to be introduced with the transposition of the proposed Directive. This will give the opportunity also to implement access to the second-tier pension scheme to persons who are currently not covered, and to adjust the level of tax deduction for both employers and employees, which has so far remained unchanged since 2000 when this specific law entered into force.

[35] Government of the Grand-Duchy of Luxembourg, 2009, 125.

[36] Draft Directive of the European Parliament and of the Council on minimum requirements for enhancing worker mobility by improving the acquisition and preservation of supplementary pension rights" (2005/0214).

Property ownership is another form of private saving for old age and contributes greatly to social cohesion. In Luxembourg, a large percentage of people are private property-owners. Studies revealed that the risk of descending into poverty (threshold: 60% below average disposable income) related to housing is estimated to be more than three times higher for citizens living in rented properties (29.4% in 2009) compared to those living in their own property (70.1%). For the particular group aged 65+ the shares are 16% and 84% respectively.[37]

2.2.4 Summary

The latest pension reform introduced as of January 2013 by Law of 21 December 2012 has come up with many valuable structural modifications with a great potential. Other burning issues, however, such as curbing early retirement, increasing the effective retirement age and linking it to life expectancy (as part of CSR No. 3 2013 for Luxembourg)[38] remained almost untouched. Indeed, the very modest parametric measures bank on a (rather unlikely) voluntary commitment by employees to mend their ways by staying at work in exchange for the prospect of a pension a few euros higher. To this point, the argumentation of the legislator remains quite opaque.[39] The pension reform with its relatively moderate measures to voluntarily increase the retirement age by three years in order to safeguard, for the individual, the same pension level compared to the existing pension formula, absolutely perpetuates the configuration of the well-established system. In the future, those persons who claim their rights of early retirement at the age of 60 will then experience a reduction in the level of their pensions of around 7.7%.[40] Furthermore, the maintenance of the generous minimum pension provisions and the new concession to continue or retroactively buy pension periods underpins the continuous value of both inter-generational and cross-generational solidarity.

In spite of this, one might worry whether the reform gives an appropriate answer to the future burden that the future expenses for pensions will entail. Admittedly, some reform measures, in particular, the conditionality of some provision upon the financial performance of the system, such as the wage index and the end-of-year allocation, send out the right messages and will help to keep the supplementary public budget participation to the pension system under better control.

It is regrettable that the government omitted to take the opportunity of the reform to change the eligibility criteria for early pensions. Even after the reform, people who have completed 40 contributable years can continue to leave the labour market at the age of 57 (or at 60, if some of these years are non-contributory complementary pension periods, such as education or child-caring time). The lowering of the pro-rata enhancement for working periods after having completed the qualifying 40 pensionable years for early retirement may be interpreted by this target group as disincentive for extending working life.

Furthermore, the reform left aside many opportunities to attribute a more important role to the highly underdeveloped second and third pension tiers. It would have been good, as announced by the last governmental programme, to widen the well-accepted but unfortunately only inconsistently implemented second tier to all employment sectors, including public services and the self-employed. Such systemic change could have gradually replaced the public pension benefits at their outer edge with a newly defined second pension pillar.

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[37] Zahlen 2011, 2.
[38] Council of the European Union 2013.
[39] Government of the Grand-Duchy of Luxembourg 2012.
[40] BCL 2012, 32.

All in all, the 2012 pension reform has definitely paved the way in the right direction. In order to make the achievements more tangible at a faster pace, a further reform will have to follow in the upcoming years, i.e. before the current one has reached its halfway point.

2.3 Reform debates

The recent pension reform was introduced as of January 2013 by the law of 21 December 2012 and represents a significant paradigm shift against the former legislation. For the first time, the pension level tends to decline. This measure is combined with some marginal incentives to postpone retirement age for three years in order to safeguard the individual's pension at the same level as prior to the reform. Due to the extremely long period scheduled for the gradual implementation of this reform, it will hardly show any measurable effects within the Europe 2020 time horizon. The full reduction of an individual pension will only take effect as of the year 2052. Even by then, the reform approach continues to enable the individual to compensate these moderate financial losses of pension benefits by means of a voluntary three-year extension of working life.

Furthermore, due to the very high comparative pension level in Luxembourg, this gradual reduction will, at least for the better-off, only show minor financial consequences. It is therefore unlikely that by 2020 a substantial number of older employees will postpone retirement for financial reasons. Labour market opportunities and overall job satisfaction might be much more influential. Consequently, one may conclude that by and large, the reform perpetuates the shape and configuration of the well-established system. It is, therefore, difficult to comprehend this reform as a real answer neither to the CSR of 2012 nor to the one of 2013 due to its almost impalpable impact on current retirement practice in the short and medium term.

One of the new proposals to further limit early exit from the labour market is to abolish the so-called "pre-retirement based on solidarity"[41]. It is one particular form of pre-retirement which allows employees to leave the labour market three years prior to meeting the eligible criteria for an early retirement. The employee can apply for this form of pre-retirement no earlier than the age of 57. As a second pre-requisite, the employer needs to provide proof of having hired (a) new employee(s) as compensation in order to receive a reimbursement of 70% of all costs related to the pre-retirement payment by the state out of the National Employment Fund. Against the background of a 35% government subsidy that employers can claim for continuing training activities of employees above the age of 35, the call for abolition of this type of pre-retirement appears to be reasonable and proportionate. The government´s participation to guarantee life-long training of elderly employees amounts to EUR 40 million per year.[42] There is, indeed, no justification for continuing to subsidise pre-retirement, too, for the same group of people.

The system on work incapacity has a high impact on the pension system. Under current legislation, people with partly reduced work capacity who are unable to continue a job for their previous employer are consigned to the job market for one year as virtually "disabled unemployed". With barely any chance of being placed again, after one year the great majority is then entitled to receive a so-called "waiting allowance" at the level of the invalidity pension, which will later be replaced by an old-age pension. In March 2013, the Government introduced a bill to restructure this system[43]. As of 2014, the reform bill foresees the replacement of this "waiting allowance", which in addition many Member States refuse to

[41] Juncker, 2013, 12. Government of the Grand-Duchy of Luxembourg 2013, 13.
[42] Juncker, 2013, 20.
[43] Government of the Grand-Duchy of Luxembourg 2013a.

recognise for purposes of cross-border cooperation in social security, with a "professional allowance". The latter will then be considered as a "prolonged" unemployment allowance and be calculated in a similar way. The costs will be shared half and half between the National Employment Fund and the Pension Fund. For future old-age pensions, only the amount of the allowance will be taken into account, not the earnings from the previous employed position.

In addition, the bill proposes a greater involvement of the occupational health service in identifying and iteratively confirming the work incapacity of the employee and also in accelerating the necessary administrative procedures. A substantial expansion of the medical staff of the occupational health service will be a necessary consequence. The pension system will definitely gain from this reform as the less generous conditions are expected to lead to a substantial decrease in the work incapacity of the active population aged 50 and above.

To sum up, the pension reform has introduced many valuable structural elements with great potential to achieve the intended effects of the reform at a faster pace. Their ability to shape the process towards a more tangible achievement of the CSR will nevertheless require the initiation of subsequent reforms. Such a scenario, however, is very much dependent on the outcome of the parliamentary election in October 2013. Prior to the previous reform, the current director of the pension fund proposed the implementation of a so-called sustainability coefficient into the pension formula[44], which in the end was not upheld. It is possible that in the upcoming years, his worthwhile idea may be revisited.

At this point in time, a closer examination of the various party programmes might illuminate what can be expected in respect to the pension strand: both parties of the ruling coalition (CSV and LSAP) seem very satisfied with the merits of the last reform. Their programmes do not contain any visionary concepts on how to better cope with the enormous financial challenges of the pension systems. The two opposition parties (DP and dei Greng) are considerably more forthcoming. As to be expected, the liberal DP favours more self-responsibility and thus the expansion of the second and third pension tiers. It also stands for the individualisation of pension rights to bring to an end the inequalities caused by non-sharing of acquired pension rights during marriage in case of divorce. Such a bill was deposited for the first time in 2003 (dossier no. 5155), but to this day lacks any solution that is able to gain a majority vote in parliament.[45] With respect to the pension system, the Greens' programme ressembles the one of the DP. The decisive difference to the other parties is to be seen in a changed financing model, which envisages collecting premiums from more types of income than wages alone. Such a concept is already in place for long-term care insurance. Unsurprisingly, during the electoral campaign, none of the political parties dares to come up with a concept on how to reduce in a socially acceptable manner the generous pensions benefits of the current pensioners and those entering this status in the near and mid future.

By an in-depth analysis of the social transfers in Luxembourg published shortly before the 2013 elections, the Chamber of Commerce accused the Government of unfocussed and nontransparent granting of unduly generous social transfers. The analysis takes particular account of those transfers which are directly paid out of the public budget. Such pensions, being largely financed by contributions, were only dealt with marginally. Here, the report only takes offence at the special pension allowance for child-rearing (the "Mammarent").[46] In light of the huge share of social costs (social protection and social transfers) amounting to 47.2% of public expenditure, it is to expected that this report will come under intensive scrutiny by the future Government.

[44] Kieffer 2011, 23-24.
[45] http://www.chd.lu (retrieved on 15/09/2013).
[46] Chambre de Commmerce 2013.

3 Health care

3.1 System description

3.1.1 Major reforms that shaped the current system

Since the beginning of Luxembourg's health care system, the vast majority of medical personnel have been self-employed. Doctors, as today, have mostly been paid by their patients who have been reimbursed by the health insurance funds. By 1925, the social security system had grown in complexity and diversity, and legislation was required to codify the sickness insurance, the accident insurance and the old age/incapacity insurance into one system.

By 1973, the working population, their families, and all pensioners were covered by compulsory health insurance. The insurance was run by 11 sickness funds, to which people were allocated according to their professional group. The level of contributions was set by the individual funds and varied considerably between them. The financial situation of the funds was perilous.

In 1974, legislation was therefore passed to allow up to 40% of the funds' total receipts to come from the state. The 1974 reform also standardised contribution levels across all sickness funds. In 1978, further reforms established an administrative union of the different sickness funds. Negotiation of rates with providers was now undertaken by the Union of Sickness Funds and the year-end deficit of one could be covered by the profit of another. The sickness funds were in financial trouble again by the early 1980s; so legislation in 1983 extended patient co-payment for treatment in an attempt at cost-containment.

Further reform was to follow in 1992. The funds were allowed to continue only as agencies for direct contact with the insured citizen, while all of their responsibilities except the actual administration of reimbursement to members were transferred to the Union of Sickness Funds. The 1992 law also introduced a new financing system for hospitals: each hospital was to negotiate its own individual budget directly with the Union of Sickness Funds. This change came into force in 1995.[47]

Whereas in 1986, there were still 36 hospitals with 4,614 beds for 369,400 inhabitants, in 2009, after several mergers and modernisations, only 13 hospitals with 2,824 beds for a population of 493,500 inhabitants remained[48].

In 2009, the implementation of uniform social security status brought equal rights for the previously distinct groups of manual workers and employees under one single employment status. All sickness funds under the umbrella of the Union of Sickness Funds merged into one single health insurance scheme, the *Caisse national de santé* (CNS). From then on, all employers have had to continue paying wages for up to 13 weeks during sickness leave, which afterwards will be covered by the CNS as so-called benefits-in-cash. In order to cover the employer's risk of the sick-pay obligation, a new mutual insurance fund of employers was established.

[47] European Observatory on Health Care Systems 1999, 5-7.
[48] Ministère de la Santé and CRP Santé 2013, 88.

3.1.2 System characteristics

Based on the principle of universal coverage, the Luxembourgish health care system offers a comprehensive package of health services to both residents and the working population. Contribution to the principal public health insurance CNS is mandatory for all economically active persons (employed, self-employed or recipients of replacement benefits)[49] and further covers family members, as well as minor children and those students in Luxembourg without any other health insurance coverage. Three separate health insurance institutions exist for civil servants and public employees at national and commune level as well as for those employed by the national railway (CFL). Although administered separately, they apply the same contribution and reimbursement rules as the CNS.

The contribution rate to the national health insurance currently amounts to 5.6%[50] of all professional income, which is equally split between employer and employee. Apart from a few exemptions, the minimum income represents the minimum monthly contribution base and five times this sum as maximum (in October 2013: minimum EUR 1,921, maximum EUR 9,605)[51]. For cash benefits (sickness pay as of the 14th week of work incapacity or maternity leave) an additional rate of 0.5 % is due, for which the equal financing rules apply as well. Pensioners, for instance, who cannot take advantage of it, are exempted from this additional contribution. The state contributes substantially at a rate of 40% of all contributions to the financing of health insurance.[52] Prior to the 2010 health care reform, maternity benefits, both in-kind and in-cash, were fully covered by the state. In order to facilitate its integration into the health insurance benefit package, the state contribution was raised to its current level of 40% of contributions and a temporary annual subsidy of EUR 20 million was granted to the CNS. The latter measure will expire at the end of 2013.[53]

Benefits in kind include, amongst others, medical and dental treatment, hospitalisation, medicines, laboratory analyses, paramedical treatment, visual aids, prostheses and palliative care[54]. In- and out-patient medical care is provided via the liberal exercise of the medical profession. Patients can freely choose their doctors, including direct access to specialists. All authorised health care providers must enter into collective contracting with the CNS, which allows them to charge patients according to the national fee schedule for medical acts, the so-called nomenclature. Billing at a discretionary surcharge, as is customary in some other Member States, is thus prevented.

As a general rule, patients have to prepay their medical treatment and apply to the CNS for reimbursement, which according to the services provided amount to 80-100% of the fees set in the nomenclature[55]. The costs covered by the CNS for hospitalisation, medicines, laboratory analyses and physiotherapy are offered as a benefit in kind and require the patient only to pay the non-covered residual to the service provider. Overall the co-payment of statutory health services is limited to 2.5% of the contributable income of the insured.

In Luxembourg, 84% of health spending was funded by public sources in 2009, well above the OECD average of 72%.[56] In 2012, 17% of the working residential population opted for a

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[49] Recipients of replacement benefits refer to sickness, maternity and unemployment, invalidity, old age and survivors' pensions, guaranteed minimum wage etc.

[50] MSS 2013c.

[51] MSS 2013a.

[52] Articles 29-39 CSS.

[53] Art. 14 of Law of 17 December 2010 on the reform of the health care system.

[54] MSS 2013, 19.

[55] CNS 2013, provisions of Title II.

[56] OECD 2013, 2.

complementary private health insurance in order to better cover the costs not reimbursed by the CNS. While the majority of such contracts are concluded with the *Caisse Médico-Chirurgicale Mutualiste (CMCM)*, a non-profit mutual insurance association registered since 1956, private insurance companies enjoy the highest growth rates. Due to the rather comprehensive coverage of the CNS, the market segment for complementary private insurances is quite limited. For example, 12% of ambulatory doctor's bills, 30% of physiotherapy costs and EUR 19.44 per day for hospital stays are not reimbursed by the CNS.[57] The trend towards more private complementary health care coverage is fostered by the bleak scenarios that the insurance predicts for the CNS benefit package and the limited choice of foreign private health care providers in the frame of the European coordination of social security.

The ratio between the number of insured and the resident population is an interesting one. Firstly, only 68% of the population covered by the national health insurance is actually living in Luxembourg, as there are huge numbers of cross-border workers and their family members who have their residence in a neighbouring country but due to their working activity are affiliated to the Luxembourgish health insurance system. This ratio is beneficial to the social security system as it cushions the demographic trend. Secondly, almost 5% of the resident population is not subject to the Luxembourgish social security system, because they work as civil servants for the European Union and are thus affiliated to the EU social security scheme.[58]

In 2011, 6.6% of GDP was spent on health care, which represents EUR 3,048 per insured person[59] (OECD average: EUR 2,385[60]).[61] In 2008, 27% of total health care expenditure could be attributed to inpatient care, 37% to outpatient care and 20% to long-term care.[62]

In 2011, Luxembourg had 3 physicians and 12.1 nurses per 1,000 members of population. Hospital beds amounted to 5.4 per 1,000 members of population in 2010. If by 2020 the Luxembourgish population increases to 578,000 inhabitants (as is predicted by Statec), Luxembourg would only have four hospital beds per 1,000 members of population – the minimum threshold, below which the Health Minister can dictate the establishment of further beds.[63] The number of magnetic resonance imaging units (MRI) increased from one in 2000 to seven in 2011 (14.5 images per 1,000 population).[64]

3.1.3 Details on recent reforms

As regards social protection, Luxembourg is characterised by a period of transition. From the beginning of the financial crisis it became obvious that partial corrections of the structure of the existing pension, health and long-term care systems were absolutely vital.

Introduced by the law of 17 December 2010[65], the health care sector marked the beginning of this restructuring process. Aiming at better quality of health and flow of precise and valid health information, the year 2011 was dedicated to preparing the effective implementation of

[57] Feist 2012b.
[58] The covered resident population by the national health insurance amounts to 488 268 persons in 2011 against 512 400 inhabitants in the same year. IGSS 2012, 36-37; Statec 2013.
[59] OECD (2013). 4,246 USD (adjusted for purchasing power parity); annual average exchange rate for 2011 of USD 1 = EUR 0,7178. www.neded.org/files/international/exchange.pdf.
[60] 3.322 USD
[61] OECD 2013, 1.
[62] OECD 2012, 125.
[63] Feist 2013.
[64] OECD 2013, 2.
[65] Government of the Grand-Duchy of Luxembourg 2010.

the law, maintaining a close and trustworthy collaboration with the major stakeholders concerned. Austerity measures, for instance, were designed in a way that the burden had to be shared. The physicians and laboratories had to accept a moratorium as regards the regular mark-up of their tariffs; for hospital care the annual increase of expenditure was set at a maximum of 3%; and patients were charged with a moderate increase in contributions and co-payments. System innovations and new tools, such as the new function of the primary care physician or the selection of an appropriate national classification for health interventions, as well as the specification of its implementation, were determined in close consultation with the providers.

The health care reform of 2010 and financial measures such as the temporary reduction of the minimum reserve level of the national health insurance were introduced to counteract the increasing costs of the health system, cushion the economic crisis and help to better handle the challenges facing the health care system. After the level of the minimum reserve has almost been halved from 10% to 5.5%, it will gradually be set back to the original value by 2015. In 2013 it amounts to 7.5%[66].

The health care reform of 2010 entailed the following structural changes to the system:

- In July 2012, the primary care physician model as one pillar of the health care reform was put in place. The model foresees that the primary care physician serves as the first point of contact for the patient, regularly follows up on the patient's global medical file, coordinates the required care services and informs the patient correctly. Overall the model shows a particular focus on the seriously or chronically ill and the older population aged 70+. The patient can freely choose the primary care physician among general practitioners, internists, paediatricians or geriatricians. The primary care physician may also be established outside the Grand-Duchy of Luxembourg; however, in that case he cannot benefit from the newly introduced additional acts of establishing and regularly updating the comprehensive (digital) patient file.[67] The remuneration of the newly introduced acts for physicians located in Luxembourg amounts to EUR 97.90 paid semi-annually per patient aged 70+ or with serious or chronic illness and to EUR 55.60 paid annually per patient aged between 18 and 69 years.[68] This is expected to burden the national health insurance with an estimated additional five to six million euros, which according to the Patient Representation Association is still a too low estimation.[69]

  Starting in 2014, the primary care physician will establish a prevention form in addition to the patient's medical file. The prevention forms will be anonymised and statistically evaluated by the public health authorities.[70]

- In the past, persons of low income had difficulties paying their health care expenses and therefore might have postponed or even abstained from certain treatments. This form of discrimination against the poor ended this year with Luxembourg's newly implemented benefit-in-kind model ("tiers payant social"). From January 2013, persons with modest incomes no longer have to advance their health care expenses. The communal social welfare offices certify whether a person is in financial difficulties. This certificate is valid for one year. In these cases medical and dental treatments are paid directly by the

[66] IGSS 2012, 134.
[67] Luxembourg.lu 2012.
[68] Prices from October 2013. Règlement grand-ducal of 21 July 2012, Memorial A151, 1855.
[69] Luxemburger Wort 2012a.
[70] Onofhängege Gewerkschaftsbond Lëtzebuerg 2013.

national health insurance. The patient's own contribution (e.g. 12% for a consultation) is taken over by the communal social welfare offices that reimburse this part of the invoice to the national health insurance. According to Luxembourg's NRP 2013, this new measure will cost EUR 17 million per year and be funded in equal shares by the state and the communes. These costs cover the taking over of the patient's co-payments and costs for the administration of the model.

- A fifth edition of the so-called "*Carte Sanitaire"* has been published in July 2013. This document serves as a decision making tool for the strategic orientation of the Luxembourg hospital sector. It provides information on the existing offer and utilisation of hospital services in general and the level of specialisation for services of national importance. It furthermore informs about the expected demand of services and health personnel based on the projections of the national demography and the health status of the population.[71]
- Another measure of the 2010 health care reform led to the establishment of a centre of medical expertise (*Cellule d'expertise médicale, CEM*) under the authority of the Ministry of Social Security to assess the effectiveness, quality and economic efficiency of selected diagnostic and therapeutic interventions based on scientific evidence. The organisation works by demand of the National Commission on tariffs for health care services. CEM is exclusively funded by public budget and works in close collaboration with specialised national and international organisations and networks in Health Technology Assessment (HTA).[72] Furthermore, it is entrusted with supporting development of the implantation of a new classification for medical procedures (see below).[73]

The following measures are not yet in place but their preparation has advanced strongly in comparison to the previous year. Their effects on the financial situation remain to be seen.

- The new e-health agency, operational since September 2012 and member of the European epSOS[74] project, plans to launch a shared digital patient file to support sharing and exchange of medical information. The file will be created for those patients who have subscribed to a primary care physician. Any physician involved in the patient's treatment and authorised via the patient's consent will then have access to the patient file. This is expected to considerably improve diagnoses and therapies. The patient will also be granted access to his own file within a maximum of 15 days. Data protection and privacy rules are the greatest challenges for the introduction of this new tool.[75]
- The test phase for medication substitution by generic medicines, already announced for 2012, will finally start in 2014. A list has been defined that specifies certain original medicines whose patents have expired and their potential substitutes (generics). The test phase will concentrate on drugs for chronically ill persons and will be limited to medicines such as statins to lower cholesterol levels and medicines for gastric troubles. According to the national health insurance, statins have cost EUR 10.6 million during 2011 and the substitution with cheaper generics would save around EUR 2.6 million per year (at 2012 price levels). Doctors will have six months to prepare their patients for the

[71] Santé.lu 2013a.
[72] EUnetHTA 2013.
[73] MSS 2013, 33-35.
[74] European Patients Smart Open Services (project in the field of eHealth funded by the EU)
[75] Santé.lu 2013.

new situation. It will become the pharmacist's duty to inform the patient that an expensive original drug prescribed by the doctor could be substituted by a cheaper generic drug. However, the national health insurance will reimburse only the cheaper price of the generic.[76] If the patient decides to continue using the original drug, he will have to pay the price difference himself.[77]

As regards drug supply, almost 80% of all drugs paid by the national health insurance are imported from Belgium, and the Luxembourgish retail price is derived directly from the Belgium one, which often lies beneath the European average price. Thus, the Luxembourgish health insurance profits from the fact that the Belgian state sets prices efficiently.[78] Furthermore, a new regulation in Belgium foresees since last year that original drugs have to be reduced in price by 44% after the patent protection has run out.[79]

- A new hospital plan is in preparation, which aims at determining the maximum national number of hospital beds per service and at further streamlining the role of national centres of excellence providing highly-specialised care.[80] This way, not all services will continue to be offered everywhere, thus potentially leading to economies of scale and a higher quality of service. Outpatient surgery is planned to be strengthened in order to reduce hospitalisation periods. Resources in areas such as purchasing or information technology are planned to be pooled, however due to the competition between Luxembourgish hospitals, this process advances only slowly despite the fact that purchasing represents almost a fourth of the costs of the hospitals (EUR 180 million). Improved medical documentation will be introduced for in-patient care based on a new Luxembourg classification system for medical procedures (*Classification commune des actes médicaux luxembourgeoise CCAM-L*), which originally derives from and follows the classification rules of the French CCAM. Further, the documentation of diagnoses (ICD-10) will be refined and thus extended from the current limited use of only three digits to at least four digits. In order to steer the implementation process of the hospital documentation project, a consultative commission has been established by the end of 2012[81]. Analytical accounting and the full cost model are on the way to be introduced in order to determine costs per individual patient (in view of the transposition of Directive 2011/24/EU on the application of patients' rights in cross-border healthcare).
- In May 2013, a National Cancer Registry has been launched. It allows following up on cancer occurrences, their treatments and survival rates of patients. The CRP-Santé (public institute for research in health) has piloted this project together with the Luxembourg hospitals and other key actors in the field of cancer. Beforehand, only a registry of tumour morphology existed, however no extraction of standardised data and therefore no comparison with other countries was possible. The new registry will comprise data from all newly diagnosed and/or newly treated cases of cancer among the resident population as well as the non-resident population as far as they are treated in Luxembourg.[82]

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[76] Règlement grand-ducal du 25 juin 2012 déterminant les modalités de calcul de la base de remboursement des médicaments substituables, Art. 4.
[77] Feist 2013b.
[78] Santé.lu 2013b.
[79] Feist 2013b.
[80] IGSS 2012, 74.
[81] MS/MSS 2013.
[82] National Cancer Registry 2013.

3.2 Assessment of strengths and weaknesses

Luxembourg is one of the countries with the highest life expectancy in Europe (life expectancy at birth lies at 81.1 years in 2011), with women having a higher life expectancy than men (83.3 versus 78.0). Healthy life expectancy lies at the age of 65 and is similar for both men and women. Life expectancy at age 65 amounts to 17.8 years for men and 21.6 years for women in 2011. Healthy life expectancy is nearly the same for men and women: in 2011, men could expect to live, on average, another 11.5 years healthily and women 11.8 years.[83] In 2050, life expectancy at age 65 increases to 20.3 years for men and 24.1 years for women.[84] Death rates lie among the lowest in Europe with 525 deaths per 100,000 population (EU average rate: 663).[85]

3.2.1 Coverage and access to services

Geographical and financial access to services are both very good. The Luxembourgish health care system offers a comprehensive package of health services with hardly any co-payments to both residents and the working population. As described previously, contribution to the only public health insurance is mandatory for all economically active persons (employed, self-employed or recipients of replacement benefits) and also covers family members, as well as minor children and students who are not insured as such. Patients can freely choose their doctors, including direct access to specialists.

The recently introduced benefit in-kind model (tiers-payant social) for persons in financially difficult situations is a suitable measure to protect the most vulnerable persons and to guarantee continuous access to health care, as already the pre-payment for medical services may represent a serious obstacle. However, there is no reason why this model should be reserved to poor patients only who might be exposed to a stigmatising procedure in order to profit from the benefit in-kind system. It is recommendable to gradually extend the instrument to all other groups of people, perhaps starting with the elderly population who are challenged most by the administrative burden of handling invoices and checking reimbursements.

3.2.2 Quality and performance indicators

Overall, the health system provides good quality services. Two studies on patients' experiences with the Luxembourgish health system point to a positive conclusion. This is not surprising when one considers the generous benefit and service package as well as the very modern health infrastructure. Strong sides of the Luxembourg health sector are the universal coverage, generous service offers and a good geographic and financial access. The question remains for how long the system can perform at such a high level of benefits, and maintain its main characteristic feature of a social security protection scheme built on a one-tier health care system.

If implemented as planned, the eHealth platform will have a positive impact on the modernisation of the health system and make a major contribution to the quality of care, as patients' medical information can be shared in a much better way. The security features of the planned system are on a higher level than currently seen in any other country[86].

However, the new *Carte Sanitaire 2012* points out that the Luxembourg health sector still suffers from insufficient instruments for steering and management and a lack of transparency

[83] Statec 2013a, 2.
[84] OECD 2011.
[85] OECD 2012, 21.
[86] Hohmann, Benzschawel 2013.

and valid data. It is therefore crucial to improve documentation standards for diagnoses and treatments[87].

For example, medical documentation does not yet follow international standards. Hospital discharge diagnoses are reported by a three-digit ICD-10 code only. They are not automatically drawn from the patient's file, can be filed with delay and have no relevance for the billing. A classification of medical procedures is just in development and will be tested as of the year 2014.[88].

It is also crucial to find ways in which the liberal medical professionals, who enjoy complete therapeutic liberty, can be involved in strategic changes in hospitals. Currently, it is difficult to enforce new performance strategies and cost containment efforts.

For example, it was not possible politically to stipulate for doctors an annual minimum number of breast cancer surgery cases to remain accredited as a specialist for the national breast cancer programme. An audit from March 2011 of breast cancer diagnoses and treatments has shown that in Luxembourg hospitals there is a great diversity in the modalities of treatment for breast cancer and that the documentation of activities and performances around breast cancer was fragmented. A roadmap on breast cancer treatment foresees that Luxembourg should come up to international standards by 2015.[89] It remains to be seen in how far this goal will be achieved.

Another illustrative example is the purchase of an operation robot by one hospital without the prior agreement of the Health Minister and the *Permanent Commission of the Hospital Sector* as defined by the hospital law (article 9). The latter is considered mandatory for all health technology above a purchasing price of EUR 80,000. The usefulness and cost-effectiveness of this investment must be questioned: the hospital has announced that mainly prostate cancer operations will be performed with this robot. However, more and more prostate cancer cases are treated with chemotherapy or cryotherapy rather than with surgery, as it is considered the most radical treatment. Figures show that in 2009, 104 surgical prostate operations were performed in Luxembourg while in the following year this number shrank to 70 and in 2011 to 71. The hospital, which has now bought the robot, has performed 45 surgeries in 2012, i.e. not even one operation per week for the robot. These numbers are expected to sink even further as another Luxembourgish hospital is currently implementing a "Cyberknife" for cancer treatments which will be operational as of March 2014. The cyberknife works with very high radiation levels and a shorter time of treatment (on average five days instead of six weeks). Furthermore, the National Centre for Heart Surgery (INCCI) was hoping to obtain a robot for heart surgeries. However, it is very unlikely that a small country like Luxembourg would possess two robots in its hospital sector. As a conclusion, the purchase of the robot without prior permission and irrespective of the associated costs shows that the governmental planning for hospitals, global budgets and centralised competencies still lacks appropriate enforcement mechanisms.[90]

The reform itself brought about some innovations, which require further assessment with regard to the achievement of aims. The primary care physician model, for instance was expected to be a landmark instrument to strengthen primary health care and prevention. A preliminary rough assessment one year after its implementation shows that it refrains from any measure to restrict direct access to specialists: even if a patient has signed an agreement

[87] MS and CRP Santé 2013, 13.
[88] Feist 2013c.
[89] Feist 2012a.
[90] Feist 2013d.

with a primary care physician, he is still authorised to bypass his primary care GP of choice and can go straight to a specialist. Also, the measure refrains from any noticeable financial incentives for patients. They are imaginable by means of abolishing any co-payments for all services provided by the primary care physician and not only for the newly introduced additional acts of establishing and maintaining the patient file. As these acts and related costs are not incurred if patients do not subscribe to the primary care physician model, it cannot be considered as a financial incentive.

Within the first nine months of application, some 15,000 primary care declarations were signed between 166 physicians and their patients, with 3% of the physicians having concluded two-fifths of all these contracts, i.e. some physicians have contracted an exceptionally high number of patients. As a consequence the national health insurance is considering capping the number of patients per physician in order to ensure sufficient medical attendance for each patient.[91]

3.2.3 Sustainability

Since 1993, each hospital had individually negotiated its own budget with the national health insurance. Since the health reform of 2010, a global budget valid for two years and for all hospitals in Luxembourg has been implemented. The new budgetary approach is more formalised than in the past and foresees an upper limit.

In September 2012, the Governing Council determined a budget increase of 3.5% for 2013 (i.e. EUR 812.1 millions) and of 3% for 2014 (i.e. EUR 836.4 millions). The budget increase was estimated on the basis of the costs for 2012 and the latest GDP estimations for 2012 and 2013. Thus, the criteria of the growth and stability pact of the European Union were respected. Also, the rates take into account synergies for laboratories, IT, purchasing and contract negotiations and structural reforms such as the new hospital plan. In contrast to previous budgets, these percentages include salary progressions (i.e. salary indexation and career progressions); these salary progressions are estimated to account for 2.5%. In 2011 and 2012, the hospitals have succeeded in keeping their costs in line with the budget attributed to them. However, the budget increase of 4.9% (including indexation) was higher than that of 2007 and 2008. It should also be taken into account that costs for laboratory activities outside the hospitals were no longer included in the hospital budgets.[92]

In 2011, general health care costs increased by 2.7%. This moderate increase is due to a “stand-still” policy introduced because of the critical financial situation of the national health insurance. For 2012 and 2013, growth rates of 6.3% and 6.1% respectively are expected. Thus, health expenditure is still increasing at a faster pace than real GDP growth (0.3% in 2012 and 1.0% in 2013)[93].

The cost containment measures for 2011 were not based on a reduction of care volume but mainly on the reduction of the minimum legal reserve of the national health insurance to 5.5%; furthermore on an increase of co-payments (EUR 20 million) and a reduction of the coefficients for certain technical and laboratory acts (also EUR 20 million). The cost containment goal was reached for 2011. In 2012, the reported balance amounted to EUR 40.5 million without taking the reserves into account. However, this positive result does not detract

[91] Rhein 2013.
[92] MS/MSS 2012.
[93] Statistics portal Grand Duchy of Luxembourg 2013.

from the fact that the growth rate of current expenses was almost 2 percentage points above the income (7% against 5.2%). A negative balance is expected again for 2015.[94]

One of the major problems for reducing costs in hospitals is the fact that hospital doctors are freelance professionals with full therapeutic liberty. As a consequence, a doctor can hardly be integrated in efficiency and quality strategies of the hospital. In other words, a hospital can never be sure that its cost saving measures will be respected by the medical professionals.

Not only do the health costs per person in Luxembourg considerably exceed those of other European countries, but the costs of hospital constructions are also very high in Luxembourg. A comparison of the total costs of a recent hospital construction in Luxembourg and a hospital recently built in North-Eastern France shows a cost difference of approximately 66%. Added to this are higher running costs and higher costs for depreciation, which are proportional to the investment costs. The absence of specialisations and of activity concentrations in the hospital sector have also led to costly over-equipment decisions. Therefore, in the last years, the Health Ministry has insisted on cost reductions for future projects.

Research and development (R&D) in health care is another potential indication for sustainability. The sector represents a significant portion of economic activity in Luxembourg. Expenses in R&D amount to EUR 607.8 million, which is equivalent to 1.43% of GDP for 2011. In order to conform to the objectives laid out by the "Europe 2020" strategy, the government has engaged itself in raising the expenses from 2.3% to 2.6% of the GDP.[95] Research activities in health and social security focus on biotechnology, bio monitoring and micro simulation in social-fiscal policy.

Luxembourg's Health Sciences and Technologies Action Plan led to the creation of the Integrated BioBank of Luxembourg (IBBL), the Luxembourg Centre for Systems Biomedicine and the Lung Cancer Project managed by the CRP-Santé. These three pillars are linked by the Personalised Medicine Consortium (PMC), which is subsidised by the Luxembourgish government with EUR 140 million[96]. This field of research aims at more targeted therapy in areas such as oncology by examining the patient genetically. The consortium's areas of focus include cancer, type 2 diabetes, and Parkinson's disease. As it will limit the application of therapies to patients identified as receptive to them, this approach might lead to more efficient use of public resources and access to high quality health care.

Despite Luxembourg's effort in Personalised Medicine research projects, so far genetic analyses for Luxembourg health insurance affiliates are still mostly carried out abroad and are financed by the state budget. The national health insurance has not yet agreed on including these types of analyses in the statutory benefit package. The Luxembourg laboratories can perform genetic diagnostics only upon prescription by a doctor; however in Luxembourg no law has yet been created to regulate genetic analyses[97]. Therefore, in Luxembourg, only a few clinical studies at selected hospitals have been carried out so far. Furthermore, due to the barely consistent medical documentation, it remains impossible to provide any precise information about the kind and number of persisting life-threatening diseases in Luxembourg. Under the assumption that the number of genetic analyses will grow in the future, it will become necessary to include the financing of the genetic analyses into the national health insurance budget and to define conditions under which genetic analyses will be authorised in view of evidence-based medicine.

[94] Luxemburger Wort 2013a.
[95] Luxembourg portal for innovation and research 2013.
[96] Feist 2012.
[97] Meyer 2013.

3.2.4 Summary

The 2010 health reform laid the basis for future reforms to come. It was the first one in 20 years, and the first one to impact on providers' revenues for 30 years. Once the reform bears fruit, further well-targeted alterations are absolutely vital. The steps towards the improved documentation of medical activities and transparency regarding costs will enable more effective cost-containment measures and contribute to better management of care quality.

The primary care physician model was introduced in 2012 and focuses particularly on the seriously or chronically ill and the older population aged 70+. Free choice of doctors and direct access to specialists still exist.

Since 2013, persons with modest incomes no longer have to pay their health care expenses up front, and the patient's own contribution of 12% is covered by the communal social welfare office. There is no reason why this model should be reserved to poor patients only who might be exposed to a stigmatising procedure. It is recommendable to gradually extend the instrument to all other groups of people.

The recently published *Carte Sanitaire 2012* also requests better visibility of missions and more transparency concerning results, quality and satisfaction. Cost containment measures have been taken up in the past years and have shown positive effects during the financial crisis. However, it is vital to keep up reform efforts during the next few years as the national health insurance is expected to be in deficit again by 2015.

In future, incentives other than financial ones will have to be found in order to ensure the participation of all actors when restructuring the system in order to face the challenges ahead. Although the measures coupled with quick recovery after the crisis enabled a sound balance of the national health insurance, this does not mean that the common challenges, e.g. of demographic change and costly technologies, have now been tackled. Care for the chronically ill, whose number will rise in the years to come, is not being discussed sufficiently.

3.3 Reform debates

Because of an upcoming new legislative term as of November 2013, reform debates in almost all political fields, including health care, are very much driven by the varying concepts of the competing political parties.

All major parties want to establish larger group practices, promote outpatient care, evaluate the primary care physician model, strengthen patient rights and reform hospital budgets. The ruling centre-right Christian Social People's Party (CSV) plans to develop suggestions to replace hospital budgets with disease-related means of financing. The campaign programme of the liberal Democratic Party (DP) clearly states that it is against the enlargement of the benefit-in-kind model and any raising of the contribution as regards health insurance. The left-of-centre Luxembourg Socialist Workers' Party (LSAP) plans to raise taxes on strong alcohol and tobacco in order to finance a health fund. The environmentalist Greens would like among other things to introduce organic food in canteens and evaluate well-being at the workplace.

Sustainable finances

On the whole, all relevant stakeholders are highly concerned about the deteriorating financial situation of the national health insurance, which according to latest forecasts risk turning into deficits as of 2015. The longstanding experience with health care costs rising continuously

and steeply, far above the rate of GDP and consumer price growth, combined with a growing demand for new high-end health technologies of diagnostics, therapies and medical devices, give little hope for a spontaneous mitigation of the critical situation.

Thanks to the 2010 reform, the health care system today is either in possession or in development of a number of new instruments to better monitor and steer the demand and supplied volume of health care services and to assess the relative impact on costs. The most prominent ones are the unit cost accounting system in hospitals, the revised planning tool *carte sanitaire*, the new classification of medical interventions, the refined coding of diagnostics and the redefined decision-making processes for determining the scope and tariffs of existing and new technologies based on scientific evidence. All these instruments are more or less ready or in their pilot phase prior to full implementation. However, it remains highly unclear how all these instruments should best be orchestrated. Intelligent application of each should absolutely remain within the limits of necessity and categorically stick to the announced objectives. Sophisticated data mining of all this information is considered the worst case scenario and will break all promises given. Therefore, the new government is challenged to find the appropriate and well-dosed approach.

Full application of the Directive 2011/24/EU as a first test balloon

For Luxembourg, the implementation of Directive 2011/24/EU means getting a clear and transparent picture of costs related to health care services for both national and European health care services. Without this knowledge it is almost impossible to guarantee access to high quality services, develop budgets and assess the needed human, financial and technical resources. Hence, an improvement in medical documentation is indispensable. Until now, the cost of a particular treatment cannot be determined.

This is insufficient for another reason: the transposition of the Directive 2011/24/EU on the application of patients' rights in cross-border healthcare by 25th October 2013 at the latest, is considered a first test balloon as to whether the structural reforms of the last years have brought sufficient transparency about the costs of health care. The Directive grants patients the right to demand information regarding the quality and security of care in another Member State, as well as the price for services and therapeutic options. Further important propositions are the creation of a European network for centres of competence and the transfer of medical data online.

The legislative process of the respective bill (No. 6469A) is under way, and will bring a number of changes to the health care sector:[98]

- Right of the patient to be accompanied by a person of his choice who assists him in making health decisions (Art. 6); right of the patient to commission a person of trust to represent him when he is incapable of expressing his wishes (Art. 12);
- Right of the patient to receive information on the state of his health in a comprehensible language and, upon request of the patient, to receive its written confirmation (Art. 7);
- Right of the patient to express informed consent prior to any treatments (Art. 8);
- Right of the physician to decide that an underage patient can independently make his own decisions given the necessary sagacity to reasonably assess his interests (Art. 13);
- Right of the patient to access his patient file within maximum 15 days (Art. 16);
- Creation of a national information and mediation centre (Art. 22);

[98] Law project No. 6469A, Chamber of Deputies, 05/02/2013.

Given the broad lack of experience in all these matters, the Directive is seen as an opportunity and an obstacle at once.

Obesity

Despite its good health status and comparatively high life expectancy, the country is very much challenged by a sharply increasing obesity rate among adults from 14.9% in 1997 to 23.5% in 2011[99]. Some 23 per cent of men and 19 per cent of women are considered obese, with numbers reaching around 40 per cent in the 65-69 age group. The situation is also increasingly problematic among children and teenagers with 15 to 25 per cent considered overweight or obese.[100]

In this context, a working group was created in 2012 to develop recommendations for overweight and obese patients aged 18-65 years. In February 2013, they were published by the science council:[101] the “Carte Sanitaire” also calls for a specific ten-year plan to better cope with obesity.[102] Thus, the necessity for new treatment programmes for obese patients is under debate, including the scope to which this should be covered by the national health insurance.

[99] OECD 2013, 2.
[100] Luxemburger Wort 2012.
[101] Association des Médecins et Médecins-dentistes du Grand-Duché de Luxembourg 2013.
[102] MS and CRP Santé 2013, 22.

4 Long-term care

4.1 System description

4.1.1 Major reforms that shaped the current system

Long-term care insurance was introduced in 1999 as a new pillar of the social security scheme in order to bridge a growing benefit gap for long-term care services, which until then were granted by health, work accident and invalidity insurances. The law was mainly inspired by the long-term care set up in Germany; however the principle of classifying the dependent persons into three levels was not upheld for Luxembourg.

Four principles were at the base of this law:

- Priority for rehabilitation measures before long-term care;
- Priority for at-home care before institutional care;
- Priority for in-kind services before cash benefits;
- Continuity in long-term caregiving;

A specific administration under the Ministry of Social Security, the "*Cellule d'Evaluation et d'Orientation*" (CEO) was created and started its work of evaluating requests from dependent persons. During the initial phase, efficient procedures for assessing the needs of the applicants had first to be developed. Another problem at this early stage was a lack of beds in care institutions and how to meet the needs for technical adaptations in the homes of dependent persons.

A first modification of the law on long-term care was carried out in 2005 and came into force two years later, which further specified and slightly amended the benefit package. COPAS, the representative organisation of the care providers, became recognised as the collective bargaining party for the labour agreement with the long-term care insurance, obviating negotiations with each single care provider. Furthermore, the law acknowledged for the first time the importance of quality of care and required the establishment of a Quality Commission. Major changes as regards long-term care benefits were as follows:

- Technical adaptations for the dwelling of a dependent person could now be granted independently of the previous prerequisite of a care plan with a certain minimum of hours of care needed;
- Additional services were introduced for situations of unforeseen aggravation of the dependency level; the modified law allowed exceeding the limit of 24.5 hours to maximum 38.5 hours per week for activities of daily living in case of an exceptional aggravation;
- The cash benefits were reduced to EUR 25 per hour instead of being 50% of the in-kind benefits, an amount that was considered too high in comparison to the minimum salary;
- Intermittent-care centres for handicapped persons were introduced;
- Persons in rehabilitation now had the right to in-kind services during a temporary stay at home;

In the subsequent years, the CEO underwent an organisational reform in order to formalise its internal procedures and to significantly reduce the delays in evaluation of dependency status.

4.1.2 System characteristics

Affiliation to the long-term care insurance is mandatory and access to continuous insurance benefits is guaranteed from the first day of membership.[103] Voluntary insurance is possible, for which a qualifying period of one year is applied. Contributions to the long-term care insurance have to be paid at a rate of 1.4% on all earnings (including fringe benefits and capital) without any upper threshold. This feature is unique in Europe and remains in contrast to the other social security branches (pension, health), where the contributable income is limited to five times the minimum salary.[104]

Over the last 10 years the population constantly increased, caused naturally by an increasing life expectancy, and was additionally boosted by continuously positive annual net migration, which kept the age structure of the population (with a share of the elderly aged 65+ around 14%) more or less stable.[105] This equally led to a particularly favourable demographic situation for the Luxembourg long-term care insurance system where the percentage of insured elderly aged 65+ represents only around 10%[106] of the total insured population in 2011 compared to a European average of 17.8%[107]. In addition, only 9.5%[108] of the insured elderly aged 60+ are factual beneficiaries of long-term care benefits in 2011.

Thanks to this positive net migration over the last few decades, Luxembourg enjoys a comparably moderate old-age dependency ratio compared to other EU countries, with a proportion of older people aged 65+ in relation to the number of persons of working age (from 15 to 64) of 20% in 2012 (EU27 = 27%)[109].

The foreign population in Luxembourg represents 43% of the total population in 2011 and is on average younger than the population with Luxembourg nationality. From the 65+ age group, there is a significant drop in the foreign population to 21.4%, mainly because a share of these migrant workers and their spouses return to their countries of origin when they retire: based on the European Regulation 883/2004/EC[110] on the coordination of social security systems, cross-border workers and their families, who account for 32% of the insured population in the Luxembourg health insurance scheme, return to the social security system of their country of residence once retired.

There are nearly 13,000 beneficiaries of LTC in 2012 with the following characteristics:

- The total number of beneficiaries has doubled between 2000 and 2011. While the benefiting population has grown by 4% from 2010 to 2011, the insured population has only grown by 3.1% during the same time; (the insured population comprises Luxembourg residents, cross border workers, their dependent relatives and some pensioners living abroad).

[103] Only people covered for long-term benefits by international organisations are excluded, and voluntary health insurance members are restricted for benefit entitlements to a one-year qualifying period.
[104] IGSS 2012, 177.
[105] Ferring et al. 2013.
[106] Number of insured persons: 720,310; number of insured persons age 65+: 74,417; IGSS 2012, 37.
[107] Eurostat 2013a [tsdde510].
[108] Number of beneficiaries age 60+: 9,853; Number of insured persons age 60+: 103,591; IGSS 2012, 150.
[109] Eurostat 2013a [tsdde510].
[110] “Frontier workers are affiliated to the body of the country in which they work, while residing in another EU country and having access to health care in both States.”

- In 2011, a long-term care beneficiary received on average 36.2 hours per week of care provision. For 21.5% of the recipients, services were granted for more than 9 hours a day (> 64 hours per week).[111]
- Two out of three beneficiaries are women (65%);
- 80% of male beneficiaries are cared for at home while 75% of female beneficiaries are cared for in institutional care;
- The average age of beneficiaries in care institutions (84.4 years) is considerably higher than of those cared for at home (65.9 years).[112]

The benefit package for long-term care is offered without almost any co-payment: for medical services a participation of 12%[113] is required if the beneficiary is cared for at home. If the beneficiary resides in an institution, the price of accommodation (board, lodging, basic domestic services, laundry, etc.) has to be paid by the resident.

The objective of the long-term care insurance is to compensate for costs which occur when a third person's help is needed for activities of daily living (ADL), such as body hygiene, nutrition and mobility. The assessment of an applicant's dependency status is done on individual basis by the CEO. In case of a positive assessment and under the condition that the dependency status regularly requires a volume of services that surpasses a stipulated minimum level of 3.5 hours per week, an individual weekly care plan is issued.

In 2011 the CEO received around 4,300 requests to classify or reclassify the individual need for nursing care services. 35% to 40% of all applications are regularly re-evaluated.[114] Another 6,700 applications concerned technical aids and housing adaptations, likewise covered by the long-term care insurance.[115]

Market entry to the care-giving sector is restricted to organisations approved by the Ministry of Family Affairs based on the fulfilment of certain quality standards and after adhesion to a framework contract with the long-term care insurance organisation, which determines the rights and obligations for executing the nursing care services. The following types of care providers were registered by the end of 2011:

- 16 ambulatory networks offering nursing care at home,
- 50 day-care institutions,
- 50 intermittent-care centres for alternating short-term stays and
- 50 nursing homes and so-called integrated homes for elderly with a mix of dependent and less-dependent residents.

To a large extent, the long-term care benefits are very labour-intensive. The care personnel employed in 2010 amounted to an average of 5,678 full-time equivalents (FTE) to care for nearly 13,000 beneficiaries in 2012 (a ratio below 1:2). It represents around 3.4%[116] of the national labour force and is dominated by females. Nearly 60% of that total are employed by care institutions (3,021 FTE in integrated nursing homes, 674 FTE in intermittent-care

[111] IGSS 2012, 157.
[112] IGSS 2012, 150.
[113] CNS 2013, Statutes Art. 35.
[114] Lëtzebuerger Gemengen 2013a, 35.
[115] IGSS 2012.
[116] Residential workforce 2010: 219,100 persons; IGSS 2012, 15.

centres, 268 in day-care institutions), while 40% work for at-home care networks (1,715 FTE). Per 1,000 of population aged 65+, there are 81 nurses and carers in 2010.[117]

The representative association of the care providers (COPAS) negotiates every year with the long-term care insurance a fee per hour (valeur monétaire) to be used for remunerating care services. The fee per hour[118] as of October 2013 amounts to EUR 66.43 in case of ambulatory networks and EUR 48.36 in case of institutional care.[119]

Only one-third of the beneficiaries reside in care institutions (3,929 persons in 2011), while two-thirds are cared for at home (8,398 persons in 2011)[120]. The number of beds in care institutions amounts to a total of 4,790[121] in 2010, which corresponds to 68 beds per 1,000 of population aged 65+[122]. Beneficiaries cared for at home can receive all care services that they are entitled to from professional carers (so-called in-kind services) or subcontract up to 10.5 hours per week to informal caregivers of their choice. Both types of service provision can be combined, which represents the most preferred type of care provision (used by two-thirds of the home-care beneficiaries.[123]

Beneficiaries cared for at home can receive all care services that they are entitled to from professional carers (so-called in-kind services) or subcontract up to 10.5 hours per week to informal caregivers of their choice. Both types of service provision can be combined, which represents the most preferred type of care provision (used by two-thirds of the home-care beneficiaries).[124] It is possible to replace the benefits-in-kind provided by a professional caregiver with cash benefits at an amount of EUR 25 per hour. The dependent person should use the cash benefit to pay an informal caregiver of his choice, who is frequently a family member. Only activities of daily living and domestic tasks can be performed by an informal caregiver, whereas psychological support and counselling can only be offered by professional caregivers. In 2010, in-kind benefits for at-home care amounted to around EUR 100 million and cash benefits to almost EUR 50 million.

If the dependent person lives at home, the long-term care insurance reimburses some of the costs to adapt the living environment or for purchasing instruments which will increase the dependent person's autonomy. If the person lives in an integrated nursing home, the long-term care insurance takes care of all care services, care products and, in exceptional cases, some care-relevant instruments. For institutional care, the in-kind benefits amounted to around EUR 240 million in 2010[125].

There are no figures available on the exact number of informal caregivers; however in 2011, a total of 6,637 beneficiaries received cash benefits or cash and in-kind benefits (82% of at-home care recipients).[126] The long-term care insurance furthermore takes over the costs for counselling of the informal caregiver.[127] However, in 2010 only 318 persons received counselling activities.[128] The care of a dependent person can be credited as a contributory

[117] Population aged 65+ in 2010 (Statec.lu): 70,046. Total number of nurses and personal carers (at home and in institutions): 5,678.
[118] COPAS 2012.
[119] MSS 2013a.
[120] IGSS 2012, 149.
[121] IGSS, CEO 2013, 63.
[122] Population aged 65+ in 2010 (Statec.lu): 70,046.
[123] IGSS 2012, 168.
[124] IGSS 2012, 168.
[125] IGSS 2012, 173.
[126] IGSS 2012, 168.
[127] Art. 171, 13 and 354 of the Social Security Code (CSS)
[128] Art. 171, 13 and 354 of the Social Security Code (CSS)

period under certain circumstances. Firstly, the dependency of a person needs to be approved by the long-term care insurance. Secondly, if the informal caregiver does not benefit from a personal pension, the dependent person can claim for him/her to have the pension contribution paid by the long-term care insurance.

4.1.3 Details on recent reforms in the past 2-3 years

In 2008, based on the assumption of a potential double financing of domestic services in long-term care institutions by both the residents and the long-term care insurance, the latter planned to suppress this remuneration. This led to controversial discussions in the care sector and as a consequence the government decided to launch a scientific analysis on quantities and costs of services in all Luxembourgish long-term care institutions. As to its methodology, the approach pursued a transparent allocation of care provisions and costs to certain performance categories (basic nursing care, treatment care, domestic services, etc.) and type of residents (beneficiary or not of benefits covered by the long-term care insurance). It aimed at enabling a direct comparison between the financing and output of long-term care performance. Although based on sector-wide average values as the main reference for comparison, individual specifics of infrastructure, composition and care-dependence of residents as well as care concept are taken appropriately into account. For this purpose, an extensive self-recording of all services rendered by all nursing-home employees and contracted service providers takes place three times a year over a 48-hour period between 2010 and 2012. However, despite its successful implementation, no results have yet been published.

The Law of 16 March 2009 on Palliative Care established a right to palliative care. The transposition of this right into Luxembourgish health care policy, stipulated by the Grand-Ducal Regulation of 29 April 2009, requires among other things the determination of two different multidisciplinary service packages for palliative care, to be distinguished between basic palliative care and specialised medical nursing palliative care, as well as the establishment of a lump-sum tariff for each of these palliative care packages. The "right to receive palliative care" can be opened by any treating medical doctor through a specific procedure. Its validity is limited to 35 days with multiple possible extensions. It is the Medical Control Service of the Social Security, which authorises palliative services[129]. Long-term care and health care services can be provided in addition to palliative care services[130]. Complementary training programmes for palliative care are offered to professionals in the health and long-term care sector.

The basic palliative services (activities of daily living (ADLs)), supporting psychosocial and counselling activities as well as domestic services) are to be covered by the long-term care insurance, whereas the specialised medical nursing palliative services package will be reimbursed by the health insurance (CNS). For the latter, a particular tariff system is in development. In addition, the Ministry of Family Affairs grants the service providers for palliative care at home with a daily lump-sum allowance of EUR 150 per patient in palliative status in order to provide over-night standby duties and social support not covered otherwise.

Over the last three years, the networks of home care services have implemented a number of new approaches to better link acute and long-term care periods for the long-term care beneficiaries. As ambulatory care providers, they also run offices in hospitals to improve the coordination between in- and outpatient caregiving ("infirmier de liaison"). The services are usually paid out of additional resources, such as donations. Apart from the quality objectives,

[129] Art. 351 No. 2 of the Social Security Code (CSS).
[130] Art. 349, No. 4 of the Social Security Code (CSS).

the concept further gains competitive advantages in acquiring the hospital's patients as new long-term care clients. Therefore, it is little surprise that the competitors have followed this example.

A second application concerns the so-called "reference nurse", a concept of care coordination and management by a specific caregiver. The reference nurse supervises the care plan for a number of familiar patients and coordinates with the individual health and care networks of this person (doctors, social assistants and relatives). The project concept enjoys widespread acceptance. During the implantation period, only 70 eligible persons claimed for the service.

The third approach, "Night watch", was implemented by the network Hellëf Doheem from 2009 to 2011. During the implementation period, only 70 eligible persons claimed for the service, for which the demand was originally estimated at 350 annually. The low participation did not allow enough evidence to be gathered on the effectiveness of the measure. In the frame of the upcoming reform of the long-term care insurance, the future application of this approach will be subject to further debate.[131]

During the 2012 European Year of Active Ageing, Luxembourg conducted a world congress on long-term care in collaboration with the International Orem Society on Nursing Sciences (IOS) in May 2012.[132] The congress was entitled "Preparing Nursing Systems for 2020: New Approaches – New Evidence". Luxembourg has had a very positive experience with its nursing-care philosophy based on a self-care approach, which assumes that every person wants to maintain his autonomy as long as possible and wants to make use of his capabilities for self-care to the largest possible extent. Necessary nursing care measures to be performed by a third person are therefore to be planned and evaluated in collaboration with the care recipient. The congress provided ample room for exchange on international research and scientific analysis on the characteristics, developments and trends in the supply and demand for formal and informal care. During the congress, evidence-based nursing processes and care documentation were covered as well as the role of new technologies applicable in long-term care.

4.2 Assessment of strengths and weaknesses

4.2.1 Coverage and access to services

The overall provision of adjudicated long-term care benefits with almost no co-payments and the possibility to receive, if considered justified, means-tested financial support for any necessary stay in nursing homes show that there are no problems of access to long-term care benefits.

The government provides means-tested financial support for those residents in nursing homes and integrated homes for the elderly who do not have sufficient revenue of their own to cover the costs for accommodation and individual needs (accueil gérontologique). The calculation of personal revenues takes into account all revenues from a professional activity, from goods and properties, pensions and all other form of financial income, for both the applicant and his/her spouse. To calculate the revenue of one person, the shared revenue is split into two. The revenues of children will not be taken into account. Based on the individual assessment of revenues, the National Solidarity Fund (FNS) covers all necessary costs for

[131] Response by the Minister of Social Security to the Parliamentary Question No. Q-2012-O-E-2743-02 of 12/06/2013, www.chl.lu.
[132] Berbiglia et al. 2012.

accommodation and for those long-term care services which are not part of the long-term care insurance (i.e. socio-cultural support). As a maximum, the FNS grants EUR 1,625 for a double room per month, plus supplements under certain circumstances for up to EUR 185 per month. The financial aid is directly transferred to the care institution.

As yet, there is no political necessity for any poverty reduction measure for the elderly population. With an at-risk-of-poverty rate in 2011 of 4.7% for the population aged 65+, Luxembourg is more than three-fourths below the EU27 average of 20.5%.[133] The fact that roughly 84% of the population aged 65+ are property owners reduces the costs to be spent on housing considerably.[134] A recent governmental study shows that in August 2012, almost 18,800 persons received the guaranteed minimum revenue (RMG) paid by the National Solidarity Fund, which corresponds to 3.58% of the total resident population. This picture changes when age is taken into consideration: 2.38% of persons aged 65+ belong to a household receiving the guaranteed minimum revenue.[135]

Beyond long-term care services, the so-called Club Seniors, organised and managed by the Ministry for family affairs and integration, provide plenty of opportunities for people aged 50 and older to stay active and involved. They further advance social integration and participation, and support the prevention of physical and mental deficiencies. Each of the 17 clubs offers a variety of activities, such as yoga, language, handicraft, and computer courses.

A number of organisations support the voluntary work of the elderly, others provide help lines for questions regarding activities, care, consultation etc. Many communes offer special free of charge sport courses for the elderly. People aged 60 and above can use the public transport throughout the country at an annual lump-sum of EUR 100.

4.2.2 Quality and performance indicators

A Quality Commission for long-term care has been created in 2007 as a consultative organ for suggesting norms and quality standards for long-term care. As yet, almost none of the initially agreed multi-year work plan, such as improved documentation quality, enhanced hygiene standards or the development of a framework for auto-evaluations of care providers, has led to any major result. Its members[136] show many difficulties in finding agreements. For example, in 2011 the Quality Commission made hygiene suggestions for the care personnel, which still remain to be validated by the representative organ of care providers, COPAS. Furthermore, as a consultative organ, the Quality Commission’s role is limited to making propositions, which then need to be negotiated between the long-term care insurance (CNS) and COPAS.[137]

As response to the on-going difficulties of the Quality Commission, COPAS requested the creation of a Commission for Norms, which, however, also failed. Therefore, COPAS now asks that those two Commissions merge into the new “Commission for Norms and Quality”, which should be granted with enforcement power and have at its disposal some penalty mechanisms.

[133] Eurostat 2013b [ilc_peps01].
[134] Zahlen 2011, 2.
[135] IGSS 2013.
[136] CEO, COPAS, Family Ministry, Health Ministry, Patient Representation Association.
[137] IGSS, CEO 2013, 26 + 287.

A customer satisfaction survey of 2011 revealed a high level of satisfaction; however, dependent persons who were no longer able to express themselves did not take part in this survey, which COPAS pointed out to call the results into question.[138]

COPAS requests authorisation to hire more specialised personnel to be able to control quality norms. Furthermore, over the next three years, according to COPAS, each institution should employ a quality representative and apply a directive on ethical behaviour (that still needs to be created). Another described problem is that the long-term care insurance only foresees minimum qualifications for the (auxiliary) nursing staff. Therefore, COPAS requests the use of more specialised personnel to perform the care services.

The planned reform of the long-term care insurance system should finally introduce uniform documentation standards to allow quality evaluations. This is highly necessary, as some authors argue that even in the long-term care insurance's 14th year of existence, it is still extremely difficult to determine how well the long-term care sector is doing.[139]

Research carried out

The Working Group "ICT for a healthy and ageing population" of the Luxembourg ICT Cluster was launched in March 2011, bringing together representatives from companies, public research, healthcare and other stakeholders to foster collaborative projects. The fourth meeting of the Cluster Working Group took place in April 2012. The meeting was dedicated to presenting the project V2me (Virtual Coach Reaches Out to Me): to prevent and overcome loneliness in Europe's ageing population, a virtual coach as mediator provides simplified access to social networks.

A number of R&D projects, involving at least one Luxembourg actor, are on-going under the Ambient Assisted Living (AAL) Joint Programme.

- The "COM'ON" project's objective is to develop, test and deploy a digital platform and associated services for public transportation, which offers coping support to older persons having mild to moderate problems with moving around.
- The "STIMULATE" project aims at facilitating the independent travelling capabilities of senior people by using easy-to-use assisted travel planning, provided to seniors via TV and PC terminals.
- The "CARE@HOME" project is about enabling empowerment, wellness and social care services to the home of the elderly through interactive multimedia NetTV. The technology provides two-way communication for family, friends and caregivers as well as continuous, automatic and remote monitoring of real time emergencies and lifestyle changes in order to manage the risks associated with independent living.
- The "M3W - Maintaining and Measuring Mental Wellness" project provides a toolset for self usage. The goal is to measure and visualise mental changes in an entertaining way, and to give indications of when it is advisable to visit a physician.[140]

Congestive heart failure affects 5 000 – 10 000 people in Luxembourg and is the leading cause of hospital admission for patients over 65. With the goal of improving the quality of life of these patients as well as lowering associated public health care costs, the public research centre Henri Tudor launched the Luxembourg Heart Failure (LUHF) project, which resulted in the successful development of a patented telemedicine system for cardiac deficiency and a

[138] Walerich 2013.
[139] Feist 2013a.
[140] Ambient Assisted Living 2013.

spin-off company, Monitor-IT. The easy-to-use device allows patients to regularly take their health measurements at home and send them to their doctor electronically. LUHF was followed by a series of further projects to develop the new device and the necessary supporting technology. The on-going follow-up project BOLUS aims to set up a cross-border telemonitoring solution with Germany and complete a proof-of-concept study to predict cardiac failure.[141]

Another project called MENSSANA analyses how ICT can support patients and health professionals in daily life settings. The aim is to develop a barcode reading personal allergy assistant, which helps to distinguish permitted and prohibited food, to define a standardised electronic patient record for allergies, to provide food-based allergy-specific information via the Internet and to conduct a controlled clinical study to evaluate health economic effects and quality of life.[142]

The Luxembourg based company Actimage has developed Actelin, an application for smartphones and tablets, which helps diabetic patients to manage their insulin day to day by advising them in real-time. A web application is currently in development. Actelin is based on the technique of functional insulin therapy which allows patients to adapt their treatment to their lifestyle rather than impose a strict and automated life on them.[143]

The Integrated BioBank of Luxembourg (IBBL) was recently chosen as the sole European biobank to host a large collection of biological samples and data collected as part of the BIOMARKAPD project of the EU Joint Programme in Neurodegenerative Disease Research (JPND). The programme is a European Union Member State-led initiative to tackle the challenge of neurodegenerative diseases such as Parkinson's and Alzheimer's disease. The programme brings together research agencies, ministries and centres of excellence from 25 European countries. One major aim of the programme is to improve the scientific understanding of ND by promoting research to uncover new genetic and environmental risk factors and assess their interplay. Samples from 25 EU sites will be stored at IBBL and made available to the 55 individual members of the consortium or other scientists. First samples were expected to arrive at IBBL in June 2013. Besides taking care of the physical storage of biological samples, IBBL will also provide a web-based IT platform for the 25 collection sites to capture all data related to the samples sent to IBBL, and for the entire consortium to access the collection. A third element will be to participate in biospecimen research on brain fluid samples collected by the consortium.[144]

4.2.3 Sustainability

Current expenditure of the long-term care insurance system amounts to EUR 416.4[145] million in 2010, equalling 1%[146] of GDP. The expenses for long-term care are expected to increase to 2.8 – 4.8% of GDP in 2060[147]. In 2010, the average monthly costs per resident in an institution amount to EUR 5,207[148], which does not include the costs for board and lodging

[141] CRP Henri Tudor 2013.
[142] CRP Henri Tudor 2013a.
[143] Actelin 2013.
[144] Integrated Biobank of Luxembourg 2013.
[145] IGSS 2012, 170.
[146] Luxembourg GDP in 2010: EUR 39,906 million (http://countryeconomy.com/gdp/luxembourg), retrieved on 13/05/2013.
[147] European Union 2012, 425.
[148] EUR 242.5 million ÷ 12 months ÷ 3881 institutional beneficiaries; IGSS 2012, 149 + 171.

which have to be paid by the residents. The whole budget is administered by the long-term care insurance branch of the National Health Insurance (CNS).

In the budget for 2013, the state contribution to financing the long-term care insurance amounts to 40% (estimated EUR 225.1 million) compared to 35% in 2012. Total expenses have risen from EUR 482.7 million in 2011 to a budgeted EUR 560 million in 2013. Thus, the financial result for 2013 is estimated at a loss of EUR 6.1 million. Still the cumulative result including reserves from past years will end up in surplus. This surplus continues to diminish progressively from EUR 106.7 million in 2010 to an estimated EUR 53.8 million in 2013. The long-term care insurance is expected to be in deficit by the end of 2015 (i.e. expenses exceed income to such an extent that the reserves will drop below the legal minimum).[149] This is also confirmed in the latest governmental report, which describes the historical development and status quo of the current long-term care system and was published in May 2013; it states that the long-term care insurance will have a cumulated negative result as of 2016 when the reserve will have fallen below the legal minimum of 10% of the expenses.[150]

In addition to the state contribution, sources of financing are a special levy applied to high energy consumption (EUR 2 million in 2011) and contributions at a rate of 1.4% on all earnings (including fringe benefits and capital) without any upper threshold (EUR 295 million in 2011).[151]

According to calculations of the General Inspectorate of Social Security, the long-term care insurance should remain financially stable until 2030 if the contribution rate is gradually raised from 1.4% to 1.7%. However, according to COPAS, even a contribution rate of 1.7% will not be sufficient if the growth rate and GDP remain low in the coming years. As a consequence, a comprehensive reform of the long-term care sector is crucial and planned for after the 2013 elections.[152] Likewise, Eurostat projections of 2013 for the year 2060 expect a tripling of total expenditure for long-term care, measures as a share of GDP from 1% in 2010 to 3.2% in 2013. This trend equals the EU-27 projections, whereas in 2010 the EU-27 are on average already embarking from a higher percentage (1.8%).

In 2010, the costs for institutional care are almost double those for at-home care, which against the background of two-thirds of all long-term care being provided at home unambiguously demonstrates the much higher cost of institutional care (unit cost in % of GDP per capita of 69% for institutional care against 25% for home care). The cash benefits presented by Eurostat represent the long-term care insurance support of informal care. Despite the case that more than 80% of the recipients of at-home long-term care gain from this support, it only amounts to 9% of all public expenditure for long-term care. In that regard, it is somewhat astonishing why these costs should represent a unit cost of 22% of GDP per capita in 2010![153]

The comparatively huge benefits granted by the Luxembourg long-term care insurance will sooner or later lead to increasing demand by future immigrants. By 2060, Eurostat (EUROPOP 2010) projections bank on a total population size of around 728,000 inhabitants with a share of the elderly population aged 65+ by then of 26.4% accompanied by a decrease in the working population. As a result, the old-age dependency ratio (as a share of the population aged 20-64) will more than double from 22.4% in 2012 to 49.3% in 2060. Such an

[149] Luxemburger Wort 2012b.
[150] IGSS, CEO 2013, 325.
[151] IGSS 2012, 177 + 179.
[152] Walerich 2013.
[153] Background statistics for country fiches of the SPC report on long-term care.

increase corresponds to the projections for the whole EU-27, and assumes that Luxembourg's special status of constant positive net migration will come to an end.[154] This will have major implications on the demand for long-term care in general, but also on the range and main emphases of long-term care provision.

In the medium term, increasing demand for more developed and hence more costly health and long-term care services will bring the system under further pressure. Forecasts by IGSS on the future demand for long-term care services anticipate an increase of 64% in demand for long-term care services for the year 2030 as against the year 2010, with a repartition of plus 64% for institutional care in nursing homes and plus 54% for home care.[155] A market analysis from 2010 came to the conclusion that by 2015, the country will need 1,400 to 2,100 beds for long-term care in addition to the 4,790 that already exist, and estimated the demand for investment in new nursing homes at between EUR 230 and 480 million.[156] It will also imply a growing shortage of qualified nursing staff, as even today, the labour market faces difficulties in meeting the specific demand.[157] (The projected number of beneficiaries of LTC services for 2015 and the share of demand for institutionalised care approximately equal the estimation of IGSS in the more recent calculation above.)

Dementia is the second largest main diagnosis for dependency in Luxembourg (behind osteo-articular disorders) and represents almost 18% of all dependent persons (2,206 persons in 2011). The majority resides in care institutions.[158] By also taking into account those long-term care recipients for whom dementia is only considered as secondary diagnosis responsible for dependency, the share rises to 33.5% of all dependent persons. The costs of dementia to the long-term care insurance amount to EUR 311 million, which represents an incredibly high share of 74% of the long-term care insurance's total expenditure.[159]

4.2.4 Summary

Since the introduction of long-term care insurance in 1999, there is a clear political commitment to the longest possible provision of home care. In addition to the huge sector for ambulatory networks for home care, which are dominated by two major providers (Hellëf Doheem, HELP), day-care institutions offer various activities that allow dependent or elderly people to escape from social isolation and to maintain or improve their autonomy. Services of day-care institutions are covered by the long-term care insurance and their positive therapeutic impact is very well recognised. Another important aim of the day-care institutions is to disburden the informal carers and to ensure that dependent or elderly persons can live at home for as long as possible. A recent survey showed that 96% of beneficiaries were satisfied or very satisfied with their day-care centre.[160]

The nursing care industry has long represented a prosperous and labour-intensive economic sector with a high proportion of female employment. As such, the sector contributes strongly to the Europe 2020 targets concerning national employment and economic growth.

Whereas access to long-term care services is equitably guaranteed, the scope and quality assessment of services and in particular the long-term sustainability of the system requires

[154] Mamolo, Scherbov 2009; Eurostat 2013 [proj_10c2150p].
[155] IGSS, CEO 2013, 320-321.
[156] Ernst &Young 2010.
[157] IUIL 2011, 30-32.
[158] IGSS 2012, 155.
[159] Response by the Minister of Social Security to the Parliamentary Question No. Q-2012-O-E-2755-02 of 08/07/2013.
[160] Lëtzebuerger Gemengen 2013, 38.

some restructuring. The governmental evaluation report on long-term care[161] lays the foundation for such reforms of the long-term care sector. However, during the reporting period, the government priorities were clearly laid on the reforms of the health and pension insurance system. A reform of the long-term care insurance system is planned for 2014, which might bring changes to the financing of long-term care and introduce uniform documentation standards to allow quality evaluations.

4.3 Reform debates

Potential introduction of co-payments

Considering that the elderly population of Luxembourg is comparatively wealthy and that the long-term care insurance is expected to be in deficit by the end of 2015[162], the question arises of whether to introduce co-payments for people with incomes above a certain level or in possession of sufficient financial and property assets. In this case, however, the care providers fear a two-class care system.

Price for accommodation

In institutional care, the price for accommodation (including board, lodging, basic domestic services, laundry, etc.) is individually determined by each establishment and has to be paid by the resident. Despite the remuneration of all services related directly to care provision by either the health or the long-term care insurance, the monthly price of accommodation remains quite high, as the following examples for double rooms demonstrate:

- Servior: EUR 1,886 to 2,342[163];
- CIPA Belvaux: EUR 2,029[164];
- Foyer Ste. Elisabeth EUR 2,173[165];

Unfortunately, there is no publicly available comparable information on accommodation prices per institution. The National Solidarity Fund provides means-tested support of these costs ("Accueil gérontologique"). In 2011, 715 people received on average EUR 883 per month[166].

Another problem is that whenever cost-cutting in long-term care insurance benefits are discussed, the institutions threaten with an increase in the accommodation price to compensate for the losses. Therefore, a comparable and transparent accommodation-price scale of all institutions is considered to be absolutely vital.

Reform of the nomenclature of nursing care services

Luxembourg's tariff system for nursing care is based on the Canadian classification system PRN (Project Research in Nursing) used to measure the level of nursing care required by patients in hospitals. The problems with the current nomenclature of nursing care services are, on the one hand, that standard times are derived from the hospital sector and, on the other hand, that some types of services are quite outdated. Furthermore, not all services provided are coded in the nomenclature and therefore they cannot be invoiced by the service provider.

Current discussions refer mainly to the standard times of health services such as change of bandages, injections, measurement of blood sugar etc. While the long-term care insurance

[161] IGSS, CEO 2013.
[162] IGSS, CEO 2013, 325.
[163] Paturet 2013.
[164] CIPA Sanem 2013.
[165] Foyer Ste. Elisabeth 2013.
[166] IGSS 2012, 237 + 241.

aims at a reduction of most of the standard times, the COPAS (representative association of the care providers) demands their increase. A service census has been executed by an independent specialist from abroad in order to present a realistic picture of the current situation.[167]

Workforce

The phenomenon of medically intended absence from work of pregnant women, often as of the day the pregnancy becomes confirmed, has a delicate and serious negative impact on the female-dominated labour market in long-term care. As a consequence human resources management becomes extremely difficult in the long-term care business. This internationally exceptionally generous protection of pregnant women in Luxembourg seems to be granted to the detriment of the quality of services for elderly dependent persons and society as a whole. It is inconceivable that this labour-intensive sector could be unable to allocate physically less demanding tasks to pregnant women and to keep them at work for as long as possible.

Preparations for the reform of long-term care insurance including the respective debates provide sufficient signals that the cost-effectiveness of long-term care, which appeared in the country-specific recommendations of 2013 for the first time, will be taken into account.

[167] COPAS 2013, 5 + 8.

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Annex – Key publications

[Pensions]

CHAMBRE DE COMMERCE, Réformer les transferts sociaux pour plus d'équité et d'efficience, Actualité & tendences No. 14, economic bulletin ; Luxembourg, October 2013/ retrieved from: http://www.cc.lu/uploads/media/A_T_14.pdf

"Reforming social transfers for more equity and efficiency"

The document provides a comprehensive picture on the history of social protection and social transfers in Luxembourg and delivers an in-depth analysis of all existing social transfers that are directly covered by the public budget. The various types of transfers are grouped by policy area (social inclusion, family allowances, housing, work and studies). The document convinces by the synoptic depiction of objectives, different eligibility criteria, statistics on the number and development of beneficiaries and the financial impact of each transfer. It also makes references to comparable benefits in the EU. The document reads as a plea for more transparent and coherent administration of social transfers with a much better and better monitored focus on the poorer layers of the population.

FORUM für Politik, Gesellschaft und Kultur "Retraites", No. 303, Luxembourg, January 2011.

"Pensions"

This edition of a national socio-political magazine dedicates its main topic to the national pension system. Various articles examine the subject from its historical development via the current and expected future financial situation of the public fund. The central articles cover the difficulties in identifying an appropriate reform proposal to be supported by all major stakeholders concerned as well as a socially responsible investment policy of the pension reserve fund.

GOVERNMENT OF THE GRAND-DUCHY OF LUXEMBOURG (2012), Projet de loi no. 6387 portant réforme de l'assurance pension et modifiant : 1. Le Code de la sécurité sociale ; 2. La loi modifiée du 3 août 1998 instituant des régimes de pension spéciaux pour les fonctionnaires de l'Etat et des communes ainsi que pour les agents de la Societé nationale des Chemins de Fer luxembourgeois ; 3. le Code du travail. (bill), Chambre des Députés – retrieved from : http://www.chd.lu/wps/PA_1_084AIVIMRA06I4327I10000000/FTSByteServingServletImpl/?path=/export/exped/sexpdata/Mag/172/075/107714.pdf

"Draft bill no. 6387 of the reform of the pension scheme"

Despite being the bill of a passed law, the document and in particular the explanatory memorandum reads like a comprehensive overview of the Luxembourg pension system from its early stages at the beginning of the 20th century via the present structure to its forecasts up to 2060. Written in an informative and interesting manner, the document develops a logical sequence of arguments, which lead to the proposed reform as an appropriate answer to the challenges of the system. As unusual it might sound to classify a bill as a relevant publication on a pension system, an interested French-speaking reader will be able to derive a lot of important background information.

IMF (INTERNATIONAL MONETARY FUND), LUXEMBOURG, Staff Report for the 2012 Article IV Consultation, report, June 2012, retrieved from: http://www.imf.org/external/pubs/ft/scr/2012/cr12160.pdf.

This document is an IMF staff report on the 2012 consultations with Luxembourg as regards the country's economic developments and policies. It sheds light on the IMF view on Luxembourg's macroeconomic situation and prospects. Special focus is given to the financial sector, fiscal and structural policies. The report devotes special attention to the ageing-related challenges on long-term financial sustainability as well as the necessary measures to link the public pension system with increasing life-expectancy in the country.

IGSS (INSPECTION GÉNÉRALE DE LA SÉCURITÉ SOCIALE), Rapport général sur la sécurité sociale 2011, November 2012.

"General report on social security 2011"

The general report on social security is the annual reference document on all aspects of social security. The predominantly key statistical information on all social security branches is enriched with plenty of explanation and detailed evaluation. It contains chapters on the covered population, health insurance, long-term care insurance, pensions, occupational accident insurance, family allowance and social inclusion. The entire statistical report is only available online, where the general report is also made available at: www.statsecu.etat.lu.

OECD, Pensions at a Glance 2011 – Retirement Income Systems in OECD countries and G20 countries, book, 2011, OECD publishing

The OECD edition "Pensions at a Glance 2011" provides a useful updated comparative overview on pension systems and policy trends in the OECD and also encompasses, for the first time, G20 non-OECD countries such as Argentina, Brazil, China, India, Indonesia, Russia, Saudi Arabia and South Africa. This 2011 update looks in particular at the interdependencies between pensions, retirement and life expectancy. It assesses the various measures to incentivise work in old age instead of retirement, against the labour market shortages for older people. In its various chapters it evaluates a full range of pension policies and further deals with the finances of pension schemes, private pensions and reserve funds. Finally it provides a taxonomic overview of different country profiles based on 2008 data. The 2013 update is expected in December 2013.

ZAHLEN, Paul, Regard sur les 65 ans et plus, Regards 9-2011, April 2011, Statec, retrieved from : http://www.statistiques.public.lu/catalogue-publications/regards/2011/PDF-9-2011.pdf, pp. 1-4

"Regards of the aged 65 and above".

Despite its brevity, this publication provides an excellent analysis of the elderly population in Luxembourg from a demographic and living-conditions point of view. Although this age-class shows a strong increase, relative to other Member States of the European Union it remains comparatively small. Besides, more than four out of five people aged 65 live in their own properties, which is one of the reasons for a comparatively weak risk of poverty among the elderly, compared to the population in general.

[Health care]

IGSS (INSPECTION GÉNÉRALE DE LA SÉCURITÉ SOCIALE), Rapport général sur la sécurité sociale 2011, November 2012.

"General report on social security 2011"

The general report on social security is the annual reference document on all aspects of social security. The predominantly key statistical information on all social security branches is enriched with plenty of explanation and detailed evaluation. It contains chapters on the covered population, health insurance, long-term insurance, pensions, occupational accident insurance, family allowance and social inclusion. The entire statistical report is only available online, where the general report is also made available at: www.statsecu.etat.lu.

OECD, Health at a Glance: Europe 2012 – OECD Indicators, book, 2012, OECD Publishing, available at: http://dx.doi.org/10.1787/9789264183896-en

This second edition of "Health at a Glance: Europe" presents a set of key indicators of health status, determinants of health, health care resources and activities, quality of care, health expenditure and financing in 35 European countries, including the 27 European Union member states, 5 candidate countries and 3 EFTA countries. The selection of indicators is largely based on the European Community Health Indicators (ECHI) shortlist, a set of indicators that has been developed to guide the reporting of health statistics in the European Union. It is complemented by additional indicators on health expenditure and quality of care, building on the OECD's expertise in these areas. Each indicator is presented in a user-friendly format, consisting of charts illustrating variations across countries and over time, a brief descriptive analysis highlighting the major findings conveyed by the data, and a methodological box on the definition of the indicator and any limitations in data comparability.

MINISTRY OF HEALTH, Carte Sanitaire 2012, book, 5th edition, July 2013, Luxembourg, retrieved from:

http://www.ms.public.lu/fr/actualites/2013/09/carte-sanitaire-2012/index.html

"Health Card 2012"

The fifth edition of the Carte Sanitaire was published by the Ministry of Health in cooperation with the CRP-Santé (public institute for research in health). This large study provides a profound analysis of the hospital landscape's evolution during the last decade and provides an outlook of the sector's future development. This document serves as a decision-making tool for the strategic orientation of the Luxembourg hospital sector. It provides information on the existing offer and utilisation of hospital services in general and the level of specialisation for services of national importance. It furthermore informs the reader about the expected demand for services and health personnel based on projections of the national demography and the health status of the population.

GOVERNMENT OF THE GRAND-DUCHY OF LUXEMBOURG (2010), Loi du 17 décembre 2010 portant réforme du système de soins de santé et modifiant: 1. le Code de

la sécurité sociale; 2. la loi modifiée du 28 août 1998 sur les établissements hospitaliers, retrieved from :

http://www.legilux.public.lu/leg/a/archives/2010/0242/a242.pdf

"Law dated 17 December 2010 reforming the health system, Mémorial A – 242."

The law stipulates the basis for the financing of maternity leaves and other financial measures, the primary care physician model, the shared electronic patient file and the e-health agency, the benefit-in-kind model, medication substitution, the global hospital budgets and centres of excellence in hospitals.

[Long-term care]

IGSS (INSPECTION GÉNÉRALE DE LA SÉCURITÉ SOCIALE), Rapport général sur la sécurité sociale 2011, November 2012.

"General report on social security 2011"

The general report on social security is the annual reference document on all aspects of social security. The predominantly key statistical information on all social security branches is enriched with plenty of explanation and detailed evaluation. It contains chapters on the covered population, health insurance, long-term insurance, pensions, occupational accident insurance, family allowance and social inclusion. The entire statistical report is only available online, where the general report is also made available at: www.statsecu.etat.lu.

IGSS (INSPECTION GÉNÉRALE DE LA SÉCURITÉ SOCIALE), CEO (CELLULE D'EVALUATION ET D'ORIENTATION DE L'ASSURANCE DEPENDANCE), Bilan sur le fonctionnement et la viabilité financière de l'Assurance Dépendance, 2013, Luxembourg, retrieved from :

http://www.statistiques.public.lu/fr/actualites/conditions-sociales/sante-secu/2013/05/20130524/assurancedependance2013.pdf

"Statement on the performance and the financial sustainability of the long-term insurance"

This governmental evaluation report on long-term care lays the foundation for the reform of the long-term care sector. It is composed of ten chapters which analyse in a detailed manner the problems related to the performance and the financial sustainability of the long-term care insurance.

This publication is commissioned by the European Union Programme for Employment and Social Solidarity – PROGRESS (2007-2013)
This programme is implemented by the European Commission. It was established to financially support the implementation of the objectives of the European Union in the employment, social affairs and equal opportunities area, and thereby contribute to the achievement of the Europe2020 Strategy goals in these fields.

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