

**The Ageing of Europe's Population: consequences and reform  
Conference organized by the Bank of Greece on 17 January 2008**

**The Luxembourg experience, resistance to reform and main avenues  
for change in Europe**

**Speech by Mr. Yves Mersch, Governor, Banque centrale du  
Luxembourg**

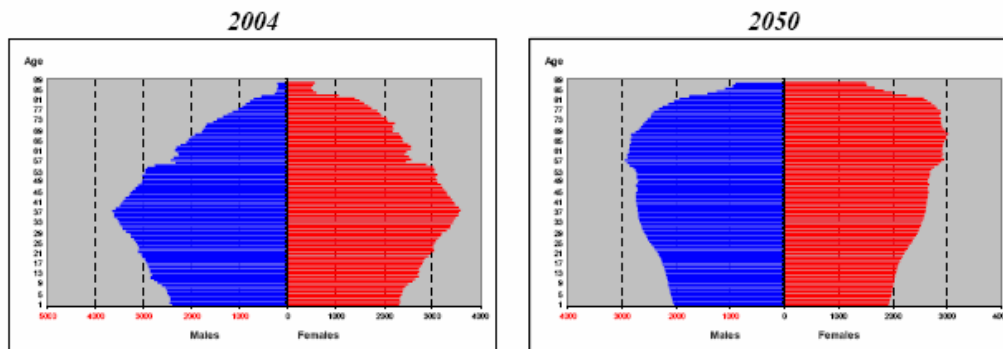
Ladies and gentlemen,

It is certainly a pleasure to address such a distinguished audience on the subject of ageing populations and the ensuing need for reform.

Economic change is accelerating. Globalisation and technological evolution are drivers of change, but the dramatic consequence of slow adjustment of national economies is further exacerbated by the dramatic and structural demographic change in Europe.

Low fertility rates, the continuous extension of life expectancy and the retirement of the baby boom generations will in the coming decades exert professional, economic, budgetary and social consequences.

### Age pyramids for EU25 population in 2004 and 2050



Source: EPC and European Commission (2005)

The impact of ageing population on real economic activity feeds through many channels. A recent survey by the European Commission (EC) and the Economic Policy Committee (EPC) has focused on the labour market, education, long-term care and health care as well as pensions.

The main finding is that between 2004 and 2011, both demographic and employment developments will be supportive of growth. This period can be viewed as a window of opportunity for pursuing structural reforms. Between 2012 and 2017 rising employment rates will roughly offset the decline in the working-age population. During this period the working-age population will start to decline as the baby-boom generation enters retirement. The continued projected increase in the employment rates of women and older workers might to some extent alleviate the demographic factors, but we might also witness tightening labour market conditions, growing skill mismatches and the risk of heightened wage pressures. The ageing effect will dominate as of 2018 and both the size of the working-age population and the number of persons employed will be on a downward trajectory.

As a result potential GDP growth rate is expected to fall from 2.2% in the first period to 1.8% from 2011-2030 and 1.3% thereafter. Employment will have a negative contribution to growth that would mostly depend on labour productivity or technological progress.

For the euro area public spending is projected to increase by about 4% a year between now and 2050.

I will focus on the pension issue, since the rise in the old age dependency ratio is the dominant factor increasing public spending in the coming decades. This is in particular the case in reform lagging countries with particular generous pension systems, like Luxembourg and Greece. Indeed pension reforms have been enacted in most countries of the EC and in half of them appear to have curtailed significantly the projected increase in public spending on pensions. Pension spending appears to be most sensitive to changes in life expectancy that rip apart the actuarial equilibrium of pay-as-you-go schemes. These pension schemes are nationally grown and closely associated with the history and culture of a society.

I will first try to examine why the most generous systems seem to be the most resistant to change, then go through some of the arguments used against reform and finally establish a scoreboard of possible reforms.

## I. Resistance to change

According to the E.C. the largest challenges on pension expenditure in the EU are faced by Portugal, Luxembourg and Spain. Greece is however missing in the statistics. Within the new EU countries Cyprus, Slovenia, Hungary and the Czech Republic would face the biggest challenges.

Among these countries the OECD 2007 report “Pensions at a glance” ranks the countries according to the generosity of pension promises. Different retirement-income indicators put Greece and Luxembourg at the top.

Gross pension replacement rates in the OECD tend to be the lowest in the six mainly English-speaking countries with stronger neoliberal influences. They are the highest in the five Southern European nations, Greece, Italy, Portugal, Spain and Turkey. If we look at the low earners the highest replacement rate is found in Denmark, while among the high earners Greece offers the highest pension reflecting both a high accrual rate and a high ceiling on pensionable earnings.

1) This shows the first problem for reform. Pension schemes tend to mix an insurance policy for the level of living with social policy with redistributive elements. The border line between these two elements is not clear, but is fertile ground for inconclusive discussions.

Whether the efficiency of the redistributive element beyond the level of a safety net is to be gauged is another question. In Denmark a low-income worker earns more once a pensioner than during his productive life.

In other countries, the spectrum of benefit design is more oriented towards an insurance scheme which aims to pay the same replacement rate to all workers when they retire.

### Gini coefficients on pension entitlements and earnings

OECD average and national earnings-distribution data

	OECD average distribution	
	Pension Gini	Progressivity Index
Australia	7.3	73.1
Austria	18.9	30.4
Belgium	11.2	58.8
Canada	3.7	86.6
Czech Republic	8.7	68.0
Denmark	11.1	59.3
Finland	25.1	7.6
France	20.5	24.6
Germany	20.0	26.7
Greece	26.5	2.6
Hungary	26.9	1.3
Iceland	18.0	33.9
Ireland	0.0	100.0
Italy	26.4	3.1
Japan	14.4	46.9
Korea	12.3	54.8
Luxembourg	22.2	18.6
Mexico	19.0	30.3
Netherlands	26.9	0.0
New Zealand	0.0	100.0
Norway	17.1	37.4
Poland	25.4	6.5
Portugal	22.1	18.8
Slovak Republic	26.5	2.7
Spain	22.1	18.8
Sweden	23.7	12.9
Switzerland	12.7	53.3
Turkey	25.1	7.8
United Kingdom	5.1	81.1
United States	16.1	40.9
<b>OECD average</b>	<b>17.2</b>	<b>36.9</b>
<b>OECD 18</b>	<b>17.0</b>	<b>37.5</b>

Note: OECD 18 refers to the 18 countries for which national earnings-distribution data are available.

Source: OECD pension models; OECD earnings-distribution database.

This table shows that the most generous schemes are actually closer to insurance schemes and the need for actuarial equilibrium is therefore all the more necessary.

But inevitably pensions interact with tax. Therefore the better measure might be net replacement rates.

2) Second insight. A pension reform with lower benefits in order to mitigate longer life expectancy and hence preserve the financial balance of pension schemes might result in demands for more generous tax treatment (deductions, allowances, credits) and the final result on public finances therefore needs careful observation. While the net replacement rate is on average 70% in the OECD, the gross replacement figure is 11% lower.

<b>Net replacement rates by earnings</b>			
Median earner		Median earner	
<b>Men</b>		<b>Men(cont.)</b>	
<b>Australia</b>	61,70	<b>New Zealand</b>	48,60
<b>Austria</b>	90,60	<b>Norway</b>	70,00
<b>Belgium</b>	64,40	<b>Poland</b>	74,80
<b>Canada</b>	62,80	<b>Portugal</b>	67,40
<b>Czech Rep.</b>	70,30	<b>Slovak Rep.</b>	71,90
<b>Denmark</b>	94,10	<b>Spain</b>	84,20
<b>Finland</b>	68,00	<b>Sweden</b>	66,20
<b>France</b>	62,80	<b>Switzerland</b>	68,80
<b>Germany</b>	57,30	<b>Turkey</b>	103,40
<b>Greece</b>	111,10	<b>UK</b>	45,40
<b>Hungary</b>	96,50	<b>US</b>	55,30
<b>Iceland</b>	86,90		
<b>Ireland</b>	44,40	<b>OECD</b>	72,10
<b>Italy</b>	77,90		
<b>Japan</b>	41,50	<b>Women</b>	
<b>Korea</b>	77,80	<b>Italy</b>	63,80
<b>Luxembourg</b>	98,00	<b>Mexico</b>	32,20
<b>Mexico</b>	37,90	<b>Poland</b>	55,30
<b>Netherlands</b>	106,30	<b>Switzerland</b>	68,10

Source: OECD pension models

For example Belgium and Germany have considerably higher net replacement rates than gross. However, Germany is now gradually withdrawing the current, very generous fiscal treatment of pension income.

The OECD report notes that “the ‘traditional’ way of encouraging voluntary savings for retirement has been through tax incentives. However these can be expensive and there is strong evidence that they are inefficient, in that much of the saving would have happened anyway without the incentive; in addition tax incentives are counterproductive from the social perspective, as they tend to be worth more for higher earners, for example.”

New insights of behavioural economics about people’s natural inertia encourage private pension saving through soft coercion. In New Zealand people are required to save unless they opt out.

What matters for governments, however, is only the replacement rate, for how long the pension benefit must be paid and how its value evolves over time, that is the stock of future flows of pension benefits. According to the OECD report, Luxembourg pays to each pensioner close to 1 Mio € or 20 times individual earnings at the time of retirement! The Netherlands and Greece rank second and third on this measure.

**Gross pension wealth by sex and earnings**  
Multiple of individual annual gross earnings

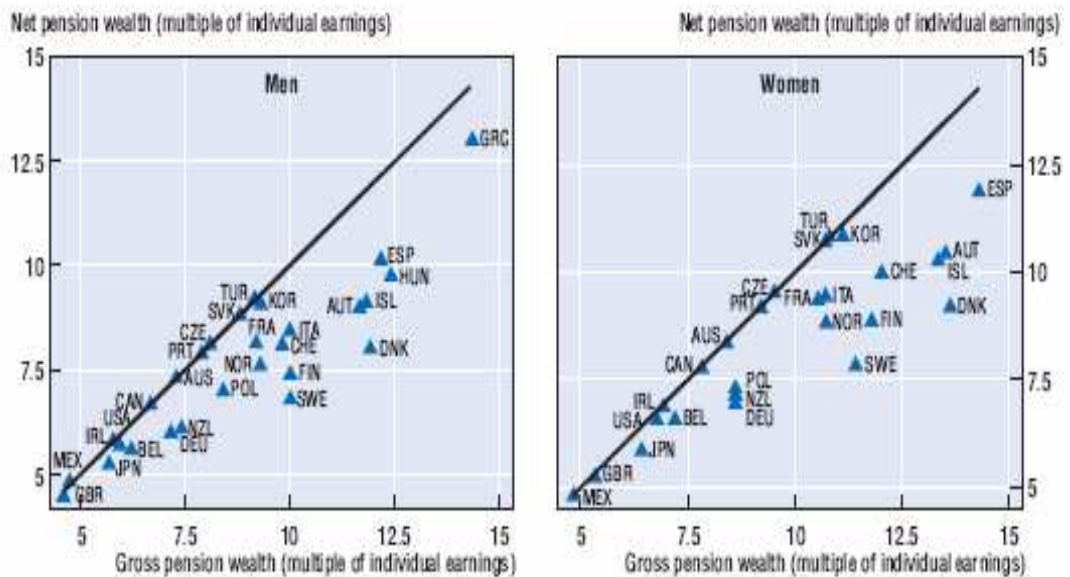
	Men			Women		
	0.5	1	2	0.5	1	2
Australia	12.5	7.3	4.6	14.6	8.4	5.4
Austria	12.2	11.7	8.1	14.2	13.5	9.4
Belgium	8.8	6.2	3.6	10.2	7.2	4.2
Canada	11.5	6.7	3.4	13.4	7.8	4.0
Czech Republic	13.0	8.1	4.8	15.3	9.5	5.6
Denmark	19.5	11.9	8.7	22.3	13.6	9.9
Finland	11.2	10.0	10.0	13.2	11.8	11.8
France	11.5	9.2	8.0	13.2	10.6	9.3
Germany	7.2	7.2	5.5	8.6	8.6	6.5
Greece	14.3	14.3	14.3	16.6	16.6	16.6
Hungary	12.4	12.4	12.4	15.4	15.4	15.4
Iceland	17.7	11.8	11.0	20.0	13.3	12.3
Ireland	11.5	5.8	2.9	13.7	6.9	3.4
Italy	10.0	10.0	9.9	10.7	10.7	10.6
Japan	7.9	5.7	4.5	8.9	6.4	5.1
Korea	13.9	9.3	6.3	16.6	11.1	7.5
Luxembourg	21.8	19.3	18	26.6	23.5	22.0
Mexico	7.0	4.8	4.5	8.5	4.8	4.5
Netherlands	14.9	15.1	15.2	17.4	17.7	17.8
New Zealand	14.7	7.4	3.7	17.3	8.6	4.3
Norway	11.5	10.2	7.3	13.4	11.3	8.5
Poland	8.4	8.4	8.4	8.9	8.6	8.6
Portugal	10.5	7.9	7.7	12.3	9.2	9.0
Slovak Republic	8.8	8.8	8.8	10.7	10.7	10.7
Spain	12.2	12.2	10.1	14.3	14.3	11.8
Sweden	12.6	10.0	10.5	14.4	11.4	12.0
Switzerland	10.7	9.8	5.1	13.1	12.0	6.3
Turkey	9.2	9.2	9.2	10.7	10.7	10.7
United Kingdom	8.0	4.6	2.5	9.1	5.3	2.9
United States	7.9	5.9	4.6	9.2	6.8	5.3
<b>OECD average</b>	<b>11.8</b>	<b>9.4</b>	<b>7.8</b>	<b>13.7</b>	<b>10.9</b>	<b>9.0</b>

Source: OECD pension models.

If we look at net pension wealth, taking taxes and social security contributions into account, there is no change in country ratings according to the generosity of their pension promises.



### Gross versus net pension wealth by sex, average earner



Note: Both scales of both charts have been capped at pension wealth of 15 times individual earnings, which excludes Luxembourg and the Netherlands from both charts and Greece and Hungary from the chart for women.

Please do not look at the graphics but at the note.

At BCL we have reassessed the assumptions of the OECD calculations. Even using the most conservative assumptions the actuarial disequilibrium, namely the disequilibrium between the present value of social security contributions and of future pensions amounts to a bonus of roughly 300.000,- EUR in Luxembourg at a life expectancy of 87 years for a retirement at 65. The system is however skewed towards inciting contributors to leave at age 60, which brings us closer to the OECD figures mentioned (the apparent discrepancy with the OECD also reflects the fact that the OECD calculated the present value of future pensions, whereas the BCL figure refers to the difference between (i) the present value of future pensions and (ii) the present value of social contributions paid during the career).

3) History is in many respects an explanation for the capacity to change. The most radical reforms were enacted in some of the new member countries eager to switch to a market economy. On the other hand, hysteresis seems to prevent reforms, especially in countries where the introduction of pension promises was achieved by social struggle. In the case of Luxembourg, the legal retirement age was introduced in 1925 for men and in 1931 for women. The quite generous promises were to be measured against an average life expectancy of 55 years only at that time! Steel and mining represented 1/3 of GDP, more in terms of employment. Today the banker has displaced the miner, but the schemes are the same.

However, the institutions that run the pension schemes as well as the social dialogue continue to be dominated on the employer's side as well as on the employee side by heavy industry. Today, the latter represents less than 7% of GDP, and even less in terms of employment. Much of the restructuring of the economy from industry to services was done in a consensual way by early retirement schemes, or other measures at the expense of pension schemes. The success of this social change management with generous promises in the past might now be at the origin of resistance to measures aimed at curbing benefits today in order to live-up to longer life expectancy tomorrow.

4) Another sociological barrier appears to be the numerous special regimes in many countries run by separate administrative structures. The defence of sectoral privileges, often intricate and deeply-rooted in our history, complicates the social dialogue necessary to address solutions commensurate to the needs of our societies in the long run.

The first advantage of streamlining regimes is savings in administrative costs, as many of these institutionalised regimes duplicate work. Since these administrative structures are the official dialogue partners, they have a vested interest in resisting administrative efficiency, even if the benefits of their regime would remain untouched.

Italy started its pension reform with administrative unification back in the 90's, while ensuing step-by-step harmonization of the benefits system is still on the way. For example, only this month the retirement age for Senate staff is to be lifted from 50 to 53 years.

France is also about to streamline its “special” regimes. In Luxembourg administrative unification is about to be implemented as a first step.

5) This brings me to the largest impediment to reforms: timing. Pension reform inherently means short-term pain for long-term gains. This does not square well with the electoral cycle. Therefore methods already considered were:

- big reforms at the beginning of a legislature,
- small steps over the whole legislature,
- reforms agreed to be enacted only in subsequent legislatures,
- reforms on a trial base,
- opt ins with sweeteners,
- reforms by stealth etc....

There seems to be no miracle remedy. At the opposite end even parties which explicitly campaigned on a “no need to reform” platform or pensioners’ parties have also not succeeded. Today the situation in pension reform can be compared to the situation in fiscal reforms prior to

the advent of the euro: The first reaction is to argue that your country is a special case, that the rules do not fit it and to list excuses. The second reaction is to buy time by taking one-off or temporary measures or window dressing.

Only in the third wave do we face the inevitable structural reform.

## II. Excuses

What are the excuses as regards pension reform?

### 1) Demographic pressure is delayed

#### Peaks in public pension expenditure as a share of GDP

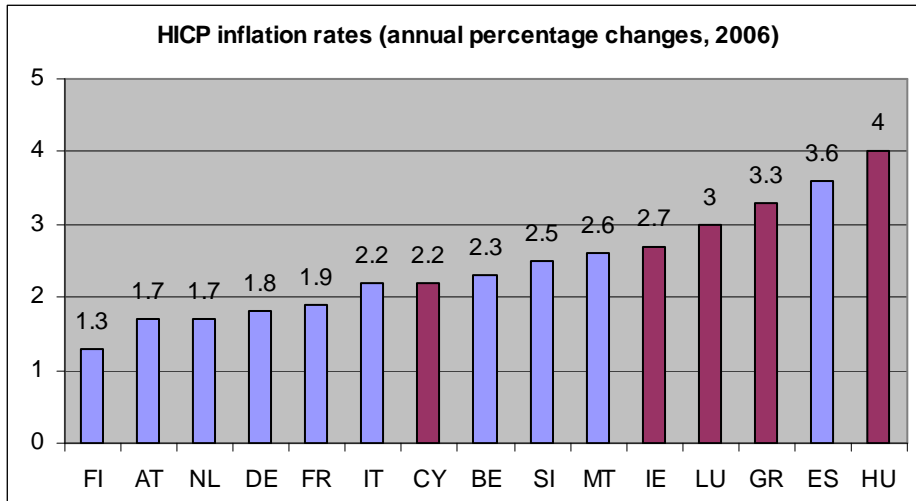
Country	Starting year 2004	Peak year	Value	Difference: from 2004 to the peak	
				Absolute	%
BE	10,4	2042	15,7	5,3	51,5
CZ	8,5	2050	14,0	5,6	66,1
DK	9,5	2039	13,5	4,0	42,1
DE	11,4	2050	13,1	1,7	15,2
EE	6,7	2006	7,7	1,0	15,4
GR					
ES	8,6	2046	16,2	7,6	88,6
FR	12,8	2040	15,0	2,1	16,6
IE	4,7	2050	11,1	6,4	134,8
IT	14,2	2039	15,9	1,7	11,7
CY	6,9	2050	19,8	12,9	188,5
LV	6,8	2004	6,8	0,0	0,0
LT	6,7	2050	8,6	1,8	27,3
LU	10,0	2047	17,7	7,7	77,1
HU	10,4	2050	17,1	6,7	64,8
MT	7,4	2021	10,2	2,8	37,6
NL	7,7	2039	11,7	3,9	50,7
AT	13,4	2033	14,1	0,7	5,2
PL	13,9	2004	13,9	0,0	0,0
PT	11,1	2050	20,8	9,7	87,8
SI	11,0	2050	18,3	7,3	66,4
SK	7,2	2050	9,0	1,8	24,7
FI	10,7	2033	14,1	3,4	32,0
SE	10,6	2040	11,6	1,0	9,1
UK	6,6	2050	8,6	2,0	29,8
EU15 <sup>1)</sup>	10,6	2043	13,0	2,4	22,5
EU10	10,9	2050	11,1	0,3	2,5
EU12 <sup>1)</sup>	11,5	2044	14,3	2,7	23,8
EU25 <sup>1)</sup>	10,6	2044	12,8	2,2	21,0

1) excluding Greece

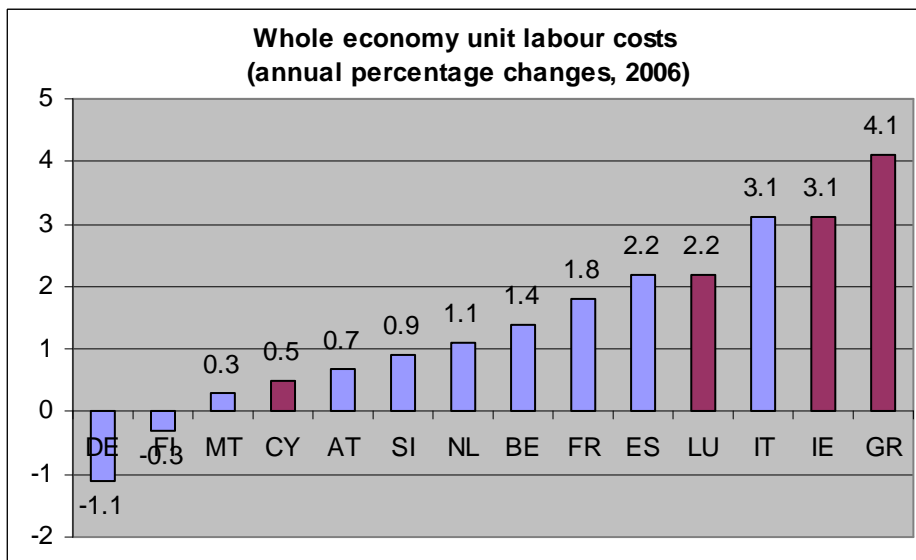
The peak in the level of public spending will occur already by 2030 in Austria and Finland. Both countries have enacted reforms: Austria in such a way that it is the only EU country with an expected decrease of spending on the pension burden, Finland by accumulating reserves.

At the other extreme you find countries with peaks in 2050 only: Germany, Czech Republic, Cyprus, Hungary, Ireland, Portugal, Luxembourg. Greek data are missing. Except for Germany these are the countries that you find in the list of problem countries where reform is lagging. Even the consciousness of a need for reform seems to have eluded some of these countries.

Inside the EU 4 countries (Greece did not provide data) foresee that average pension benefits will increase relative to wages: Cyprus, Ireland, Hungary, and Luxembourg. A quick comparison with present inflation rates or unit labour costs shows that mostly the same countries are already today at the top of the league for future competitiveness problems in a monetary union.



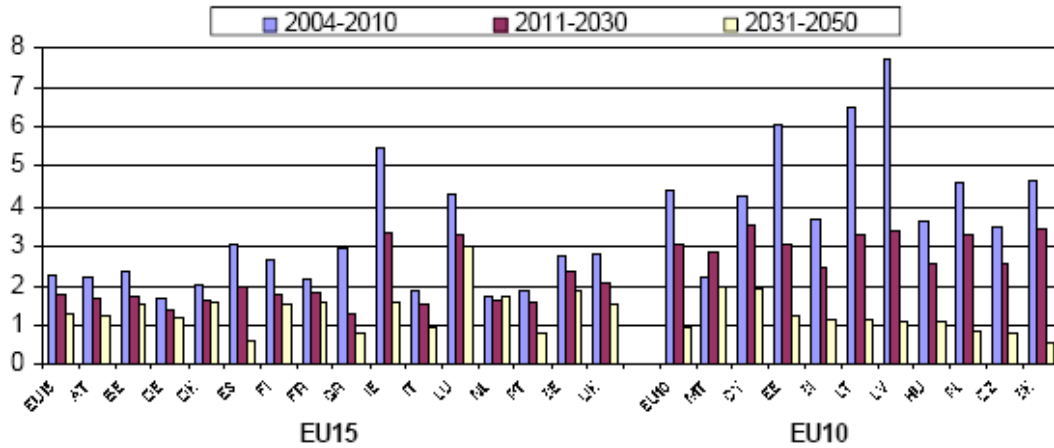
Source, Eurostat, European Central Bank calculations



Source: Eurostat, European Central Bank calculations

2) Or is it that these countries which also have some of the highest growth figures feel unable to communicate a decrease in benefits in such circumstances.

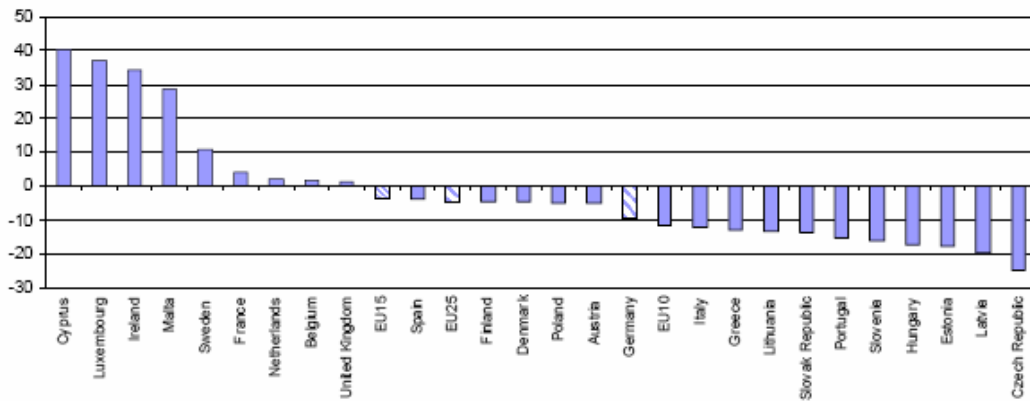
## Projected potential GDP growth (annual average) in the EU25 Member States



Source: EPC and European Commission (2005a)

In the case of Cyprus, Ireland and Luxembourg the main motor of fast growth is employment more than labour productivity. Is today's growth the scourge of tomorrow if it is not put to good use?

## Projected changes in employment (% change of employed people aged 15-64 between 2003 and 2050)



Source: EPC and European Commission (2005a)

For Luxembourg growth is due to cross-border workers, who today represent more than one third of the labour force, foreign workers another third, the remaining third of locals being increasingly occupied in the public or protected sector. Younger than average migrants and cross-border workers act like a doping shot on economic growth and public sector finance. Cross-border commuters alone account for 30% of social contributions and receive 18% of old age and health care. This is equivalent to our 2% of GDP social security surplus, which is used as an argument against adjustment. Some years ago, a significant part of this surplus was even used for increasing the generosity of pension promises.

In fact these temporary present surpluses are insufficient to face the financing requirements of pension promises over the long run, due to the longevity risk and to the generosity of average pensions.

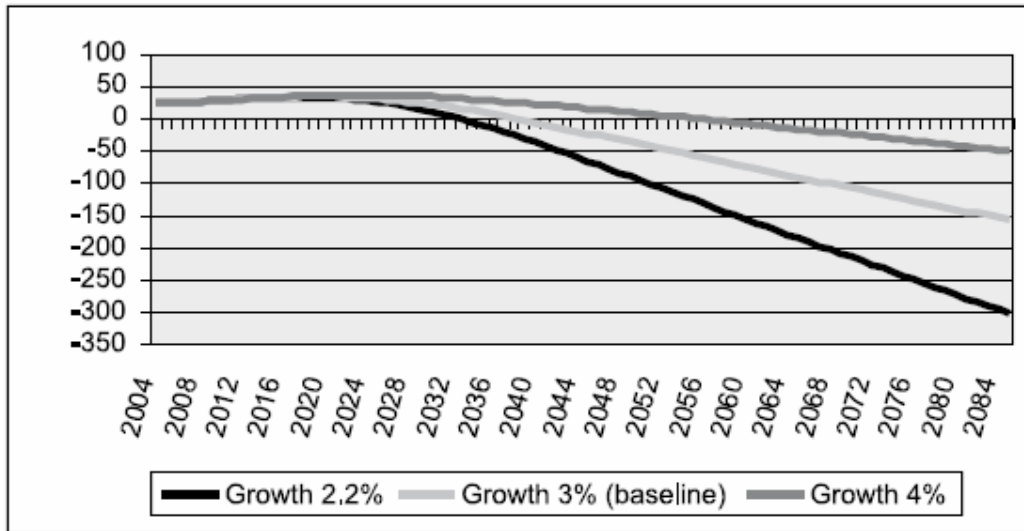
The BCL has calculated that our pension promise is equivalent to a Government bond with an 8% coupon for representative individuals. In order to stabilize public sector expenditure we would need the economy to grow in excess of 5.2% a year which requires more than 1 million cross-border workers for a population of 0.5 million. We could alternatively see a doubling of contribution rates stifling growth or incur liabilities of 50% of GDP by 2050 and more than 150% of GDP by 2085.



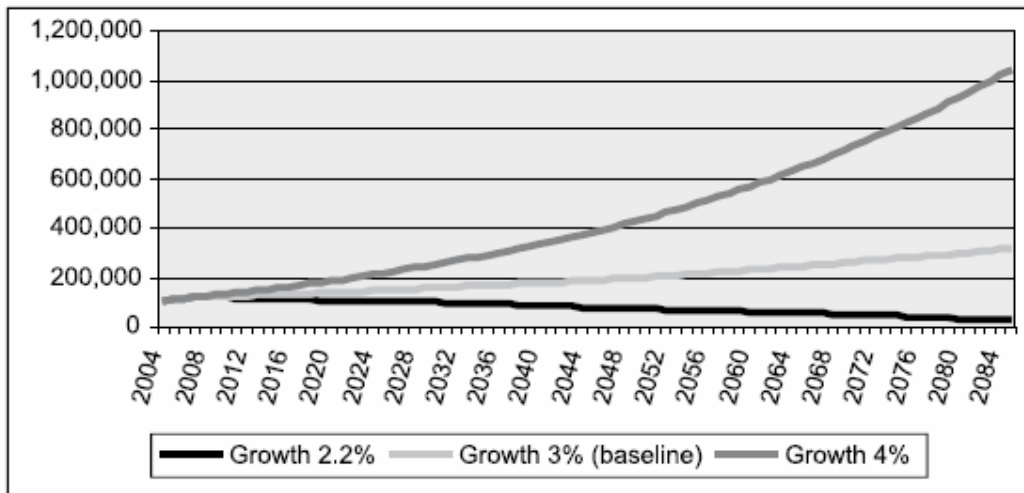
# Sustainability of the private pension regime under several GDP growth assumptions (1)

As percentages of GDP

## 1. Evolution of pension reserves



## 2. Corresponding evolution of the number of cross-border workers



Sources: IGSS, ILO, STATEC, BCL calculations.

(1) All other assumptions are kept unchanged.

With a growth rate only fuelled by labour productivity according to long term trend, the deficit of pension reserves would reach 100% of GDP by 2050 and even about 300% of GDP by the end of our projection horizon (2085).

We suggested strengthening the revenue side of the actuarial imbalance by increasing the property incomes of the private sector pension regime through better management of the reserves (which is being implemented in the aftermath of a law adopted in May 2004 but with a rather conservative strategy) and through increasing reserves to reach a fully funded system according to the Modigliani/Muralidhar reform proposal. The latter proposal would request a prefunding effort to step up present reserves to the needed present value of future outlay. The trade-off between the speed of adjustment and intergenerational fairness inherent in this proposal seems however to crash into a “political wall”.

3) Reform seems all the more difficult in the context of relatively balanced public finances and an exceptionally low debt rate of 7% in the Luxembourg case. Already now 1/3 of pension contributions, which are equal to 24% of gross contributory incomes, are paid from the general budget.

The buoyant growth rates - mainly from financial services - over the last decade helped finance the adjustment from an industrial society to a service-oriented economy. These growth rates masked above all high structural public expenditure, since the latter are matched by equivalent, but to a large extent cyclical or temporary, revenues. However this situation leaves a small and relatively undiversified open economy

vulnerable to idiosyncratic shocks. The dominant financial sector might mature and yield lower growth with an end to the snowballing influx of cross-border workers. Luxembourg would then hit the so-called “pension wall” in the absence of far-reaching reforms.

The volatility of public revenue is already now twice that of larger, more diversified economies such as Germany or France. The illusion of the balanced public budget has to be seen against the background of the depletion of budget reserves and even the occurrence of deficits during the last economic turn-down. The low debt level would only bring temporary relief, but acts as an encouragement to delay action.

The currently favourable situation of the pension regime seems to encourage complacency rather than to be seen as a window of opportunity to set aside large assets. This is unfortunate, because the corresponding property incomes would offset the rising costs of generous pension benefits, at least if pension assets were equal to about 150-200% of GDP.

If the actuarial neutrality of pension promises, unsettled by longevity risk, cannot be mitigated by action on the asset side, like accumulating reserves and managing them more professionally or snow-balling influxes of young foreign workers to prevent rising contributions to threaten competitiveness, then one must also start to look at corrections on the liability side.

Let me just add that expanding the contributive base with migration or commuters also has a cost in terms of expense in public goods in order to

stay attractive and to provide additional transportation and housing facilities.

Table: Current state in Luxembourg

Dependency ratio	↑ significantly
Gross public pension expenditure as a share of GDP	↑ significantly
Early retirement	significant
Defined benefits	yes
Private	no
Disability	yes
Re-evaluation of pension benefits	by wage index
Retirement age: legal	65
effective (2005)	59,4

### III. The scoreboard of benefits reform

According to the EU Commission 70% of the pressure on public spending covered by demographic developments is projected to be offset by action on factors such as the employment rate, the eligibility rate and the relative benefit level of pensions. In the new member states of the Union this percentage is supposed to reach 100%. Generally speaking public pension expenditure projections are most sensitive to assumptions of life expectancy, especially in defined benefit schemes.

Higher or lower labour productivity assumptions affect pension spending through their link to wage increases. If pensions are linked to wages the

productivity and concomitant wage and pension increase cannot of course relieve pension spending.

Interest rates only matter in case of funded or partially funded schemes.

Employment rates also matter less in most countries, since they tend to affect both the contribution and the benefit side as well as the level of GDP. However in the case of a defined benefit system, the increase of the eligibility age through longer working time and less generous early retirement helps considerably in re-establishing an actuarial neutrality.

#### 1) Life expectancy: Links between earnings and benefits

Systemic reforms to meet demographic pressure that adjust benefits or the pension age to increasing life expectancy have been proposed or implemented in around half of OECD countries. Defined contribution schemes funded or with notional accounts exist in Hungary, Poland, Slovakia, Italy, Sweden; a points system exists in Germany; financial sustainability adjustments were introduced in Austria, Finland, Portugal, Denmark and France.

Some countries introduced private or partly private DC schemes as a substitute for part of the public earnings-related scheme. However there is still a transfer of resources between generations from workers to retirees and the overall financial effect remains uncertain. Social effects on lower earners remain untested since financial sustainability adjustments, due to increases in average life expectancy, might hit lower earners disproportionately.

Since much of the pressure on pension costs is yet to come, some countries have resorted to measures like broadening the contribution base (by increasing ceilings or contributions or by financing some costs from general revenue). Increasing numbers of cross border workers would also fall in this category of temporary short-term or self-defeating measures with a high long term cost for the economy. The EPC found that only 4 smaller euro member states (Cyprus, Ireland, Luxembourg and Malta) are expecting considerably increased employment by 2050 as shown in the chart on slide 10.

## 2) Benefits adjustment

Adjustment towards financial sustainability or actuarial neutrality is mostly done through changes in the statutory retirement age and less generous indexation to price or real wage developments or valorisation.

### a) take-up ratio

Most OECD countries now have a standard retirement age of 65. Denmark, Germany and the United Kingdom are in the process of legislating increases. Retirement ages for men and women are being equalized.

In most countries efforts tend to close the gap between the legal retirement age and the effective retirement age in order to re-establish normal careers from the contributive side; expenses not directly related to

old-age pensions such as disability benefits ought not to distort the actuarial balance. Fictive contribution periods or credits for missing contributions are being curtailed or financed through social policies. One of the most damaging economic theories in Europe has been the idea of distributing a finite amount of employment through early retirement. Company and sector related economic restructuring was thus socialized at the expense of the long-term equilibrium of pension schemes.

To fight young age unemployment with early retirement incentives in fact only alleviated the employer's labour cost with subsidies from the pension schemes. Such attempts can be seen, above all but not only, in monolithic smaller economies. Today penalties for early retirement or increases in the number of years of contributions required to receive a full pension have been introduced or increased in many countries. Other countries have introduced or increased the increments or bonuses to late retirement. At some point in stage, countries had a general interdiction for retirees to work or earn a salary beyond a minimum amount!

In Finland, older workers are given higher accrual rates. Austria, France, Germany and Portugal increased the benefit reductions for early retirement and increments for late retirement. Large decreases in the take up ratio of pensions are furthermore projected in Hungary, Poland, Czech Republic, Italy and Slovenia. In Luxembourg, pensions are increased beyond two thresholds related to age and the length of the career, respectively. Abolishing credited fictive contributions is not only improving financial sustainability but also equity between workers.

## b) calculated benefits

At one extreme in Luxembourg non-funded public sector pensions are still linked for elder public employees to last day salary and many final promotions are made for a couple of months only in order to increase pension entitlements. Since 1999 reform aligned this scheme to reforms in 17 out of 22 OECD countries which now use lifetime earnings or a close proxy of them to calculate benefits rather than a few years of final or last earnings.

These reforms usually carry no costs from a social point of view since low-skilled workers typically have flatter real age earning profiles, as do women.

Furthermore progressive annuities are also increasingly being built in to discourage empty career periods. Unemployment or caring benefits for example can also be subject to social security contributions.

## c) valorisation of past earnings

In all earnings-related public pension schemes past contributions or earnings are rescaled to adjust to changes in living standards between the time pension rights accrued and the time they are claimed. This valorisation of past earnings is mostly done in line with economy-wide wage growth or with labour productivity increase.



France now rescales according to price growth only. Such an approach would considerably decrease the implicit liabilities of the pension system in Luxembourg. Finland, Portugal and Poland rescale according to a mix of wage and price growth with evolving benefits.

#### d) indexation of pensions

Price indexation protects purchasing power; wage indexation protects living standards. Is a pensioner entitled to benefit from productivity gains in which he did not participate?

The traditional life cycle consumption pattern assumes that old age people consume less or differently by increasing health care consumption. Since health care is largely socialized or subsidized, productivity increases should benefit more wage income than pension income. This is all the more so as the labour force diminishes and the dependency ratio increases.

In response one can argue that the increase in life expectancy also influences the consumption behaviour of old age. This is already reflected in private banking wealth management profiles.

Looking at the number of countries that have moved away from indexation of pensions to future wages the answer seems to be that political and financial sustainability do not seem to be mutually exclusive. But only piecemeal moves are observed in this area.

Some adjust to a mix of wage growth and price inflation and change the weighting. In Italy, higher pensions are increased by less than price inflation. Portugal also gives larger increases to smaller pensions. Austria introduced a cap on price inflation adjustment. In Belgium price indexation is linked to a trimmed down index excluding volatile elements such as oil products, alcohol or tobacco. In Luxembourg, we do not only fully index wages but also pensions. We share this situation with Slovenia.

	Dependency ratio increases	Stationary eligibility increases	Defined benefits	Private	Re-evaluation of pensions benefits	Early retirement	Disability
AT		√	√		√	√	
IT		√	√	√	√	√	
SE			√	√			
PL		√	√	√		√	√
EE				√			
LV				√			
LT				√			
SI				√	√		
FI		√	√		√	√	√
MT					√		
DE					√	√	
FR		√			√	√	
NL							√
BE							
HU	√	√	√	√		√	
IE	√						√
ES	√						√
PT	√						
GR	√						
SK		√				√	
CY	√					√	
CZ		√					
DK	√						
LU	√		√				√

## Conclusion

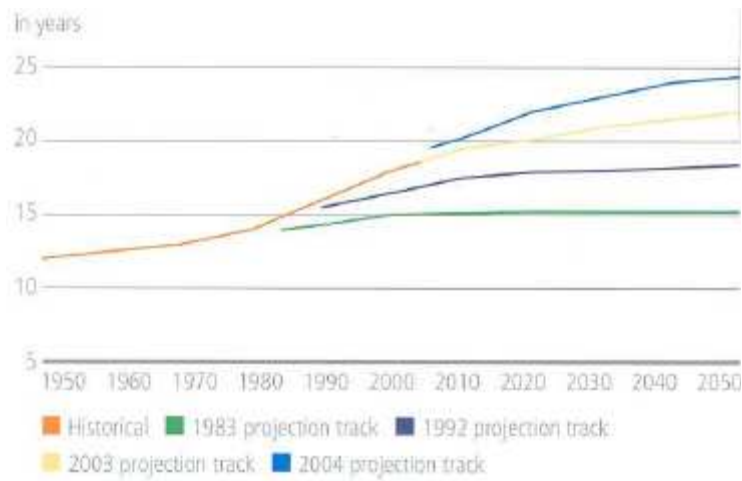
A year ago, at a conference on structural reforms at the Central Bank of Luxembourg, Governor Garganas said that “Addressing the challenges for Greece’s fiscal position and international competitiveness will require, first and foremost, sustained further progress towards fiscal consolidation, including measures to put the public pension system on a sound basis.” These words have to be seen in the light of the EPC report that shows for Greece a below EU average evolving labour productivity rate and one of the strongest declines in labour supply.

There is a clear trend towards a reduced pension promise, as shown as a consequence of pension reform in 16 OECD countries. Six of the 10 countries with the highest expenditure on pensions in the 1990s took action including Finland. 4 saw little or no change over that period according to the OECD. They are Greece, Luxembourg, Belgium and Spain. Of course pension reforms have profound social and distributional implications. Old age poverty is not compatible with the objectives of the European Union. But is not the art of governance long term planning under short-term pressures?

I therefore conclude with 2 observations from an investment bank report:

One to show how we consistently misjudged life expectancy is the UK. This country example is probably also true in a continental perspective.

## Realized life expectancy at age 65 through 2003 and four forecast projections

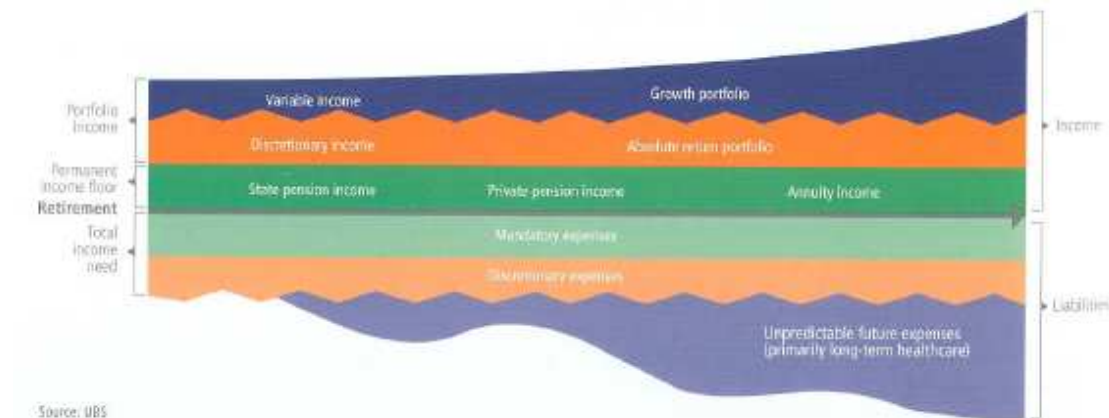


Note: UK projections for men  
 Source: Government Actuary's Department, UK:2005

## The new retirement landscape



Source: UBS



The final synthetic view is the new retirement landscape to which we have to adjust according to the research team of a major investment bank: “Retirement, in its current form, will soon be a thing of the past as demographic, financial and lifestyle factors lay siege to the traditional model. People are living longer than ever before, but not necessarily working longer, which has led to a surge in the number of people collecting pension benefits. State pension plans are under growing pressure to reform and will likely resort to some combination of reduced benefits or increased taxes to bring the programs into fiscal balance. The same forces affecting public pension provision are also taking a toll on corporate pension plans. Meanwhile, medical and healthcare spending is rising, putting government finances under additional strain.” (Robin Miranda and Kurt E. Reiman)

## Bibliography

- The impact of ageing on public expenditure: projections for the EU25 Member States on pensions, health care, long-term care, education and unemployment transfers (2004-2050): Report prepared by the Economic Policy Committee and the European Commission (DG ECFIN)
- Pensions at a Glance – Public policies across OECD countries: OECD 2007
- Annual Report 2006: Banque centrale du Luxembourg
- The transition from PAYG to funding: Application to the Luxembourg private sector pension system: Working paper n° 23 July 2006 by Muriel Bouchet - Banque centrale du Luxembourg
- Essentials 2008: UBS – Transition to Retirement by Robin Miranda and Kurt E. Reiman
- Franco Modigliani and Arun S. Muralidhar, Rethinking Pension Reform, Cambridge University Press, 2004.