UPDATES OF CURRENT AND PROSPECTIVE THEORETICAL PENSION REPLACEMENT RATES 2006-2046

ANNEX – COUNTRY FICHES

- December 8th 2009 -

1. BELGIUM

Description of schemes included

The retirement pension of employees in the private sector is determined on the basis of three elements: career, wages and family situation. Every year of the career counts for 1/45th in the calculation of the pension. Pensions are calculated on the basis of the full career and provide 60 % (for a single person) or 75% (for a head of family) of the revenues earned in the whole career up to a certain wage ceiling.

Calculations include a funded DC 2nd pillar scheme. For the building up of this second pillar, it has been assumed that the contributions have been paid since 1992, with a contribution rate of 4.25% of wages.

Representativeness of the calculations

Men reach a full career after 45 years, women after 44 years at present (for employees in the private sector). As a result of the 1997 pension reform, the legal retirement age and the calculation fraction is equalised with these of men as of 1.1.2009 in the scheme for salaried workers and self-employed. The effective average age of exit from the labour market (total population) is 61.6 (Source: LFS 2007). This is below the legal early retirement age (60 years) and the legal normal retirement age (65 for men and currently 64 for women employees in the private sector).

Available studies indicate that while the actual exit age from the labour market is lower than 60, the average age of take up of pensions for salaried workers is 64 for men and 63 for women, after a career (including assimilated periods) of 42 years for men and 30 years for women.

The coverage of occupational pensions for the working population is estimated to be around 55 % (around 30% of the current pensioners retiring in 2008 are covered by these schemes). On average, around 30% of the net pension of pensioners who benefit from a 2nd pillar pension is contributed out of these occupational pensions. Contribution rates are very diverse and the modal value appears to be in the range from 1% to 5% for sectoral occupational pension (the modelled assumption is that contributions are paid fully by employers). A relevant share of pensioners will therefore continue to rely mainly on the contribution provided by the statutory scheme.

Main demographic and economic assumptions

The economic and demographic assumptions have been chosen according to the ISG guidelines and AWG macroeconomic assumptions. Belgium is projected to face similar demographic trends to most EU15 Member States in coming decades. According to 2005 Eurostat demographic projections used in the new OMC round of pension projections, the number of elderly persons (age 65+) will increase by some 67% until 2050, albeit less than the average for the EU15 (77%). This implies that the old age-dependency ratio will steadily increase from 26% in 2003 to 47% by 2050 (below the EU25 average of 52%).

Main results

At around 40% for average wage earners, gross replacement rates of the first pillar are comparatively low for an earnings-related scheme. This is linked to the fact that pensions are calculated on the basis of earnings during the entire career and that the standard career assumptions correspond to a less than full career (40 years instead of 45), leading to a lower pension. Minimum pension rules increase the replacement rate in the case of the hypothetical worker on 2/3 of average earnings and a ceiling on earnings taken into account for calculating the pension reduces it (this has large effects in the case of a hypothetical worker ending the career at 200% of average earnings).

It can be observed that in 4/5 of the cases, second pillar pensions are paid out in capital and not in annuities. Therefore, due to the assumption of 2nd pillar pension payment in annuities, the calculated contribution of second pillar schemes to total pension income is currently small. For average

earners it represents only about one tenth of the gross pension. This is the result of the assumption of a 14-years contribution period (over a career of 40 years) in 2006 with a contribution rate of 4.25% of gross wages (paid by the employer).

The net pensioner income is above 2/3 of the pre-retirement net income for people on average earnings and for people on 2/3 of average earnings, but it is significantly lower for people with rising earnings profiles. Pensions benefit from a tax reduction that has a relatively more important impact for low and average pensions.

In the case of the concave earnings profile the net replacement rate is very close to the base case result. This is linked to the fact that pension rights are built up during the entire career.

Under applicable legislation on 1.1.2006, first pillar pensions of private sector employees are automatically raised in line with inflation. Additional adjustments, which may be targeted at certain categories of pensioners, have been made in the past on a discretionary basis. The calculation of the replacement rate ten years after retirement is based on the assumption that an additional pension increase of around 0.5% on top of the expected inflation rate will be awarded. For second pillar schemes it is assumed that the accumulated capital is converted into an annuity at the moment of retirement and that this annuity is adapted in line with inflation. The 10-years indexed replacement rate (pension income ten years after retirement relative to projected earnings) is significantly lower than at the moment of retirement or compared to a newly retired person.

Under the legislation applicable on 1.1.2006 and assuming that the minimum pension and tax thresholds increase in line with earnings and also assuming that the 'pension bonus' instated for new pensioners in 2008 will be continued, gross replacement rates for most cases with a 40-years' career will remain roughly constant for the first pillar over the projection period 2006-2046. Only in the case of the rising earnings profile (100% to 200% of average earnings) there is a significant drop of around 16.5 percentage points. This is also due to the fact that on the long term the wage ceiling is assumed to increase more slowly than wages (1.25 versus 1.75 percent). The contribution of the second pillar to the gross replacement rate is expected to rise significantly as a result of the assumption that the number of contribution years to second pillar pension schemes will rise from 14 to 40 years by 2032, when the contribution of the second pillar to the total gross pension income of the worker on average earnings will be around one fifth. After 2032, the gross replacement rate of the second pillar will progressively decline as a result of rising life expectancy. The combined development of first and second pillar pensions implies that total net replacement rates will slightly increase between today and 2046 for all cases (except 100-200% and 80-120% average wage increases case type) for people covered by both pensions. On the basis of the assumptions used in this study, net replacement rates could be about 4 percentage points higher in 2046 than in 2006 in the base case.

Table A.1.1 – Belgium: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	39,8	39,5	31,5	36,4	41,5	41,3	23,3	33,6	38,0	39,5	39,5	39,5	39,4	38,5	NA	36,5	
Occupational and voluntary pensions	3,9	8,7	6,5	8,0	9,9	8,7	6,6	7,3	8,3	8,7	8,5	8,5	8,0	8,5	NA	8,1	
Total gross replacement rate	43,7	48,2	38,0	44,3	51,4	50,0	29,9	40,8	46,3	48,2	48,0	48,0	47,5	47,0	NA	44,6	
Total net replacement rate	69,5	73,5	62,7	69,9	77,2	72,7	50,1	63,7	71,7	73,5	73,2	73,2	72,5	74,2	NA	70,3	
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.1.2 – Belgium: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	64
		F	63
		Total	NA
2	Effective age of withdrawal from the labour market (2007)	M	61,2
		F	61,9
		Total	61,6
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	42,6
		F	30,5
		Total	NA
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	100
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	55 (estimate)
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	46
		F	18
		Total	35
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	/
	Average pension relative to average wage (in %)		
7	Median pensions (without other social benefits) relative to median earnings		0,44
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		NA
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	16,36
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	4.25
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		DC
14	Assumed average earnings in national currency		32.478
15	Average wage (productivity) growth rate	2006-2046	1,70

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

2. BULGARIA

Description of schemes included

There is a three-pillar system of pension insurance in Bulgaria, and all three components are considered in the computation of the theoretical replacement rates.

The first pillar introduces a unified concept for contributory income, on the basis of a monthly calculation of insurance contributions. A right the State public insurance is acknowledged under two conditions at a time: an age condition or the sum of an individual's age and the length of their insurance should be either equal or exceed a certain defined sum of points. The sum of age and years of contribution has to equal 100 points for men and 94 points for women.

The supplementary pension insurance includes the second (compulsory) and the third (voluntary) pillar of the Bulgarian pension system. Unlike the State public insurance, the supplementary (both compulsory and voluntary) pension insurance is based on the capital funded principle: each person insured with a supplementary pension fund shall have an individual account where all his/her contributions shall be accumulated (and capitalised). The aggregate of all funds in insured persons' individual account forms the assets of a pension fund.

Representativeness of the calculations

In the last two years Bulgaria undertook measures for decreasing the general insurance contribution. That was done in order to reduce the tendency of evasion of the insurance legislation and reducing the grey economy. As a result the general insurance contribution has decreased with 9 percentage points and the unemployment contribution from 3% to 1%. The correlation of the share ratio of the insurance contribution between the employer and the employed was amended as well. From 65:35% in 2005 it reached 60:40% in 2008 respectively for the employer and the employed. That process was planned with the entering into force of the new pension insurance legislation in 2000.

The main among all financial stabilization measures is the change of the mechanism of the financing of the public pension system. As from 1.01.2009, the social insurance contributions for the "Pension Fund" of the public pension system have been reduced from 22% to 18% (10% for the employer and 8% for the employee). Correspondingly, the state shall transfer additional 12% of the insurable incomes of all insured persons into this fund's budget. The changes in the social insurance contribution rates also include the increase of the health-insurance contribution (from 6% to 8%) and reduction of the contributions for the Fund for Guaranteed Claims of the Employees in case of Employer's Insolvency (from 0.5% to 0.1%).

The dependency rate (which is a ratio between the number of pensioners and the number of insured persons in PSI) is expected to mark descending trend in the next five years compared to its current level of 78.6% and reach 75.5% in 2014 since in 2010 the retirement age will reach the new legally defined bound and the retirement privileges for the special professions will be terminated. In a long-term perspective the continuous low fertility rates and the increasing life expectancy will lead to increase of the dependency ratio to approximately 114% in 2050. These are really high dependency ratios which make imperative the public debate on how to guarantee the long-term financial sustainability of the pension system. The minimum retirement age has been gradually increased since the year 2000 from 60 to 63 for men and from 55 to 60 for women (increase completed for women in 2009).

Main demographic and economic assumptions

Positive tendencies observed in the basic demographic development indicators during the last years continue in 2008. There is a delay in the rates of population decrease mainly due to the improved indicators on fertility, natural population movement, increased life expectancy and decreased influence of international migration. Main problem of the country demographic development is the

still high mortality level, relatively lower life expectancy compared to the other European countries, as well as the negative net international migration. Nevertheless, the positive tendencies observed in the demographic development during the last years are a good basis for overcoming of the serious demographic crisis passed during the last decade of previous century.

At the end of 2008 population in Bulgaria is 7 606 551 persons. Due to the negative natural population increase and negative net international migration, the population number decreased by 33 700 persons or 0.4% within one year.

At the end of 2008 the population at working age is 4 806 thousand persons or 63.2% of the total population. It decreased by 11 thousand compared to the previous year.

Number of births in the country continues to increase and fertility also. Number of children born in 2008 is 78 283, 77 712 of which or 99.3% are live born. Number of live born children increased by 2 363 compared to the previous year. Crude birth rate is 10.2 ‰2. The number of live born children registered in 2008 is the highest for the last 14 years and the crude birth rate reaches the 1992 level.

There is a decrease of mortality observed in 2008 compared to the previous year. Number of deaths is 110 523 persons or 2 481 less than in 2007. Mortality rate5 (14.5‰) decreases by 0.3%.

Life expectancy at birth for the period 2006 - 2008 is 73.0 years or 0.3 years higher compared to 2005 - 2007 period. Life expectancy for men is 69.5 years and for women is nearly seven years higher - 76.6.

Main results

The increasing trend in the dependency ratio is accompanied with long-term decreasing trend in the income replacement rate. The income replacement ratio is the ratio of the average pension and the average insurance income. The gross income replacement rate is expected from 42.1% in 2010, to fall to 31.4% in 2030 and then to mark a small increase to 32.3% in 2050. The income replacement ratios for the first pillar is expected to decrease gradually since the formula for calculation of the pensions is transferred from using the average value for the last period of insurance to using the average value for the entire period of insurance when calculating the individual coefficients. After 2020 the decrease will be more noticeable since the pension from the first pillar will be reduced with the percentage of the contribution of the supplementary mandatory pension insurance due to the simultaneous receiving also of pension from second compulsory universal pillar.

Table A.2.1 – Bulgaria: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	41,8	56,9	47,7	49,5	64,5	56,9	42,8	47,4	54,2	44,7	43,0	41,7	40,5	47,7	47,9	48,0	44,7
Occupational and voluntary pensions	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0,0
Total gross replacement rate	41,8	56,9	47,7	49,5	64,5	56,9	42,8	47,4	54,2	44,7	43,0	41,7	40,5	47,7	47,9	48,0	44,7
Total net replacement rate	53,3	68,6	59,0	60,9	76,5	69,5	51,8	58,2	65,7	55,9	54,1	52,8	51,5	59,0	59,2	59,3	55,9
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.2.2 – Bulgaria: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	60,8
		F	58,6
		Total	59,8
2	Effective age of withdrawal from the labour market (2006)	M	64,1
		F	64,1
		Total	64,1
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	35,6
		F	41,7
		Total	39,1
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	79,8
		F	83,1
		Total	81,4
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	71,3
		F	79
		Total	75,2
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	NA
		F	NA
		Total	NA
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	NA
		F	NA
		Total	NA
	Average pension relative to average wage (in %)		42,2
7	Median pensions (without other social benefits) relative to median earnings		0,6
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		23
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		4
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	14,95
		Employee	8,05
		Other	-
		Total	23
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB and DC
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		-
14	Assumed average earnings in national currency		4.800
15	Average wage (productivity) growth rate	2006-2046	3,0

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

3. CZECH REPUBLIC

Description of schemes included

The state pension insurance system is based on defined benefits and PAYGO financing. Pensions provided by pension insurance are: old-age, full disability, partial disability, widows, widowers and orphans. Statutory old-age pensions are composed of two parts: a flat-rate basic pension and an earnings-related pension based on the personal assessment base (PAB) and the number of eligible years. Participation in the basic pension insurance scheme is compulsory for all members of the economically active population and 99% of the population over the statutory retirement age receives an old age pension. Under this system, one single set of regulations applies to the entire population. The basic conditions for old-age pension entitlement are: a minimum of 35 years of pension insurance and reaching the retirement age. There is a gradual extension of required period from 25 to 35 years (in 2018) in the system. The 1995 Pension Insurance Act launched the ongoing process of raising the retirement age and the decision on continuation in gradual increases in the retirement age to 65 years for men and women who have not brought up any child or one child and 62 to 64 years for women (by the number of the brought up children), was made in 2008. The contribution rate was increased from 26% to 28% in 2004. Pensions are financed by both employers (21.5% of payroll) and employees (6.5% of earnings). Early retirement is possible up to 5 years before the statutory retirement age. When taking it, all employment must cease. The pension is reduced by 0.9% of PAB for every 90-day period preceding the statutory retirement age during first two years and by 1.5% PAB for the remaining three years. This reduction is permanent and continues after the recipient reaches the statutory retirement age. In case of deferred pension, an increase of 1.5% of the PAB is provided for every 90 days of economic activity during which the claim for an old-age pension is postponed. All granted pensions are adjusted on regularly yearly basis (every January). This principle does not apply only in cases of low inflation (less then two percent) or high inflation (five percent at least). The increase of pensions is appointed for average old-age pension and the adjustment is at least 100% of the price growth and at least 33% of wage growth. Pensions are neither income nor means-tested.

Representativeness of the calculations

In 2006, there are two main aspects differing hypothetical cases from the actual situation: retirement age and the number of service years. While the assumption of age of retirement is fixed at 65 years, the actual retirement age for men was close to 61 years, roughly 4 years below the hypothetical cases. The statutory retirement age for men retiring at 65 in 2006 was 61 years and 6 months. Due to actuarial reductions and bonuses used in the pension formula this difference has a positive impact on the level of pension in the hypothetical cases. On the other hand the number of obtained service years is more than 4 years higher than in the hypothetical cases. This lowered hypothetically calculated pension compared to the actual situation.

Main demographic and economic assumptions

The economic and demographic assumptions have been chosen according to the ISG guidelines and AWG macroeconomic assumptions.

Main results

For the prospective replacement ratios there is a strong impact of the legislated increase of the statutory retirement ages, which will gradually reach 65 years for men (and 62 – 65 for women depending on number of children). This increase of the statutory retirement ages leads to shortening of the period of deferred retirement, which is 4 times more credited for the pension entitlement. Due to this, theoretical prospective replacement rates decrease in all cases.

The calculations reflect elements of income redistribution within the system, as the low income worker (2/3 of the average earning) has a replacement rate greater than 72%, while for the base case it is 58% and 36% for higher income groups, represented by rising earnings profiles (from 100 to 200 % of average income).

For the cases with growing earnings, the replacement rate is lower and in the course of time drops slightly more than in the case of a stable level of income. This is caused by the gradual extension of the length of the reference period (since 1986) from which income for the pension calculation is derived. The target status (according to the legislation in force), i.e. the 30-year period prior to the year of granting the pension will be reached in 2016.

For the broken career cases, the replacement rates are the same or close to the replacement rate of the base case. The pension system covers the period of childcare up to 4 years of age of the child at the same level as a regular period of contribution. Regarding the unemployment period the replacement rates are a little bit lower than in the base case. The pension scheme covers unemployment period when person is entitled for unemployment benefits plus maximum 3 years without these benefits. However pension rights are reduced to 80% for this period.

Table A.3.1 – Czech Republic: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	60,7	45,0	38,7	38,7	52,6	58,4	25,1	38,3	43,4	45,0	45,0	45,0	45,0	44,9	44,7	44,5	
Occupational and voluntary pensions	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Total gross replacement rate	60,7	45,0	38,7	38,7	52,6	58,4	25,1	38,3	43,4	45,0	45,0	45,0	45,0	44,9	44,7	44,5	
Total net replacement rate	79,3	58,1	49,9	49,9	67,8	72,2	35,5	50,6	56,2	58,1	58,1	58,1	58,1	57,8	57,6	57,4	
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.3.2 – Czech Republic: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	61,1
		F	57,7
		Total	59,3
2	Effective age of withdrawal from the labour market (2007)	M	62
		F	59,4
		Total	60,7
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	44,4
		F	39,9
		Total	42
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	100
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	/
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	-
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	0.8
	Average pension relative to average wage (in %)		
7	Median pensions (without other social benefits) relative to median earnings		0,51
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		/
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	21.5
		Employee	6.5
		Other	-
		Total	28
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		-
14	Assumed average earnings in national currency		234.796
15	Average wage (productivity) growth rate	2006-2046	2,3

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
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11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

4. DENMARK

Description of schemes included

The first pillar of the Danish pension system is a universal, residence-based and non-contributory statutory old-age pension scheme that is financed from general taxation. It provides a flat-rate benefit combined with an income-tested element. A full public old-age pension is conditional on 40 years' residence in Denmark. The old age pension is indexed to private sector wages and is taxable. A second tier of the first pillar consists of the statutory, working time-related ATP scheme which is a mandatory scheme covering all wage earners and certain groups of recipients of transfer payments, e.g. unemployed and person on sick leave or maternal/parental leave. It provides benefits at a moderate level equivalent to an average of 10% of the first-pillar pension.

The second pillar consists mainly of defined-contribution occupational schemes based on collective agreements at the level of sectors. These schemes have been expanded significantly since the 1980s, when a number of new schemes covering skilled and unskilled workers were established.

The housing benefit for pensioners is considered as an important supplement to the pensions paid. The net replacement rates are including this benefit. The housing benefit is income tested. The housing benefit to house owners is granted as a loan.

Representativeness of the calculations

At present, the old age pension is paid to more than 99% of residents above retirement age. Of these 96% receive the full flat rate amount and 60% the full income tested supplement. For single pensioners, the public old age pension constitutes currently 60% of their income.

As regards second pillar pensions, currently more than 85% of full-time employees aged 25-59 are paying contributions into such schemes. Coverage of part-time employees and self-employed is lower. On average a little less than 80% of employed aged 25 – 59 are contributing to a second pillar pension. The contribution rate has been increased during the last 15 years and will typically reach 10.8 % in the new schemes by the end of 2006 including coverage of the risk of disability. The contribution rates are still being increased in the collective agreements. A level of 12.7% is used in the projections. Around 30% of the annual contribution is deducted from the savings for old age pension to cover the risk of disability and death before age 65.

Main demographic and economic assumptions

The economic and demographic assumptions have been chosen according to the ISG guidelines and AWG macroeconomic assumptions. Denmark is projected to face similar demographic trends to most MS until 2030 when it will then experience more favourable trends. According to EUROSTAT figures, the elderly dependency ratio will increase from 25% (2010) to 38% in 2030 and 41% in 2050, staying significantly below the EU27 average of 50% in 2050.

Main results

At present, the largest contribution to retirement income comes from the first pillar schemes. For a single worker on average earnings it offers a gross replacement rate of 45.1%. The current contribution of second pillar schemes remains very limited at 3.6%. The total gross replacement rate (including statutory and occupational schemes) amounts to 48.7%, resulting in a net replacement rate of 71.3% for the average earner (including a means-tested housing allowance which represents a part of the net replacement rate).

The supplementary second pillar defined contribution pensions are expected to pay out higher pensions in the future as they are maturing. By 2046 these pensions are expected to be the most important income for pensioners leaving jobs in the higher range of earnings. As the basic public pension is income tested an increase in second pillar pensions will partly be offset by smaller basic

pensions resulting in falling gross replacement rates for the first pillar pension. However the total replacement rate (net and gross) is expected to slightly increase. Thus the net replacement rate for the average wage earner is projected to rise from 71.3% in 2006 to 78.8% in 2046.

As complementary cases the replacement rates when taking carrier breaks into account are shown. The first case assumes childcare breaks and the second case assumes breaks due to unemployment. The current theoretical replacement rates hardly differ between the base case and the different cases of carrier brakes given the assumptions agreed in the ISG.

Table A.4.1 – Denmark: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	45,1	34,7	32,9	35,0	34,5	55,7	15,4	28,9	33,1	34,5	34,7	35,0	35,2	34,7	34,9	35,0	
Occupational and voluntary pensions	3,6	33,5	28,3	32,1	35,0	33,5	25,2	28,0	31,9	35,0	34,0	33,0	32,1	34,3	33,5	32,8	
Total gross replacement rate	48,7	68,3	61,2	67,1	69,5	89,3	40,7	56,9	65,0	69,5	68,7	68,0	67,2	68,9	68,4	67,8	
Total net replacement rate	71,3	78,8	71,4	77,5	80,0	101,0	56,1	69,2	75,5	80,0	79,2	78,5	77,7	79,5	78,9	78,3	
Of which means-tested benefits in percentage points of total net replacement rate																	

Note: In the case of Denmark the retirement age for the base case is considered to be 65 years. In the childcare and unemployment case the age of retirement is taken as 67 years – the legislated retirement age – giving two extra years of contribution in comparison to the base case thus explaining the higher replacement ratio.

Table A.4.2 – Denmark: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	62.5
		F	61.3
		Total	61.9
2	Effective age of withdrawal from the labour market (2007)	M	61,4
		F	59,7
		Total	60,6
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	35,7
		F	20,3
		Total	27,7
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	100
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	78
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	-
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	75
	Average pension relative to average wage (in %)		
7	Median pensions (without other social benefits) relative to median earnings		0,39
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		10.8
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	0,9
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	12.7
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		DC
14	Assumed average earnings in national currency		330.900
15	Average wage (productivity) growth rate	2006-2046	1,7

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

5. GERMANY

Description of schemes included

The German pension system is based on three pillars. The central element and the primary pillar of the pension system is the statutory pension insurance which is supplemented by occupational pension schemes and private retirement provision as pillars two and three.

The statutory pension insurance provides old-age pensions, invalidity pensions and survivors' pensions. The statutory pension insurance is operated as a pay-as-you-go system. It is a compulsory system that is basically tied to gainful employment. Employees, above all, are subject to compulsory coverage; under certain conditions, however, other persons may also take out coverage. Employees with compulsory coverage and their employers shoulder an equal share of the contributions to the statutory pension insurance (contribution parity). The contribution rate in the statutory pension insurance scheme presently stands at 19.9 %. People qualify for benefits from the statutory pension insurance only if they completed a minimum period of insurance. The general qualifying period is five years. Basically the contributions paid into the scheme determine the level of the pension (strongly following the equivalence principle). At present the standard old-age pension is payable at age 65. For this type of pension the age limit will gradually rise to 67 years from 2012 onwards until the year 2029. The age limits for other pensions will rise accordingly. Pensions that can be claimed early are reduced by 0.3 % for each month of early pension receipt. On the other hand, delaying retirement beyond age 65 leads to pension increments of 0.5 percent per month. Such reductions or increments are maintained throughout the entire period of pension receipt.

In its classical form an occupational pension scheme is a voluntary commitment by the employer to provide benefits and normally operated as a fully funded scheme. The 3rd pillar is the employee financed private retirement provision. Since the 2001 pension reform, Germany has a state-subsidised funded scheme of private supplementary retirement provision, the so-called Riester pension.

Representativeness of the calculations

The coverage of the “first pillar” is 90% in Germany. At the end of 2007 64% of the employees subject to social insurance contributions (excluding state functionaries) were covered by an occupational pension scheme and at the end of 2008 12.2 million people contributing to a voluntary pension scheme (Riester Rente). Unlike in the case of the occupational pensions, the figures for the Riester Rente include in addition to the employees subject to social insurance contributions their spouse, recipients of unemployment benefits and state functionaries. In 2008, the average retirement age of the new flow of retirees for old age pensions is above 63 years for men and women and 61 years if retirees with invalidity pensions are included. The average contribution period of the new retirees is 35.6 years. In 2003 14.2% of the new retirees draw additionally an occupational or voluntary pension (men: 19.7%; women: 10.7).

The assumed average annual wage for 2006 underlying the calculations is quite high (42.382 €), and this could lead to an underestimation of the replacement rate, in particular for employees with 2/3 of average wages.

Main demographic and economic assumptions

The economic and demographic assumptions have been chosen according to the ISG guidelines and AWG macroeconomic assumptions.

Main results

The gross replacement rate of the first pillar is decreasing due to the demographic factor in the pension adjustment formula, which takes into account the changes in the relation of pensioners to employees. The underlying assumption of the retirement age in the calculation is the age of 65, whereas the legal retirement age will be 67 in 2046. Hence, the pension entitlements in the calculation of an employee are reduced by 7.2percent because of early retirement (see the description of the schemes above).

The decline of the gross replacement rate of the first pillar will be compensated by the increase of the occupational and voluntary pensions. This reflects the constant increase of the coverage of occupational pension scheme and success of the Riester Rente since the 2001 pension.

Table A.5.1 – Germany: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	43,0	34,0	34,0	29,8	38,4	34,0	23,2	28,3	32,3	39,7	39,0	38,3	37,6	38,2	38,1	37,5	
Occupational and voluntary pensions	0,0	11,4	9,7	10,1	13,0	11,4	7,8	9,5	10,9	13,0	12,6	12,3	11,9	12,2	11,4	10,7	
Total gross replacement rate	43,0	45,4	43,6	39,8	51,4	45,4	31,0	37,8	43,2	52,7	51,6	50,6	49,5	50,4	49,5	48,3	
Total net replacement rate	63,0	64,0	62,2	58,3	70,9	63,5	43,3	54,7	61,4	72,4	71,2	70,0	68,7	69,8	68,7	67,3	
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.5.2 – Germany: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees (including retirees with disability benefits)	M	63,4 (60,8)
		F	63,0 (60,7)
		Total	63,2 (60,7)
2	Effective age of withdrawal from the labour market (2007)	M	62,6
		F	61,5
		Total	62
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	-
		F	-
		Total	35,6
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	90
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	64 (occ.) 44 (private)
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	26
		F	7
		Total	16,5
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	2.3
	Average pension relative to average wage (in %)		
7	Median pensions (without other social benefits) relative to median earnings		0,45
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		NA
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	9,95
		Employee	9,95
		Other	-
		Total	19,9
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	4
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		DC
14	Assumed average earnings in national currency		42.382
15	Average wage (productivity) growth rate	2006-2046	1,7

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme. (Within brackets: including retirees with disability benefits)
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

6. ESTONIA

Description of schemes included

The Estonian pension system is composed of three parts, the State pension insurance, the mandatory funded pension scheme and supplementary funded pension schemes. EET taxation scheme is used in case of the mandatory funded pensions.

The State pension insurance system is covering in addition to old age permanent incapacity for work and survivors pensions. It is financed on a pay-as-you-go principle and mainly from the State pension insurance part of the social tax. The old age pension benefit is composed of three elements: the base amount, the length-of-service component and the insurance component. The base amount is flat rate. The length-of-service component applies to periods of pensionable service until the end of 1998 and is calculated purely on the base of the length of service expressed in years. The insurance component is calculated since 1999 and it depends solely on the social tax paid.

Increasing of pensions in payment is performed through regular indexation (with equal weights on the increase of social tax revenues and the increase of consumer price index). However, supplementary ad hoc pension increases have been applied in the past.

In 2006, the retirement age for men is 63 and for women 59 years and 6 months (rising gradually to 63 by 2016). In addition there is a qualification period for receiving the old age pension, of 15 years of pensionable service.

The mandatory funded pension scheme was launched on 2002. It is based on full pre-financing principle and is covering only the risk of old age. Pension funds are administered by private asset management companies. In essence, it is an individual savings scheme, where the amount of pension benefits depends on total contributions over the working career and yields of pension funds. Participation in this funded scheme is mandatory for persons born in 1983 or later. The contribution rate is 6% of wages – the employee pays 2% from the gross wage (withheld by the employer) and the employer another 4% (as a part of the 20% pension contribution).

Representativeness of the calculations

In 2006 there are no pensioners who get pension from mandatory funded scheme, in 2050 near 100% of new pensioners receive also pension from funded scheme. As agreed in ISG the length of service year is 40 but in Estonia it is currently 44 years and as result actual pensions are slightly higher.

Main demographic and economic assumptions

The economic assumptions have been chosen according to the ISG guidelines and AWG macroeconomic assumptions.

Main results

All calculations are made with assumption that legislative framework will remain the same as in 2006 and only new changes in future that are already in legislation are taken into account. It should be noted that due to the pension formula of the state pension, the indexation affects also pensions of new pensioners.

It can be noticed that current pension index appears very conservative comparing to growth of revenues, which implies that under these calculations there would be a significant budget surplus, leaving room for actually higher replacement rates, notably if there are supplementary ad hoc pension increases.

Table A.6.1 – Estonia: Replacement rates summary table

	2006	2046								Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	33,0	41,6	34,3	34,7	48,8	47,5	27,5	33,6	38,2	34,7	34,4	34,0	33,6	34,1	33,5	32,9	
Occupational and voluntary pensions	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Total gross replacement rate	33,0	41,6	34,3	34,7	48,8	47,5	27,5	33,6	38,2	34,7	34,4	34,0	33,6	34,1	33,5	32,9	
Total net replacement rate	41,0	52,1	43,1	43,6	61,2	57,9	34,9	42,6	48,0	43,6	43,2	42,7	42,1	42,8	42,0	41,3	
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.6.2 – Estonia: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	61,5
		F	59
		Total	60,3
2	Effective age of withdrawal from the labour market (2007)	M	-
		F	-
		Total	62,5
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	45,6
		F	42,9
		Total	43,7
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	100
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	/
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	-
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	/
	Average pension relative to average wage (in %)		
7	Median pensions (without other social benefits) relative to median earnings		0,47
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		/
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	22
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB and DC
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		-
14	Assumed average earnings in national currency		116.652
15	Average wage (productivity) growth rate	2006-2046	2,9

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

7. GREECE

Description of schemes included

IKA-ETAM (ex. IKA) is the major first-pillar pay-as you-go scheme for private sector workers and employees in Greece. Pensions are defined benefit, depending on contribution duration and wages. It is financed by employer's and employee's contributions which, for old-age pension, amount to 13.33% and 6.67%, respectively, of gross covered wages. The state is also projected to contribute 1% on average of the GDP until 2030. IKA-ETAM pensions are indexed (usually annually) according to the State's social policy. Full pension (i.e. without any reductions due to age or contribution years) is provided after 35 years of insurance and after the age of 65. These pensions contribute 68.5% to the replacement rate.

The auxiliary pension branch provider, ETEAM (ex. IKA-TEAM), covers all private sector employees insured under IKA-ETAM, who have no other auxiliary pension provider. It is also a mandatory first pillar institution. The full pension under the above scenario contributes 26.3% to the replacement rate.

Pensions are treated as any other taxable income and are subject to the same tax scale as wages. Second pillar pensions were established quite recently, in 2002. For the time being there is a very small percentage of the overall active population, which is covered by occupational insurance.

Representativeness of the calculations

Approximately 53% of the insured population joins IKA-ETAM. First pillar pension providers are also OGA (for farmers and the self employed residents of small urban areas), OAEE (for the self employed) and the Scheme of the Public Sector Employees.

A negligible portion of pensioners, below 3%, complete 40 contribution years before retirement. The average career length is 25 years (27.5 for men and 20.8 for women). This is the reason why actual replacement rates are significantly lower than theoretical ones, for both primary and auxiliary pensions.

Main demographic and economic assumptions

The economic and demographic assumptions have been chosen according to the SPC-ISG guidelines and the AWG macroeconomic assumptions. Inflation is considered to be 2% for all years. Productivity grows at a rate of 2.1%. Earnings are rising in line with average productivity plus inflation.

In the 2008 Eurostat population projections, Greece is expected to face a demographic pressure from ageing. The old-age dependency ratio, which was 27.77 in 2007, is expected to rise from 38.47% in 2030 to 57.12% in 2060; this is higher than the EU27 average of 55% for 2060. Life expectancy at the age of 65 is 17.2 for men and 19.6 for women in 2008. It is expected to rise by 4.8 years for men and by 4.9 for women by 2060.

Main results

For the year 2006, workers with average earnings can rely on a gross replacement rate, after 40 years (base case) of 105%. The net replacement rate is 115%. This result is not representative of the actual levels of pensions, which are on average significantly lower due to shorter careers.

Projected replacement rates for the year 2046 are lower than the 2006 ones due to the new calculation method of old-age pensions, introduced by laws 2084/1992 and 3655/2008. According to these laws, theoretical replacement rates decline until 2060.

For shorter career lengths, (both gross and net) theoretical replacement rates are slightly lower, while longer careers result to higher theoretical replacement rates. According to current legislation,

there are incentives for staying at work for longer, until the age of 67 (68 from 2008 onwards) and after 35 insurance years, with a maximum of 2 more years (3 from 2008 onwards). This is why the increase in theoretical replacement rates is not big as shown in the relevant tables (where calculations are done on the basis of 40 years of insurance).

The average actual case of a single male insured in IKA-ETAM, who is retiring with an old-age pension after 27 years of insurance at the age of 61, results (for the year 2009) to a gross replacement rate of 72% and a net of 86%. For these cases, the rates drop to 67% and 82%, respectively.

Table A.7.1 – Greece: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	105,0	92,9	75,4	91,7	100,6	92,9	90,7	91,3	92,8	92,9	92,3	91,7	91,1	92,3	91,7	91,1	
Occupational and voluntary pensions	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Total gross replacement rate	105,0	92,9	75,4	91,7	100,6	92,9	90,7	91,3	92,8	92,9	92,3	91,7	91,1	92,3	91,7	91,1	
Total net replacement rate	115,0	108,1	91,8	107,0	115,3	107,4	99,6	105,4	108,1	108,3	107,8	107,3	106,7	107,5	107,0	106,5	
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.7.2 – Greece: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	61,4
		F	58,6
		Total	60,4
2	Effective age of withdrawal from the labour market (2007)	M	61,6
		F	60,5
		Total	61
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	27,5
		F	20,8
		Total	25,1
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	NA
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	/
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	-
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	/
	Average pension relative to average wage (in %)		
7	Median pensions (without other social benefits) relative to median earnings		0,47
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		/
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	20
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		-
14	Assumed average earnings in national currency		23.037
15	Average wage (productivity) growth rate	2006-2046	2,1

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

8. SPAIN

Description of schemes included

The first pillar of the Spanish pension system consists of two levels: a general earnings-related contributory scheme for private sector workers, with a means tested minimum pension; and a non contributory means tested level with flat rate benefits for people with no accrued rights in the contributory level. Special schemes exist also for civil servants working for the central government or the justice system and for people working for the armed forces, who are not considered in this exercise.

In the contributory level 15 years of contribution are necessary to qualify for a pension benefit and the retirement age for a full benefit is 65 years. Pension amount is calculated as a percentage of a so-called 'base pension' which takes into consideration the earnings-related contributions paid during the 15 years before retirement. The percentage of the base pension that is paid out depends on the number of years a person contributed to the system. It is 50% after 15 years of contribution, over the next ten years an extra 3% is accrued per year followed by 2% thereafter. Maximum accrual is 100% with 35 years of contribution.

A minimum and maximum pension amount is applied every year. Maximum amount in 2009 is €34.184,50 per year.

Early retirement is available from age 61 (from 60 to people entering the system before 1967). The actuarial reduction varies between 6% and 8% each year depending on the number of years of contribution. Between 60 and 64 it is possible to combine partial pension receipt and a part time job if working hours are reduced between 25-75%. Another employee must replace the remaining working hours left by the partial pensioner. From 65 it is possible also to have such arrangement but it is not necessary to contract a new employee and no employer's contributions are required.

Late retirement is possible in a voluntary base for people working beyond 65 years. An additional 2% increase in the pension amount (3% with 40 or more contribution years) is applied per year of deferral. No employer's contributions are required.

Supplementary pension schemes of the second or third pillar cover nearly ten million people, but only 18% of these (around 1,800,000 people) are members of an occupational scheme established by a collective agreement. Pension plans tend to be more often adhered to on an individual basis or through membership in a group (association, trade union, etc.).

Only the general earnings related scheme for private sector workers is covered in the calculations.

Representativeness of the calculations

The average career length of men retiring today is 40 years (women 30 years). The average retirement age for both men and women is just over 63.

From January 2008, a new pension reform came into force in Spain, covering different areas. In the retirement area new requirements to cover the minimum period of contributions and to get the right to partial pension have been introduced. Higher pension benefits are also applied in case of late retirement and special conditions in the access to early retirement due to dangerous or hazardous work are in place.

Main demographic and economic assumptions

The economic and demographic assumptions have been chosen according to the ISG guidelines and AWG macroeconomic assumptions. In Spain, demographic trends show that old age dependency ratio (24.1 in 2008) is lower than the average of the UE 27(25.3) and will be in the coming years

(39.72 and 42.07 respectively in 2035), but will be higher in the long term (59.07 and 53.47 in 2060).

Main results

In 2006 a full career on average earnings (base case) results in a gross replacement rate of just under 90.5% and a net replacement rate of around 97.2%. This would also hold for careers up to five years shorter than the 40 years assumed for the base case. Gross replacement rates at 2/3 of average earnings are identical to those at average earnings. An earnings profile rising from 80 to 120% of average earnings results in replacement rates that are about 1.5 percentage points below those for a flat career on average earnings. By contrast, when the earnings rise to 200% the replacement rates are lower: 70.2% of gross earnings and 75.5% of net earnings, this is due to the ceiling that applies to pensions.

The 10-years indexed replacement rate (pension income ten years after retirement relative to projected earnings) has been calculated by index-linking pensions in payment to inflation, as is required by legislation. This results in a value of net pensions relative to net earnings that is around 13 percentage points lower than the net replacement rate at the moment of retirement.

Taking about two years of early retirement or deferred pension (age 63 or 67), there is a difference of 10 percentage points less in retirement at 63 and a difference of 3 percentage points more in retirement at 67 compared to the base case.

In the unemployment breaks profile, there is no change in the replacement rates with one or two years in unemployment because during this period the benefits include social contributions. With three years in unemployment the rate is 1.3 points below the base case. In the childcare breaks case the replacement rate remains always the same because in Spain with 35 years of contributions a full pension can already be reached.

Table A.8.1 – Spain: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	90,5	82,0	68,6	71,4	85,3	82,0	70,2	80,6	85,2	82,0	82,0	82,0	82,0	82,0	82,0	80,7	
Occupational and voluntary pensions	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Total gross replacement rate	90,5	82,0	68,6	71,4	85,3	82,0	70,2	80,6	85,2	82,0	82,0	82,0	82,0	82,0	82,0	80,7	
Total net replacement rate	97,2	85,5	72,7	75,3	88,5	84,6	75,5	84,5	88,5	85,5	85,5	85,5	85,5	85,5	85,5	84,2	
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.8.2 – Spain: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	62,9
		F	63
		Total	62,9
2	Effective age of withdrawal from the labour market (2007)	M	61,8
		F	62,4
		Total	62,1
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	40,3
		F	30,4
		Total	38
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	89
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	/
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	-
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	/
	Average pension relative to average wage (in %)		
7	Median pensions (without other social benefits) relative to median earnings		0,4
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		/
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	23,6
		Employee	4,7
		Other	-
		Total	28,3
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		-
14	Assumed average earnings in national currency		21.150
15	Average wage (productivity) growth rate	2006-2046	1,8

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

9. FRANCE

Description of schemes included

The French pension system is based on compulsory, earnings-related and pay-as-you-go schemes which cover 98% of total pension expenditure. In the private sector, employees are covered by two-tiered schemes. The first tier, the general scheme organised by law, is an annuity scheme, which, for a full 40 qualifying years in activity, pays 50% of the average annual wage calculated on the basis of the best 25 qualifying years within the limit of the social security ceiling (about 140% of average earnings). Supplementary pension schemes are also mandatory, financed on a pay-as-you-go basis but based on a point system ("ARRCO" for the blue collar, and "AGIRC" for the white collar). The benefit formula is more earnings-related, and the rules of calculation effectively ensure a closer link between contributions and benefits paid. Other types of pension provision are marginal in France, and are not taken into account in these calculations.

Representativeness of the calculations

The coverage of these mandatory schemes is total in France. In 2001, the average retirement age of the new flow of retirees is more than 60 for men and 62 for women and their average contribution period is closed to 33 years. To have a better representativeness of the "base-case", the calculations have retained a blue collar. Accordingly, the baseline case does not deliver a real representative picture in France, due to the shorter length of seniority at retirement observed. But complementary figures show that the youngest generations of woman pensioners are much more numerous than by the past to benefit from a complete career.

Main demographic and economic assumptions

France will face similar demographic developments than the other Member States until 2025 when it is then projected to register more favourable patterns. In accordance with the provided information assumptions retained by the Economic Policy Committee in April 2005, the old-age dependency ratio is projected to quasi double during the next 50 years, reaching 47.9% (2050) from 25.1% (2003), and would be consequently below the EU25 average (52.8%).

From 2004, average real wages are supposed to increase by 1.7% a year. The average GDP growth rate is also equal to 1.7% from 2004 to 2050.

Main results

The gross and net replacement rates are decreasing with the generations for several reasons.

Concerning the basis pension scheme (CNAV), the fall between 2005 and 2010, is due to the number of years taken into account in the calculation of the reference wage: the 17 best years for the employee born in 1940 and retiring in 2005, and the 25 best years for the employee born in 1945 and retiring in 2010. Beyond that period, replacement rate will continue to decrease, due to the updating of past wages with reference to the consumer price index. Furthermore, the reference period will increase from 40 years (160 quarters) in 2008 to 41 years (164 quarters) in 2012. Actually, after 2012, the law stipulates that the minimum contribution period to reach a full pension is planned to increase in line with increases in life expectancy, so that the ratio of period of pension payment to the working period remains constant.

Regarding the replacement rates of the supplementary scheme (ARRCO), they decrease over all the period because of the cost price of the point on wages, which is indexed on a price index, contrary to the acquisition value of the point, which is assumed to be indexed on wages. This reflects current practice, though the rules could be re-examined by the social partners, implying a different development in the long term of the replacement rates of this supplementary scheme.

Net replacement rates are higher than the gross replacement rates, because on one hand the social contributions paid by employees remind higher than those paid by the pensioners, and on the other hand, the progressive pattern of the income tax.

Employees with an ascending wage profile have lower replacement rates than the basic case-type, mainly because of the rules of calculation of the basic pension scheme. Indeed, the highest wages are capped at the level of the Social Security ceiling. Thus, the replacement rate of the basic pension scheme is lower if wages exceed this ceiling, which is the case considering the ascending careers, and particularly for the rising earnings from 100% to 200% of average.

The replacement rate is increasing with the length of the career. Thus, employees with career interruptions have a replacement rate lower than that of the basic case-type, though those can be partly compensated for unemployment spells and for child care periods. On the contrary, the employee having worked 42 years has a higher replacement rate. At the beginning of the period (2005 and 2010), he benefits from a bonus, because he worked two years more than the 40 years required to obtain the full rate of the basic pension scheme. The premium decreases over time due to the steady growth of the length of a “full career”. This mechanism arises directly from the incentives which were set up with the pension reform in 2003 aiming to keep longer in activity older workers.

The employee having a 40-year career and retiring at 63 has a lower replacement rate than in the “base-case”. After 2010, it is mainly explained by the deductions implemented in the pension reform 2003 which affects the employee retiring before 65 year and without having contributed the necessary duration to have the full rate.

Table A.9.1 – France: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	66,2	50,2	41,9	45,6	55,0	50,3	31,4	43,8	50,0	50,6	50,3	50,1	49,8	49,4	49,1	48,8	
Occupational and voluntary pensions	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Total gross replacement rate	66,2	50,2	41,9	45,6	55,0	50,3	31,4	43,8	50,0	50,6	50,3	50,1	49,8	49,4	49,1	48,8	
Total net replacement rate	79,4	62,9	51,9	54,4	67,1	62,9	NA	55,9	62,9	64,3	64,0	63,6	63,3	62,9	62,8	62,7	
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.9.2 – France: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees (data from 2004)	M	59,8
		F	61,5
		Total	60,2
2	Effective age of withdrawal from the labour market (2007)	M	59,5
		F	59,4
		Total	59,4
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees (data from 2004)	M	40
		F	31,75
		Total	35,75
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	100
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	/
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	-
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	/
	Average pension relative to average wage (in %)		
7	Median pensions (without other social benefits) relative to median earnings		0,47
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		/
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	20% *
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		-
14	Assumed average earnings in national currency		30.992
15	Average wage (productivity) growth rate	2006-2046	1,7

* Depending on wage and status: 21.2% - 21.33% below social security ceiling and 19.4% - 19.75% between 1 and 3 ceilings

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.

2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7

3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.

4 See also table 3, column 2 and table 6 column 8

5 See also table 3, column 3 and table 6 column 9

6 See also table 3, column 4

7 Source: EU-SILC(2006) Pension indicator PN-P3

8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR

9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR

10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR

11 See also table 6, column 5

12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR

13 See also table 6, column 7

14 See also table 4, column 2

15 See also table 4, column 2

10. IRELAND

Description of schemes included

Social insurance provides pensions cover for all employees and the self employed in Ireland. The pensions are flat rate amounting to around 34% of average earnings in 2006, though this is likely to have increased significantly since due to pension increases and, more recently, static/falling earnings. Workers are encouraged to supplement the State pension through pensions cover under occupational arrangements.

The 'base case' corresponds to a worker in the private sector with 40 years service and 40 years service in a DC occupational scheme with a 10 per cent contribution rate (5 per cent employee/5 per cent employer).

Representativeness of the calculations

In 2005, it was estimated that 55% of all persons at work were members of pension schemes, while 61.8% of persons aged 30-65 had private pensions, and this is the key group for pension policy (the National coverage target of 70% applies to this group). Men have higher coverage than women, though the gap has closed in recent years, and employees have higher coverage than the self-employed. A relevant share of pensioners will, therefore, continue to rely mainly on the contribution provided by the statutory scheme.

These schemes have traditionally been defined benefit arrangements, although membership of defined contribution schemes has been growing rapidly in the private sector in recent years. Approximately 66% of employees covered by occupational pensions are defined benefit scheme members, with the remainder being defined contribution scheme members.

While the assumed contribution rate is representative of pension schemes and personal pensions generally, the 40 year contribution history to the DC scheme is likely to overestimate the position in reality given labour market mobility. 72.5% of people who receive a contributory pension are paid a full or 98% pension, so the long career history is representative of benefits being received by the current cohort of pensioners.

Main demographic and economic assumptions

The economic and demographic assumptions have been chosen according to the ISG guidelines and AWG macroeconomic assumptions.

Main results

The statutory pension in Ireland is flat rate and is not earnings related. While there is no formal indexation policy, it has tended to increase at least the level of earnings growth over time, and thus the 'ten years after retirement' statutory pension does not fall (i.e., replacement rates for average earners are 34.2 per cent at all times from 2006 onwards). The statutory pension gives a relatively high replacement rate for low earners and lower replacement rates up the earnings gradient, so income replacement at middle and higher incomes is supported through occupational and private pensions.

A 10% defined contribution supplementary pension was included in the calculations for the typical case. While the contribution rate is representative of current membership, the 40 year career may not be. It is difficult to assess an 'average' career length as DC schemes are quite immature in Ireland, but it could be expected to be substantially less than 40 years. The base replacement rate of 73 per cent would be extremely high by current pensioners' standards, and, for example, taxation rules for DB schemes limit replacement incomes at 66 per cent. For the prospective replacement rates, there is no factor included for expanded maturity of supplementary pensions given that

pension coverage is already quite high. The fall in replacement rates is due to improved life expectancy feeding into higher annuity costs over time.

For the variant cases, there are relatively generous provisions in the social insurance system for unemployment and childcare periods and thus statutory pensions are not affected by breaks of up to 3 years. In occupational/voluntary pensions the lower contributions reduce the years included in the benefit calculation, which cause the reduction in overall replacement rates.

Table A.10.1 – Ireland: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	36,0	34,2	34,2	34,2	34,2	51,0	17,1	28,5	32,6	34,2	34,2	34,2	34,2	34,2	34,2	34,2	
Occupational and voluntary pensions	37,0	28,5	23,8	26,8	31,2	28,5	21,4	23,7	27,1	28,5	27,6	26,8	26,0	27,6	26,8	26,0	
Total gross replacement rate	73,0	62,7	58,0	61,0	65,4	79,5	38,5	52,2	59,7	62,7	61,8	61,0	60,2	61,8	61,0	60,2	
Total net replacement rate	82,0	70,7	67,4	69,5	72,6	85,6	49,0	62,0	67,7	70,7	70,1	69,5	69,0	70,1	69,5	69,0	
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.10.2 – Ireland: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	-
		F	-
		Total	65
2	Effective age of withdrawal from the labour market (2006)	M	63,5
		F	64,7
		Total	64,1
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	-
		F	-
		Total	NA
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	100
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	55
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	-
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	/
	Average pension relative to average wage (in %)		
7	Median pensions (without other social benefits) relative to median earnings		0,61
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		10-15
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	9,5
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	10
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		DC
14	Assumed average earnings in national currency		29.960
15	Average wage (productivity) growth rate	2006-2046	1,8

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

11. ITALY

Description of schemes included

The 1995 pension reform introduced the new Notional Defined Contribution (NDC) system. This will fully apply to individuals entering the labour market from 1996 onwards, while people with at least 18 years of contributions in 1995 will continue to be subject to the previous (earnings related) system and people in-between will see their pension calculated by a mix of the old and the new formula.

The old-age retirement threshold is 65 years for males and 60 for females. However, such age limit for females is not compulsory, depending on them whether to work until the same age threshold as for males.

The pension components considered in the calculations take into account only the public scheme in 2006, while assuming for 2046 this being supplemented by a private component, based on defined contribution. The contribution rate to private schemes considered is 6.91% of gross wages, corresponding to a deferred wage component called *Trattamento di Fine Rapporto* (TFR), which has been envisaged by the law as the main source of financing of employees' private schemes.

Representativeness of the calculations

Currently, both the retirement age (60.3 in 2006) and the seniority at retirement (32.1 in 2004, calculated on the annual flow of new retirees) are below what has been assumed as the common base case.

Also, active membership of private schemes is still low, although it rose sharply in the last few years, thanks also to a silent-assent clause for the diverting of TFR to private plans, which brought active membership to 20.1% of labour forces in 2008. Also in the future, therefore, a significant share of pensioners will continue to rely solely on the contribution provided by the statutory scheme.

The contribution rates to the public scheme considered (33% of gross wages) refer to private and public employees1. Notice, however, that for the self-employed and workers with atypical contracts pension contribution rates are lower (20% and 24% respectively). This does not affect pension entitlements in the earnings related system applying to people retiring till about 2012, but it will significantly affect people to whom the NDC system will apply, as such system explicitly takes into account the amount of contribution paid.

Net replacement rates are calculated according to current tax rules. The relevant tax and social contribution thresholds are updated, as agreed, in line with nominal wages.

Main demographic and economic assumptions

Productivity and individual real earning annual growth rates are both assumed to be 1.5%; the real GDP growth rate is close to 1.4%; the inflation rate 2%. The basic earning level has been set at Euro 25,183 in 2006. The demographic projections and the associated life expectancy are based on Eurostat EUROPOP2008 projections.

For the public pension component, the replacement rates take into account the shift from the earnings related system to the NDC system introduced by the 1995 reform. Pensions in 2046 are calculated coherently with the periodic revision of the public scheme annuity coefficients in response to the increase in life expectancy, required by the pension law.

[1] 23.81% is paid by the employer, 9.19% by the employee.

For what concerns private pensions, as agreed by the ISG, an annual real rate of return on private pension funds, net of expenses, of 2.5% has been assumed (being the gross rate 3%, the nominal rate 5%, the real rate net of expenses and taxation of pension funds returns slightly above 2%)[2]. The entire capital is used at the moment of retirement to buy annuities, at a cost amounting to 1% of the capital itself[3] and with an interest rate on the residual capital anticipated in the calculation of the pension amount in such a way that, holding constant the nominal interest rate, rents grow at a 2% annual rate, and thus the private pension – although not formally indexed to prices – is constant in real terms.

Also private annuity coefficients are calculated taking into account the rising life expectancy underlying the 2008 Eurostat population projections. It can be noticed however that, differently with respect to the current practice in the Italian private pension insurance sector, life expectancy differences between annuity beneficiaries and the rest of the population are not taken into account here: this implies that annuity coefficients actually offered by the insurance industry are lower than those calculated considering the general population.

Main results

Calculations indicate an expected gradual drop of the public pension replacement rates, due to the gradual application of the contribution based method of calculation of the pension and to the actuarial correction of the pension system parameters prescribed every three years by the pension law. While total net replacement rates are significantly higher than total gross rates, private pension funds are expected to substitute for a substantial part of the loss in public provision. The taking into account the take-off of private funds suggests that it could be possible to maintain replacement rates, at least for employees, at levels close to the current ones. Furthermore, working longer with respect to the current situation would allow maintaining the living standards also for the self-employed, and for those employees (like those with a steep career) which are more penalized by the shift to the NDC pension system.

However, notice that for private employees it is assumed that the entire TFR is diverted to private schemes. While the increase of pension funds membership is one of the primary goals of Italian pension policy, it should be borne in mind that this means that the future private provision is obtained at the cost of worker's TFR, which means the disappearance of a deferred component of wage that currently many workers use well before retirement, for instance to buy their house or to have a cushion in case of loss of their job[4]. Furthermore, as regards to the self-employed, they do not have a TFR component to rely upon, so that their increasing participation to private pension schemes depends on their ability to increase, or reallocate, savings.

As regards the evolution of the replacement rates 10 years after retirement, the replacement rates decrease, as a consequence of both the indexation of pensions to prices only and the less-than-full indexation to prices for pensions above a certain threshold.

[2] It Italy returns on pension funds investment are subject to taxation at 11%, however, to avoid double taxation, private pensions are tax exempt for the part on which the pension funds already paid taxes. Furthermore, even the part which is subject to taxation is subject to a favourable tax rate, going from 9% to 15%, depending on workers' seniority in the pension funds.

[3] This adds to the 0.5% on returns, assumed to be applied by the insurance companies issuing the annuity (i.e. during the decumulation period) as it was by the pension funds during the accumulation period.

[4] The TFR cannot be considered a pension benefit, neither formally nor in substance, as in many cases it is received by individuals before retirement nor can it be attributed to work income. The Indicator Subgroup decided that lumps sums as the TFR must be recorded for the goal of calculation of replacement rates neither as work income nor as pension, but that social contributions aimed at financing such lump sums should be taken into account and attributed to employees or to employers, according to national legislation and standards.

Table A.11.1 – Italy: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	80,2	63,0	54,8	56,2	66,0	63,0	47,5	52,7	60,1	48,3	48,3	48,3	47,0	63,0	61,5	60,0	47,9
Occupational and voluntary pensions	0,0	14,0	12,2	12,4	16,0	14,0	10,6	11,8	13,5	11,2	10,9	10,5	10,2	13,6	13,2	12,9	11,2
Total gross replacement rate	80,2	77,0	67,0	68,6	82,0	77,0	58,1	64,5	73,6	59,5	59,2	58,8	57,2	76,6	74,7	72,8	59,1
Total net replacement rate	89,0	91,7	79,8	81,6	97,6	91,9	69,2	76,9	87,7	73,8	73,4	73,0	70,9	91,3	89,0	86,7	73,3
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.11.2 – Italy: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	60,5
		F	60
		Total	60,3
2	Effective age of withdrawal from the labour market (2007)	M	61
		F	59,8
		Total	60,4
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees **(2004)**	M	34,9
		F	27,9
		Total	32,1
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force) **(2008)**	M	-
		F	-
		Total	100
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	22,3
		F	16,8
		Total	20,1
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	< than 5%
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	/
	Average pension relative to average wage (in %)		
7	Median pensions (without other social benefits) relative to median earnings		0,49
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		5.7
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	33
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB and NDC
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	6.91
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		DC
14	Assumed average earnings in national currency		25.183
15	Average wage (productivity) growth rate	2006-2046	1,5

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

12. CYPRUS

Description of schemes included

The state pensionable age is 65. However, persons who have completed a prescribed period of insurance are entitled to retire at the age of 63 without actuarial reductions of the pension. The General Social Insurance Scheme (GSIS) is financed by contributions from insured persons, employers and the state. Pensions from GSIS are divided into basic and supplementary part. The level of GSIS pension depends on the duration of insurance (the pension accrual rate for the basic part is currently 1.4% and for the supplementary part 1.5%), the level of insurable earnings and the number of dependants of the person concerned. Each year's insurable earnings are converted into "points". At the time of award of the pension, these points are revalued according to the current value of the "basic insurable earnings", which is indexed on the evolution of the average insurable earnings (wages of employed persons and notional income of self employed). As regards indexation of pensions in payment, the basic part (which includes supplements for dependants) is indexed to insurable earnings every year, whilst the supplementary part is indexed to the Consumer's Price Index. The minimum flat rate pension corresponds to 85% of the full basic social insurance pension and is given to anyone whose amount of pension is below that level and meets eligibility criteria for an old-age pension.

The Social Pension Scheme provides non-means tested pensions to those residents who did not accrue a pension income up to the amount of minimum pension either from the General Social Insurance Scheme or from any other source. The rate of Social Pension is equivalent to 81% of the full basic social insurance pension, and as consequence, it is automatically indexed to earnings.

Pensioners having a pension below CY£6500 (€11,105.90) per year are paid a special allowance without any other means test. The level of special allowance depends on the level of pension income. Persons legally residing in Cyprus whose means are not sufficient to meet their basic and special needs have the right to the provision of financial assistance and / or social services from Social Welfare Services.

Representativeness of the calculations

The average withdrawal age from the labour market of new pensioners is 63.6 (in 2006) which exceeds the legal early retirement age (63 years) and is below the state pensionable age (65 years) of the GSIS. The average actual career length of new retirees in 2006, which was calculated from the actual years of contribution to the Social Insurance Scheme, is 32.2.

The calculation of replacement rates was based on the statutory scheme. The coverage of the Social Insurance and Social Pension Schemes is almost 100% of the total population, since persons who do not fulfil the requirements for a pension from the GSIS and satisfy prescribed residence conditions receive Social Pension. The coverage of occupational pension schemes is around 45% of the total population and a part of the population is covered by provident funds which provide lump sum amounts.

Reflecting a necessary increase in contribution rates to ensure financial sustainability, in 2009 there was an amendment of Social Insurance Legislation which ensured that contribution rates to GSIS will significantly increase over time from the initial level of 12.6% in 2006 (including employers and employees contributions for both long term and short term benefits) to 19.6% in 2039.

Main demographic and economic assumptions

The economic and demographic assumptions have been chosen according to the ISG guidelines and AWG macroeconomic assumptions. The rate of growth in wages is projected to be 4.1% in 2006 and 3.7% in 2046, while inflation is projected to remain constant to 2%. The projected rate of return

of the Social Insurance Fund is 5%. The population aged 65 and over, which in 2006 was about 12% of the total population, is projected to increase to 21% in 2045 and as a consequence the old age dependency ratio will increase from 18% in 2006 to 33% by 2045, staying below the EU25 average of 48% in 2045.

Main results

Following the maturation of the supplementary part of pensions that was introduced in 1980, replacement rates are lower in 2006 and will gradually increase until around 2025. The year of maturity of the Scheme is 2020, when the gross replacement rates stabilize. The net replacement rates continue to increase after that year under the assumption that the basic part of pension will continue to be indexed to earnings. This increase is the consequence of the impact of increases in social insurance contributions biting into the gross wage and reducing the net wage.

The GSIS, which is a statutory scheme, offers for a single worker on average earnings a gross replacement rate of 49% (2006) and a net replacement rate of 54% which are projected to reach in 2046 to 60% and 68% respectively. For a worker on 2/3 of average earnings it offers 54% of gross and 58% of net replacement rates which are projected to reach to 60% and 66% respectively. The case of “Retirement at age 63 with 38 years seniority” refers to a person getting a pension at age 63, after 38 years of seniority, and continue working for another 2 years up to the age of 65. At that point, his/her pension is revised upwards accordingly.

Pensions are calculated on the basis of earnings during the entire career and not on the last wage before retirement, so there are not major differences between a concave earnings profile and the base case. Since pensions depend on years of insurance, a broken career results in lower replacement rates. Furthermore, due to a ceiling on earnings taken into account for calculating pensions, the replacement rates of a hypothetical worker ending his career at 200% of average earnings are lower than they would have been without such a ceiling.

Table A.12.1 – Cyprus: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	49,0	60,1	56,0	59,1	NA	60,0	45,0	50,0	51,0	59,4	58,8	57,8	56,8	59,5	58,3	56,9	
Occupational and voluntary pensions	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Total gross replacement rate	49,0	60,1	56,0	59,1	NA	60,0	45,0	50,0	51,0	59,4	58,8	57,8	56,8	59,5	58,3	56,9	
Total net replacement rate	54,0	68,2	63,0	67,2	NA	66,6	56,0	59,0	59,0	67,5	66,7	65,6	64,4	67,6	66,2	64,6	
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.12.2 – Cyprus: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	-
		F	-
		Total	63,6
2	Effective age of withdrawal from the labour market (2007)	M	-
		F	-
		Total	63,5
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	-
		F	-
		Total	32,2
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	100
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	/
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	-
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	/
	Average pension relative to average wage (in %)		31,3
7	Median pensions (without other social benefits) relative to median earnings		0,29
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		16,6
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		/
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	6,3
		Employee	6,3
		Other	4
		Total	16,6 *
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		-
14	Assumed average earnings in national currency		13.344
15	Average wage (productivity) growth rate	2006-2046	2,0

* For the years after 2006 the contribution rate is increased according to an amendment of the legislation, 2009 (reaching 19,6% in 2039). The State contributes a percentage of 4% in addition to 12,6% which will reach 6,1% in 2039.

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

13. LATVIA

Description of schemes included

The Notional defined-contribution (NDC) pension scheme implemented in Latvia in January 1996 is based on insurance principles, as the social insurance contributions, earmarked for old-age pensions (20 percent of wage) are recorded in the notional individual accounts that are given a rate of return until retirement and accumulate (notional) pension capital, while real contributions are used for financing current pension expenditures. Pensions are calculated by dividing the amount accumulated in the notional account by projected cohort unisex life expectancy at retirement.

A benefit can be claimed to any time from the minimum pension age and it is possible to receive full pension while continuing work after the retirement. Working pensioners continue to contribute and accumulate additional notional pension capital. This newly accrued pension capital also yields a rate of return, and the benefit is recalculated upon final retirement to include this new capital. The principle behind this is that it provides an opportunity and support for gradual withdrawal from the labour force.

Minimum insurance record for taking state old age pension is 10 years. The transition to the retirement age of 62 is carried out on a step-by-step basis, i.e. by six months each year. Men have reached the retirement age of 62 in January 2003, but women reached it in 2008. Until 31 December 2011, the legislation provides for a possibility to retire 2 years before the age of 62, if a person's insurance record is 30 years or more (they receive 80% of normal pension amount (the full pension restored after normal retirement age). Early retirement will be eliminated after this date.

The average benefit is directly dependent on the actual pension age, number of years worked and dynamics of the contribution base (growth of the contribution wage sum in the Country), which determines the rate of return for the NDC pension capital. Pensions granted before 1996 were not revised according to the rules of the NDC scheme. Nevertheless the same rules for indexation are applied for both the old-law and new-law pensioners: until 2002 pension indexation was based on the consumer price index and since 2002 – the pension index is based on the CPI and the contribution wage base.

The FDC pension scheme in Latvia started operation in July 2001. It is a fully funded statutory pension scheme, where a part of the social insurance contributions within the 20 % contribution rate for old-age pensions are invested in financial assets. Coverage in the FDC pension scheme is mandatory for persons who were under the age of 30 July 1, 2001, when the State Funded Pension Law came into force. Persons who were at that moment in the age group of 30 – 49 can affiliate to this scheme on a voluntary basis at any time. Participation conditions are simplified to a maximum extent and synchronized with the participation in the NDC PAYG pension scheme. This means that the FDC pension scheme gradually will cover almost all persons covered by the state pension insurance. However, persons who were at the age of 50, when the law came into force, have no option to participate. This scheme is expected to be fully mandatory around 2035, when cohorts of voluntary participants will gradually vanish.

Representativeness of the calculations

Coverage of the state mandatory pensions in Latvia (percentage of persons enrolled in the labour force) is 100% in Latvia. In 2006 average retirement age of the new flow of retirees was 60.3 (total), seniority at retirement was 30 years. Contribution to the statutory pensions is 20% of gross earnings. In projection was taken into consideration employee with average earnings and average wage (productivity) growth rate – 2.9%.

Main demographic and economic assumptions

The economic and demographic assumptions have been chosen according to the ISG guidelines and AWG macroeconomic assumptions.

Main results

The results of the calculations indicate that replacement rates will decline in the long-run, due to several reasons. Projected life expectancy will increase year by year.

The replacement rate is increasing with the length of the career: employees with career interruptions have a replacement rate lower than that of the basic case-type, though those can be partly compensated for unemployment spells and for child care periods. On the contrary, the employee having worked 42 years has a higher replacement rate.

Net replacement rates are higher than the gross replacement rates, because the social contributions paid by employees remind higher than those paid by the pensioners.

10 years after retirement the replacement rates decrease, as a consequence of both the indexation of pensions to prices only and the less-than-full indexation to prices for pensions above a certain threshold.

Table A.13.1 – Latvia: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	60,8	49,7	40,1	43,7	56,6	49,7	37,3	41,4	47,3	41,0	39,9	38,9	37,8	40,1	39,0	37,9	
Occupational and voluntary pensions	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Total gross replacement rate	60,8	49,7	40,1	43,7	56,6	49,7	37,3	41,4	47,3	41,0	39,9	38,9	37,8	40,1	39,0	37,9	
Total net replacement rate	77,6	65,9	55,6	59,7	73,1	67,7	46,7	55,3	62,9	56,9	55,4	54,0	52,5	55,6	54,2	52,7	
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.13.2 – Latvia: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	61,4
		F	58,3
		Total	60,3
2	Effective age of withdrawal from the labour market (2007)	M	-
		F	-
		Total	63,3
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	30
		F	29
		Total	30
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	100
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	/
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	-
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	/
	Average pension relative to average wage (in %)		
7	Median pensions (without other social benefits) relative to median earnings		0,38
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		/
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	20
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		NDC and DC
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		-
14	Assumed average earnings in national currency		3.628
15	Average wage (productivity) growth rate	2006-2046	2,9

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

14. LITHUANIA

Description of schemes included

The Statutory social insurance pension system consists of two tiers: the State pay-as-you-go defined benefit pensions and mandatory funded defined contributions pensions. The old age pensions consist of two parts: the main part (basic pension) is almost flat, depending on the years of service only, and a supplementary part (calculated with a formula comprising years of service, individual wage coefficient and average insurable income, that is average income on which social insurance contributions were paid).

The funded part of the statutory scheme was introduced on 1st January 2004. This second tier of the statutory system is actually voluntary: people can choose whether to join it or not. However, opting out from the scheme once enrolled is not allowed. There are no restrictions for participation except being insured in the State social insurance pension system for full pension insurance and aged below the legal retirement age.

Pensions are financed from contributions: 23.5% of gross wage paid by the employer and 2.5% by the employee (data as of 2006). It can be noted that private occupation pension schemes are not developed in Lithuania.

Calculations have been presented both for the PAYG and funded components of two-tiered statutory scheme. The number of those retiring from the two-tiered statutory scheme becomes dominant in 2030 and this case is considered as the base case.

Representativeness of the calculations

The general PAYG earnings-related pension scheme covers approximately 89% of labour force (93% of employed) in Lithuania. Nevertheless some categories of self-employed persons (including farmers) under current legislation (enacted by 2006) are not insured mandatorily, and some of them are insured only for the main part of the social insurance pensions. Some groups of the population are covered by means of State budget for the main part of pension: persons taking care of children under three years or other dependent family members. Regular legal retirement age for men is 62.5 years and for women 60 years. The qualifying period to receive full pension is 30 years. Currently new male retirees have on average 37 years of contributions and they retire at 61.4. Thus common assumptions on age and career length (65 and 40 years respectively) used for calculation of hypothetical replacement rates are not fully representative of the current situation.

Currently, already 71% (54% in 2006) of the eligible persons have joined the funded tier of general statutory scheme. The scheme is a defined contribution scheme and financed by a fraction of the social insurance contribution (increasing from 2.5% to 5.5% of gross wage by 2007).

Main demographic and economic assumptions

The economic and demographic assumptions have been chosen according to the ISG guidelines and AWG macroeconomic assumptions.

For the calculations of the replacement rates gross average earnings were used. Concerning income taxation, the structural reform of income tax was included. A decrease of income tax from 33% in 2006 to 24% in 2046 has been used. No income tax is applied to pension benefits paid from the statutory schemes.

There is not automatic indexation rule legislated in Lithuania; nevertheless adjustments of statutory basic and earnings related parts have been made in line with wage increases. Indexation to wages was common practice in the past and it has been assumed in the calculation of the 10-years indexed replacement rate that this practice will be maintained in the future. Defined contribution part of pension was indexed to price index.

Main results

The contribution rate to the first tier for employees, who switched part of their social insurance contribution to funded pension scheme, will gradually fall by 5.5 percentage points by the year 2007 and later will remain constant. Consequently, the gross replacement rate in the first tier will be diminished by 15 percentage points until 2046. The development of the funded tier is expected to add a supplement increasing from 1 percentage point in 2006 to 16 percentage points in 2046, as the workers gradually acquire seniority in membership of the private funds. Thus the total gross replacement rate for the average wage earner is projected to increase by 1 percentage point. The decrease of net replacement rate by 3 percentage points is mainly due to the income tax reform described above.

The average earner with 40 years seniority can expect a gross replacement rate of 41.6% (net replacement ratio of 54.2%) from the statutory scheme in 2046. Pension for an individual retiring in 2046 ten years after retirement (the value of the pension in 2056) relative to the earnings of an average earner in 2055 (adjusted for inflation) is expected to fall by 4 percentage points (gross replacement rate). This fall is due to price indexation of defined contribution part of pension.

Gross replacement rate for hypothetical worker with low earnings (2/3 of average earnings) (49%) is significantly higher than those of people ending their career at 200% of average earnings (28%) due the fact that the flat rate (basic pension) constitutes currently 50% of former pension.

Table A.14.1 – Lithuania: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	41,0	41,6	37,8	37,7	46,0	48,8	27,7	34,7	39,7	34,6	34,0	33,4	32,8	37,2	36,6	36,0	34,6
Occupational and voluntary pensions	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0,0
Total gross replacement rate	41,0	41,6	37,8	37,7	46,0	48,8	27,7	34,7	39,7	34,6	34,0	33,4	32,8	37,2	36,6	36,0	34,6
Total net replacement rate	57,0	54,2	49,2	49,1	59,9	61,5	37,2	45,7	51,8	45,1	44,3	43,5	42,7	48,4	47,6	46,9	45,1
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.14.2 – Lithuania: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	61,4
		F	58,4
		Total	60
2	Effective age of withdrawal from the labour market (2006)	M	-
		F	-
		Total	59,9
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	37,5
		F	34,2
		Total	35,8
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	89
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	/
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	-
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	/
	Average pension relative to average wage (in %)		gross: 31,9% net: 43,6%
7	Median pensions (without other social benefits) relative to median earnings		0,4
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		/
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	26
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB and DC
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		-
14	Assumed average earnings in national currency		17.736
15	Average wage (productivity) growth rate	2006-2046	2,8

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

15. LUXEMBOURG

Description of schemes included

The general pension scheme is a mandatory scheme and each person having a gainful occupation in the private sector has to be affiliated to the general pension scheme. It can be characterised as a defined benefit scheme, the pension being based on a formula linked to members' wages or salaries and the length of employment. It is a contributory scheme where both the employers and the members have to pay into the scheme.

The length of time an individual earns rights to the pension benefit is formed by two types of service periods: periods during which contributions are paid (gainful occupation, periods of compensation benefits or voluntary contributions) and additional periods (mainly related to apprenticeship, educational training or child education) for which no contributions are paid. The entire service period will be referred to as "total career length" (TCL) whereas the part of the career length related to contributions is referred to as "effective career length" (ECL).

The old age pension consists of several components: a flat rate component, an accrual rate component, a staggered accrual rate increases and an "end of the year allowance". Flat rate related benefits are based on the total career length and are not affected by earnings. After 40 years of membership, they are equal to 23.5% of a reference amount (RA) fixed by law. Flat rate benefits are reduced by 1/40 for every year of difference between 40 and the total career length. The number of years taken into account cannot exceed 40. Accrual rate related benefits are exclusively associated to the effective career length and are equal to one twelfth of 1.85% of the sum of all income from work, adjusted to price and wage evolution (TIC). Staggered accrual rate increases depend on the age and the contribution history of the beneficiary, beginning at the age of 55 with a contribution history of 38 years. Each additional unit (one per year of age and one per year of contribution) raises the accrual rate by 0.01 up to a maximum limit of 2.05. The "end of the year allowance" (EA) represents an additional flat rate component. This allowance is reduced by 1/40 for every year of difference between 40 and the total career length. The number of years taken into account cannot exceed 40.

The monthly pension formula becomes:

$$P = (0.235 \cdot RA + EA/12) \cdot \min[1, TCL/40] + ...$$
$$...\{0.0185 + 0.0001 \cdot (age - 55 + \max[38, ECL] - 38)\} \cdot TIC/12$$

Pensions are adjusted to price evolution each time prices increase by more than 2.5%. In addition, pensions are adjusted every two years to the real wage evolution. Whereas price indexation is automatic, the decision on indexing pensions to wage evolution is the responsibility of government and has to be approved by the parliament.

Every beneficiary is entitled to an old age pension at the age of 65, provided he has an effective career length of at least 10 years. A beneficiary is entitled to an early old age pension at the age of 60 if he has a total career length of at least 40 years. An early old age pension at the age of 57 years is granted to beneficiaries with an effective career length of at least 40 years.

Representativeness of the calculations

In Luxembourg each person with a gainful occupation must be affiliated to the social security system at the beginning of his professional activity. Information on age, sex, marital status, working

status, national and foreign service periods, contributions, gross income over the working career, pension type and pension amount is centralised in a national social security register.

The following table compares register based figures for male beneficiaries with complete professional careers to ISG base case.

	Register data	**ISG Base case**
effective career length	42.9	40
age at retirement	59.3	65
gross replacement rate	78%	91%
net replacement rate	88%	98%

Register data shows that most retirees currently cease professional activity at the age of 60, meaning that the ISG base case age criterion of 65 is not met. The career length assumption for the ISG base case, on the contrary, is quite close – and actually lower - than the observed effective career length of current retirees. Actual gross replacement rates are lower than theoretical ones, this being linked on the one hand to the high age at retirement (in the ISG hypothesis), resulting in an overestimation of the staggered accrual rate component in the pension formula, and on the other hand to the flat earnings profile assumption of the ISG base case resulting in an underestimation of income from work at the end of the professional career.

Main results

Gross average pension represents 90% of gross average lifetime income for a worker who presents a complete flat wage working career between ages 25 and 65 and who earned an average salary equal to the economy wide wage applicable in Luxembourg. Gross replacement rate increases to 96% for a worker with a reference wage equal to 2/3 of the average salary. In the case the pension beneficiary had an increasing wage profile over his career, starting at 100% of average wage and ending at twice that wage, the gross pension represents 65% of the last salary. Pension benefits are adjusted to price and wage evolutions so that the pension level does not change in retirement in respect to the last salary.

Concerning the adequacy of the pension scheme, prospective replacement rates indicate that the general pension scheme provides adequate replacement revenues in the future. The hypothetical evolution of the benefit level will, however, probably not be financially sustainable due to increasing supplementary budgetary pressure on public finances in the long run.

Table A.15.1 – Luxembourg: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	90,8	90,1	90,1	84,6	90,9	95,7	64,9	75,1	85,8	90,1	90,1	90,1	90,1	89,3	86,9	85,7	
Occupational and voluntary pensions	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Total gross replacement rate	90,8	90,1	90,1	84,6	90,9	95,7	64,9	75,1	85,8	90,1	90,1	90,1	90,1	89,3	86,9	85,7	
Total net replacement rate	98,3	98,1	98,1	93,7	98,7	103,2	75,3	85,7	94,7	98,1	98,1	98,1	98,1	97,4	95,5	94,6	
Of which means-tested benefits in percentage points of total net replacement rate																	

Note: Calculations are based on a national model so that the results can slightly differ from OECD calculations.

Table A.15.2 – Luxembourg: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	59,3
		F	60,1
		Total	59,5
2	Effective age of withdrawal from the labour market (2005)	M	-
		F	-
		Total	59,4
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	42,9
		F	38,8
		Total	42,2
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	92
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	/
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	-
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	/
	Average pension relative to average wage (in %)		
7	Median pensions (without other social benefits) relative to median earnings		0,61
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		/
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	24
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		-
14	Assumed average earnings in national currency		43.621
15	Average wage (productivity) growth rate	2006-2046	1,8

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

16. HUNGARY

Description of schemes included

Calculations cover the mandatory pension system. Since the 1997 pension reform the mandatory pension system in Hungary consists of two parallel schemes. One of them is a pure pay-as-you-go financed, defined-benefit, social security pension scheme and the other is a hybrid scheme with two pillars. The first pillar of the hybrid scheme is identical to the reduced social security scheme, whiles the second pillar is operated by fully-funded, defined contribution, private pension funds. Concerning years 2006, the retirement from the pure pay-as-you-go social security system has been assumed, while for the purpose of calculating prospective replacement rates in 2046 retirement from the two-tier system was presumed. By the time, people will retire from the new two-tier system, which comprises a reduced social security element and a privately managed prefunded scheme being mandatory for all new entrants to the labour force. The total contribution paid by employee and employer to the statutory pension scheme was 26.5% in 2006 (33.5% from 2007). Members of the two pillar system pay contributions at the same rate as members of the pure PAYG scheme do. However, participants of the two-pillar system pay part of these contributions into the funded pillar (8% out of the overall 26.5%). Benefits from various voluntary supplementary pension arrangements were dismissed for the purpose of calculations on account of their low predictability.

Representativeness of the calculations

In 2006, average effective retirement age was 59.9 in case of men and 57.5 in case of women. The average seniority of men was 39.9 years, while that of women amounted to 38 years (but it oscillates a lot due to transitional early retirement rules).

According to the rules in 2006, the standard retirement age is 62. People deferring retirement beyond standard retirement age are entitled to a benefit bonus of 6 per cent per year. Men retiring at age 65 are thus entitled to 18 per cent bonus. Nevertheless, deferred retirement is a rare exception rather than the typical case.

Therefore the representativeness of age of retirement parameter used in the base case calculations and variant scenarios is limited for the current situation in Hungary, implying a significant overestimation of the replacement rate for the base case.

When looking at the evolution of gross replacement rates it should be borne in mind that it includes the effect of a foreseen change in taxation rules. From 2013 onwards, benefits will be calculated on the basis of gross earnings and will become taxable (today, they are all non-taxable emoluments). Therefore, the development of the net replacement rate is a more appropriate indicator in Hungary when assessing the evolution of pension adequacy.

Main demographic and economic assumptions

According to EUROSTAT projections, Hungary will undergo a large increase in both male and female life expectancy in the EU. In the period 2004-2050, life expectancy at birth of men will go up by 9.6 years (from 68.5 to 78.1) and that of women will rise by 6.6 years (from 76.8 to 83.4). This development will have a direct effect on the calculation of annuities to be expected from the defined contribution scheme. Labour productivity growth and hence the assumed wage growth will exceed the EU average as a result of a catching-up process.

Since 2006 there were numerous changes in the Hungarian pension system, which have significant impact on the long-term evolution of replacement rates. The calculation of the past earnings (which are the base of pension benefit calculation) has changed: past earnings are reduced by employee social security contributions and than by the “theoretical” amount of income tax (until 2007 only income tax were deducted) and the earnings are valued to the year before retirement (until 2007 to two years before retirement), determining a decrease in the level of newly granted pension of

approximately 7-8 %. As from 2008 the new early pensioners, whose income (except of the amount of pension benefit) reach the level of annual minimum wage have to cease their pension benefit. As from 2010 the rule will be applied in case of all early pensioners. The statutory retirement age will gradually ascend six months each year both for women and men until 65 years of age (in case of advanced retirement age 63) by 2021. The malus rule related to the advanced old-age retirement will apply to men from 2011 (from 2013 for women). In the new indexation of pension benefit, the wage growth component represents a smaller weight. Under 3% of GDP growth, benefits should be increased by the price index. Based on 3 to 3.9% of GDP growth, mixed indexation should be applied in a proportion of 20% to 80%; for 4 to 4.9% of GDP growth the proportion would be 40 to 60%, and for 5% or higher growth, the Swiss indexation would apply. From 2009 the 13th month pension was capped at HUF 80,000 for old-age pensioners above retirement age, disables, and survivors (except of temporary widows/widowers) and abolished for other pensioners. As from 1 July 2009 all 13th month pension benefits were totally abolished.

Implementation of these measures is expected to determine a significant reduction in the replacement rate figures.

Main results

Typical national retirement age is below 62 years, thus retirees getting +18% bonuses cannot be considered to be the current typical case. We calculate as a national variant for a man retiring at age 62 with 38 years of seniority (although people generally retire earlier than 62, this early retirement does not engender any benefit reduction if 38 years of service are available, therefore this case can be viewed as typical). This variant indicates 81.9 per cent net replacement rate in 2006. This includes the 13th month pension benefit as well. Compared to the figures of 2005, there is a nominal decrease due to the delayed earnings indexation of pension benefits and due to certain modifications in the income tax rules.

Table A.16.1 – Hungary: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	63,5	76,5	68,0	65,7	88,2	76,5	57,5	63,8	72,9	60,7	59,9	58,7	57,7	60,3	59,8	59,4	
Occupational and voluntary pensions	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Total gross replacement rate	63,5	76,5	68,0	65,7	88,2	76,5	57,5	63,8	72,9	60,7	59,9	58,7	57,7	60,3	59,8	59,4	
Total net replacement rate	100,4	105,2	95,4	92,7	113,8	95,1	77,2	92,4	102,7	86,7	85,7	84,3	83,1	86,2	85,7	85,2	
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.16.2 – Hungary: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	59,9
		F	57,5
		Total	58,5
2	Effective age of withdrawal from the labour market (2005)	M	61,2
		F	58,7
		Total	59,8
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	39,9
		F	38
		Total	38,8
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	100
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	/
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	-
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	0.5
	Average pension relative to average wage (in %)		
7	Median pensions (without other social benefits) relative to median earnings		0,58
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		/
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	26,5
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB and DC
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		-
14	Assumed average earnings in national currency		1.988.652
15	Average wage (productivity) growth rate	2006-2046	2,4

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

17. MALTA

Description of schemes included

Malta's Theoretical replacement rate estimates for the year 2046 are based on its national calculations, rather than on the OECD model (APEX). The previous round of estimates which occurred during the final stages of work on the Pension Reform (launched in March 2006), did not take into account the changes being introduced by the Pension Reform at that time, as the Reform was still in the working / public consultation stage. This round of TRR estimates for Malta includes the changes as per Pension Reform qualifying conditions for a person retiring in year 2046. The 2006 estimate has been worked out using the national accounts based average wage net of 10% employer's contribution towards the employee's pension.

The Pension Reform has introduced a gradual increase in the retirement age, as well as equalising the retirement age requirement across genders: the retirement age is set to increase gradually from 61 for men and 60 for women to 62 years (for persons born before the 31st of December 1951) and up to 65 years of age (for persons born after the 1st of January 1965). At the same time, the seniority has been increased from 30 years for those retiring today, to 40 years for persons retiring in 2046.

Given that the TRR exercise extends to specific career paths, it is pertinent to note that as of the 1st of January 2007 persons who are economically inactive due to child-raising are entitled to two calendar years of social security credits contribution if they return to work for at least two years after their inactivity. Considering unemployed persons, in the calculation of pensionable income the unemployment periods are ignored, and should the unemployment period extend over the last ten years of working life, the previous earnings are taken into consideration in order to establish the pensionable income. The reform also stipulates that a person who is awarded a retirement or a two-thirds pension[5] has the option to remain in employment as long as s/he is paying social security contributions up to the age of 65 years. Working beyond the age of 65 does not increase one's pension entitlement.

Representativeness of the calculations

The 2006 estimates' base case takes into consideration a male employee earning on average Lm 6,307 (Euro 14,691) in year 2005. The average wage of three years preceding the retirement is based on the average wage productivity growth of 2.1% per annum, taking into consideration two thirds of this average. The inflation rate of 2% per annum is assumed throughout the 2006-2046 period.

Main demographic and economic assumptions

The life expectancy at birth was projected to reach 79.9 years and 84.6 years in 2030 and 84.3 years and 88.6 years in 2060 for males and females respectively, according to the AWG EC-EPC 2009 projections.

Main results

The results indicate that prospective theoretical replacement rates are projected to decline from 65.3% to 57.8% (GRR, 2006-2046) and from 79.2% to 70.1% (NRR, 2006-2046) under the Pension Reform rules. Through the mechanisms of the statutory scheme, the projected decline appears to be

[5] The Two-Thirds Pension Scheme was introduced in 1979 and it is currently the most common pension scheme. It provides an income related pension to those who satisfy criteria of social security contributions payment. In order to be entitled to receive the Two-Thirds earnings related pension an employed or self-employed person retiring in 2006 was required to have been employed for at least 10 years and to have a contribution average over 30 year contribution period of at least 15 contributions per year.

lower for the variant of two thirds of the average wage than for average wages or profiles of rising wages over the career: from 65.3% to 60.8% (GRR, 2006-2046) and from 76.0% to 70.8% (NRR, 2006-2046).

It can be noticed that a possible development of a supplementary funded scheme (not considered in this exercise) could contribute to a slower decline of theoretical replacement rates by year 2046.

Table A.17.1 – Malta: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	65,3	57,8	55,3	57,9	NA	60,8	28,9	48,2	55,1	57,8	57,8	57,8	57,8	57,8	57,8	57,8	
Occupational and voluntary pensions	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Total gross replacement rate	65,3	57,8	55,3	57,9	NA	60,8	28,9	48,2	55,1	57,8	57,8	57,8	57,8	57,8	57,8	57,8	
Total net replacement rate	79,2	70,1	67,2	70,2	NA	70,8	38,7	60,1	67,2	70,1	70,1	70,1	70,1	70,1	70,1	70,1	
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.17.2 – Malta: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	59,91
		F	58,15
		Total	59,58
2	Effective age of withdrawal from the labour market (2006)	M	-
		F	-
		Total	58,5
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	29,1
		F	23,5
		Total	26,3
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	100
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	/
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	-
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	/
	Average pension relative to average wage (in %) *		45,60%
7	Median pensions (without other social benefits) relative to median earnings		0,5
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		/
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	10
		Employee	10
		Other	10
		Total	30
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		-
14	Assumed average earnings in national currency		6.307
15	Average wage (productivity) growth rate	2006-2046	2,1

* Source: NSO, ESSPROS section

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.

2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7

3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.

4 See also table 3, column 2 and table 6 column 8

5 See also table 3, column 3 and table 6 column 9

6 See also table 3, column 4

7 Source: EU-SILC(2006) Pension indicator PN-P3

8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR

9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR

10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR

11 See also table 6, column 5

12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR

13 See also table 6, column 7

14 See also table 4, column 2

15 See also table 4, column 2

18. THE NETHERLANDS

Description of schemes included

The AOW is the statutory old age pension scheme of the Netherlands. It provides all residents at the age of 65 a flat-rate pension benefit at the subsistence level. Other forms of income have no effect on the AOW benefit. All residents between the age of 15 and 65 are insured. During this period, entitlement is accrued by 2 percentage points for every year. This leads to a 100% entitlement on reaching the age of 65, provided there are no gaps in the period of insurance. People who are not entitled to the full AOW benefit and who have, in spite of other sources of income, a total income below the subsistence level are entitled to social assistance. The replacement rate calculation is based on a 100% entitlement.

The statutory pension is financed as a pay-as-you-go scheme: today's contributors finance the pension payments made to the pensioners of today. There is an upper limit on the AOW contribution rate which will be used in the calculation of the replacement rates. Deficits in the AOW fund due to insufficient income from contributions will be balanced by a government grant.

Occupational pensions are agreed upon by employers and employees. These pension schemes are supplementary to the AOW state pension. The AOW benefit is therefore included in most calculations of second pillar pension schemes. Occupational pensions are based on the wage above a certain amount. This is known as the AOW *franchise*. Occupational pensions aim at a 70% replacement rate (including state pensions).

In the calculation of the replacement rates a Defined Benefit final pay scheme is used which is converted to a Defined Benefit average pay scheme in 2004. In the average pay scheme the AOW franchise is decreased in such a way that the gross replacement rate based on the final pay remains at 70% for the normal career. This normal career is approximately represented by the concave variant with a starting salary of 75% of the average increasing to 105% of the average.

Most pension funds have no guaranteed indexation of the pensions for increased prices or wages. When there is an indexation agreement as part of the pension agreement, it can be agreed that indexation is conditional, so that the indexation is only guaranteed under certain circumstances. When the financial position of the fund requires so, the indexation can be lower than usual. In a pension system based on final salaries, partial indexation only affects the pension of those already receiving a pension. In a system based on average wages, the reduced indexation also affects the pension accrual by those below the age of 65. The consequence is that the future replacement rates are not certain. The government demands the pension funds to be clear on their ambitions regarding the indexation. Two variants regarding the outcome of future indexation are presented: an indexation of 80% and an indexation of 100%.

Representativeness of the calculations

About 91% of the employees are covered by an occupational scheme. About 9 out of 10 active members participate in a defined benefit scheme. In recent years many pension systems shifted the pension base from the final salary to the average pay during the career. The final salary schemes usually apply a pension accrual of 1.75% for each year (fiscally the maximum pension accrual is 2.25%). In 40 years time this results in a pension of 70% of the final salary. The average pay schemes may have a higher accrual rate or lower franchise in order to compensate for the normal career pattern. For employees with this career pattern the pension based on final earnings results in the same 70% replacement rate as the one based on average earnings.

Depending on the pension fund, indexation is based on prices or wages. For about half of the pensioners, indexation is based on prices; for the other half the indexation is based on wages. For the pensioners an average indexation is used, based on both prices and wages. For the accrual of

pension rights, the indexation is most often based on wages. This is also what is used in the calculation.

For the Netherlands the future private pension is based on the average income during the entire career. As the average career develops in a concave way and the pension accrual is based on an average career, the concave variant provides a more representative picture than the base case.

Main demographic and economic assumptions

The economic and demographic assumptions have been chosen according to the ISG guidelines and AWG macroeconomic assumptions.

The pension contribution to the statutory scheme is set to the structural maximum for all years (18.25% of taxable income with a maximum minus a tax benefit). For employees in the private sector, the contribution is on average 7.1% of the gross wage.

For occupational pensions a structural contribution rate is calculated as the present value of all expected (current and future) expenditures that arise from the pension rights accrued in the current year (2005). Expected future increases in the pensionable wage and in pensions are included in the value of expected future pension expenditures (coming service). In this calculation all future costs are included. Mainly because of increasing life expectancy, the contributions will increase between 2005 and 2050. As far as demographic developments and life expectancy are concerned, the most recent national forecasts have been used to calculate the structural contribution rate.

According to the guidelines the real rate of return on investments is set to 3%. 0.25% is subtracted to compensate for administration costs. From national data on administration costs of pension funds it can be calculated that on average administration costs (= investment costs + costs of pension insurance administration) are 0.35% of the assets of a pension fund. However, because Dutch pension funds have invested approximately 50% of their assets in equity and other higher risk titles, this 0.35% also includes the costs of active asset management. Because the rate of return in the guidelines is based on risk free investment 0.1% was deducted - being an estimate for the cost of active asset management - from administration costs.

Besides the old-age and survivors pension contribution, all other occupational pension contributions, social security contributions and taxes were taken into account in the calculation of the net replacement rate. The tax system and social security contributions for the future remain as they are in 2005. The health insurance is not included in the calculation of the replacement rate. The only means-tested benefit that is relevant in the Dutch situation is the housing subsidy. This subsidy depends on income and rent. In none of the variants, housing subsidy has an impact on the replacement rate.

Main results

The shift from final wage to average wage implies that future careers become relevant for the replacement rate. In the base case of the flat wage profile, replacement rates will increase because of the decrease in the AOW franchise. In general the impact of the shift to the average pay scheme will become more significant as time passes. This is because the new generations will experience a longer period in the average pay scheme than the older generation.

As the average career develops in a concave way and the pension accrual is based on an average career, the concave variant gives a more representative picture than the base case.

It should be noted that Member States with a funded pension system (such as the Netherlands) are vulnerable to changes in interest rates. Higher interest rates or higher returns on equity investments of the pension funds may improve future replacement rates.

The replacement rates are not very sensitive for the assumptions made on the level of occupational pension contribution. An increase in the pension contribution of 1% results in net wage decrease of

0.1%. The lower net wage results in a higher replacement rate. This is contrary to the effect of limiting the indexation of pension accrual. This decreases the future pension and therefore the replacement rate. As long as the mix between increases in contributions and limited indexation is in balance, the increasing costs of occupational pensions will have no major impact on the future net replacement rates.

Table A.18.1 – The Netherlands: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	29,6	31,2	31,2	31,2	31,2	46,6	15,6	26,0	29,7	31,2	31,2	31,2	31,2	30,2	30,2	30,2	
Occupational and voluntary pensions	41,2	50,9	50,9	48,3	59,0	39,5	44,1	42,4	48,5	44,9	43,8	42,7	41,5	50,3	49,0	47,7	
Total gross replacement rate	70,7	82,1	82,1	79,6	90,3	86,1	59,7	68,4	78,2	76,1	75,0	73,9	72,7	80,6	79,3	78,0	
Total net replacement rate	91,8	97,9	97,9	95,9	104,9	109,0	76,9	89,2	100,5	100,1	98,7	97,4	96,0	96,6	95,5	95,9	
Of which means-tested benefits in percentage points of total net replacement rate																	

Note: Net figures differ from the results reported in the Main report due to changed regulations since January 2006 which have now been taken into account in the calculations.

Table A.18.2 – The Netherlands: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	65
		F	65
		Total	65
2	Effective age of withdrawal from the labour market (2007)	M	64,2
		F	63,6
		Total	63,9
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	-
		F	-
		Total	NA
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	100
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	91
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	-
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	/
	Average pension relative to average wage (in %)		
7	Median pensions (without other social benefits) relative to median earnings		0,42
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		9.8
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	7
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	11.5 -12.5
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		DB
14	Assumed average earnings in national currency		39.729
15	Average wage (productivity) growth rate	2006-2046	1,7

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

19. AUSTRIA

Description of schemes included

The first pillar consists of a general scheme for private sector employees and special schemes for the self-employed, for farmers and for civil servants.

The standard retirement age is 65 for men and 60 for women. The pension depends on the length of the insurance career and on the level of insured earnings (which are limited by a ceiling of €3,750 per month in 2006). The pension is based on the average earnings of the 15 best years of the entire insurance career (to be extended gradually to 40 years by 2028). A full pension of 80% of the assessment base (which is slightly lower than the ceiling for insured earnings) currently requires 40 insurance years; this rises to 45 as a result of the 2003 pension reform. The assessment basis was €3132 in 2006. Pensions are paid 14 times per year.

The extension of the assessment period from 15 to 40 years and the increase in insurance years required for a full pension from 40 to 45 years will result in a decrease in pensions. The decrease has, however, been limited to 10% in the pension reform 2003. The harmonisation of all pension systems and the introduction of an individual defined benefit pension account abolished the limitation (those, who entered the labour market in 2005 for the first time are fully affected by the pension account – see also the 2005 National Strategy Report).

The second pillar is voluntary. It is estimated that 300,000 people have already acquired pension entitlements under occupational schemes, although this figure does not include the more traditional direct benefit promises by employers (book reserves). Occupational schemes are not included in the replacement rate calculations.

Representativeness of the calculations

The average career length (including periods assimilated to insured employment) of blue and white collar workers is 40.6 years for men and 34.7 years for women. The average retirement age for old age pensions in 2006 is 63.2 years for men and 59.3 years for women.

Main demographic and economic assumptions
The economic and demographic assumptions have been chosen according to the ISG guidelines and AWG macroeconomic assumptions.

Main results

Pension level and replacement rate calculations are based on the new arrangements of the pension reforms of 2003 and 2004 (see also the 2005 National Strategy Report). Austria's earnings-related first pillar scheme provides for nearly all theoretical cases a gross replacement rate between 60% - 70%.

As pensions in payment are not index-linked to earnings, net replacement rates ten years after retirement are over 10 percentage points lower than at the moment of retirement. In the calculation, an inflation adjustment of 2.0% per year was assumed.

As a result of the pension reforms 2003 and 2004, the replacement rate will slightly increase for constant earning profiles (base case, 2/3 of average earnings). The driver for this development is a better revaluation of the past earnings, although the accrual rate is decreasing and the basis for assessment is increasing. In case of rising earning profiles, replacement rates are decreasing.

Table A.19.1 – Austria: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	68,0	68,6	57,7	59,7	78,0	68,6	51,7	57,4	62,6	68,6	71,1	69,4	67,6	68,1	67,4	66,6	
Occupational and voluntary pensions	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Total gross replacement rate	68,0	68,6	57,7	59,7	78,0	68,6	51,7	57,4	62,6	68,6	71,1	69,4	67,6	68,1	67,4	66,6	
Total net replacement rate	83,9	88,7	73,0	80,0	97,9	84,9	71,8	77,9	82,9	88,7	91,1	89,4	87,7	88,1	87,4	86,7	
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.19.2 – Austria: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	63,2
		F	59,3
		Total	61
2	Effective age of withdrawal from the labour market (2007)	M	62,6
		F	59,4
		Total	60,9
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	40,6
		F	34,7
		Total	37,3
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	100
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	/
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	-
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	/
	Average pension relative to average wage (in %)		
7	Median pensions (without other social benefits) relative to median earnings		0,61
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		/
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	22,8
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		-
14	Assumed average earnings in national currency		22.872
15	Average wage (productivity) growth rate	2006-2046	1,7

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

20. POLAND

Description of schemes included

The projection is based on the mandatory pension system in Poland for the employees and self-employed. It covers the first pillar that is contributory. The contribution is divided between two tiers (accounts):

- NDC non-financial defined contribution account (12.22% of wages), which is administered by Social Insurance Institution and based on pay-as-you-go principle;
- FDC financial defined contribution account (7.3% of wages), which is administered by private institutions chosen by individuals. Contributions are transferred to open pension funds managed by Pension Fund Societies. As of 2009, there were 14 open pension funds (OFEs) operating on the market.

The new pension system covers all individuals born after 1948. It was implemented from 1999. All persons born after 1968 have both NDC and FDC accounts. Persons born between 1949 and 1968 had a choice whether to have only one NDC account or split their old-age pension contribution between NDC and FDC accounts.

Overall pension contribution is divided between old-age contribution (19.52 per cent of wage) and disability and survivor contribution (6.00 per cent of wage). Contributions are split between employees and employers. Contribution collection is centralised by Social Security Institution that also transfers part of contributions to selected OFEs.

Workers that have social insurance record prior to 1999 have their NDC accounts credited with the so-called initial capital, which reflects their pension rights accrued before 1999. There is a minimum pension guarantee in the pension system, in the form of topping-up pensions paid from NDC and FDC accounts.

Through the creation of special incentives and preferences, the Polish state supports voluntary forms of saving for pension purposes in the form of Employee Pension Plans (EPP) and Individual Retirement Accounts (IRA). The first employee pension plans were created in 1999, and IRA – in 2004.

The coverage of occupational pensions for the working population is negligible. Due to that occupational pensions are not included in replacement rates' calculations. One of the main premises of pension reform in Poland was to inform citizens about the potential level of their old-age benefit. It is expected that economic and insurance market development as well as knowledge about new pension system will lead to the higher coverage of occupational pensions and individual pension savings.

Representativeness of the calculations

The employee pension system is the largest social insurance system in Poland, covering all employees and self-employed. The general social insurance system in 2007 covered 14 million people. From this system benefits have been paid out to 7.3 million old-age, survivor and disability pensioners. In the same year, the total number of economically active persons (employed and unemployed) ranged at around 17 million persons.

In 2007, the effective retirement age was 57.1 years (59.7 for men and 55.8 years for women). It means that men used to retire on average 5.3 years earlier and women 4.2 years earlier than it is foreseen by the general law. The statutory retirement age is set at the level of 65 years for men and 60 years for women. It is expected that changes in law implemented from year 2009 will lead to a significant increase in the effective retirement age both for men and for women: indeed, the average

retirement age for the new flows of retirees in 2006 was slightly higher, equal to 57.8 (60.5 for men, 56.4 for women).

In 2007, new pensioners had on average 35.1 years of contributions (38.7 years man and 33.3 women). In new pension system, each additional year of work will strongly influence on the level of old-age benefit.

Main demographic and economic assumptions

The economic and demographic assumptions have been chosen according to the Eurostat macroeconomic assumptions. Old-age dependency ratio is projected to rise from 19 in 2009 to 69 in 2060. At the same time pension system dependency ratio (number of pensioners relative to the number of contributors in public pension schemes) increases slower than old-age dependency ratio mainly because of following factors: the increase in the effective retirement age, results of changes in disability law which were implemented few years ago, assumption of high employment rate growth and the participation rate growth.

Main results

Replacement rates in 2006 reflect the old pension system (defined benefit, pay-as-you-go system). In 2046 the benefit will be fully calculated in accordance with new rules and such a person will be covered by the new pension system from the beginning of employment. Net replacement rate is 19 p.p. lower then in 2006 and equals 58.7. The drop is caused by the change of the pension formula and as a result by the influence of increasing life expectancy.

Indexation of pension benefits is in line with 80% of prices and 20% of average earnings for a given year. As a result, ten years after retirement net replacement rate drops from 58.7 to 47.7.

The new Polish pension system has strong incentives to extend working lives. Retirement at age 67 with 42 years seniority gives additionally 8.3 p.p. of replacement rate mainly due to the higher retirement age. Two extra years of seniority also increase the level of the benefit but to lesser degree. On the other hand lower retirement age (which is only theoretical case not allowed in Polish system) and shorter career gives only 2.7 p.p. lower replacement rates.

According to a new pension formula all contributions will be reflected in the future old-age benefit. In the new pension scheme, the minimum retirement guarantee shall be financed by state budget and paid when total mandatory old-age pension is lower than the minimum. The ceiling to contributions and pensionable earnings is set at 2.5 times average earnings projected for a given year in the state budget law. Due to that different career patterns will reflect the same rules as in the base case without any additional regulations.

In the new Polish pension system employees are protected against childcare and unemployment breaks. Contributions are paid from the state budget.

The retirement age for women is different to that for men in Poland. Consequently the lower retirement age cause shorter contributory period for women. Due to that, five years shorter career but mainly five years lower retirement age gives less 15.5 p.p. of the replacement rate.

The gender-neutral life tables were used (in accordance with regulations – it was assumed that on average women live as long as men) and no difference was made between the amount of remuneration of women and men. The significant difference between men and women future old-age pension is a subject of the discussion. The need of increasing women retirement age or equalizing men and women retirement age is more often stressed by experts.

Table A.20.1 – Poland: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	63,2	47,5	38,2	45,3	54,6	47,5	35,7	39,6	45,3	34,4	33,5	32,7	31,9	46,7	45,5	44,4	34,4
Occupational and voluntary pensions	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0,0
Total gross replacement rate	63,2	47,5	38,2	45,3	54,6	47,5	35,7	39,6	45,3	34,4	33,5	32,7	31,9	46,7	45,5	44,4	34,4
Total net replacement rate	77,7	58,7	47,7	56,0	67,0	58,9	45,5	49,3	56,1	43,2	42,2	41,2	40,2	57,7	56,4	55,0	43,2
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.20.2 – Poland: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	60,5
		F	56,4
		Total	57,8
2	Effective age of withdrawal from the labour market (2007)	M	61,4
		F	57,5
		Total	59,3
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	36,5
		F	33,3
		Total	34,3
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	77
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	/
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	-
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	/
	Average pension relative to average wage (in %)		
7	Median pensions (without other social benefits) relative to median earnings		0,58
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		/
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	19,52
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		NDC and DC
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		-
14	Assumed average earnings in national currency		29.271
15	Average wage (productivity) growth rate	2006-2046	2,5

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

21. PORTUGAL

Description of schemes included

The Portuguese pension system is basically a mandatory defined benefit scheme, working on a pay-as-you-go (PAYG) financing basis. The most general earnings-related pension scheme covers the majority of private sector employees, self-employed workers and all civil servants appointed after 31/12/2005 (since the civil servants special regime was closed at the beginning of 2006).

In the general social security regime the global contribution rate is 34.75% of gross earnings (23.75% paid by the employer and 11% by the employee). Workers become eligible for an old age pension once they reach 65 years of age and fulfil a 15 years qualifying period.

The old-age pension benefit formula depends on the number of years the person has contributed to the system and on the persons' average earnings. According to the rules adopted in 2002, the average earnings considered in the pension benefit formula will progressively consider the workers' entire career (instead of the best 10 out of the last 15 years). The transitional clauses adopted in order to safeguard accrued rights will postpone the full implementation of this new pension formula until 2017.

In order to guarantee the systems' financial sustainability, in 2006 it was agreed that the pension benefit formula (from 2008 onwards) would also incorporate the so-called "pension sustainability factor". The sustainability factor is an adequacy factor that allows the pension system to adapt to the average life expectancy.

The Portuguese general regime also guarantees minimum pensions for those whose statutory pension (the pension that derives from the application of the pension benefit formula) falls below certain thresholds that are established by law. Minimum pensions are differentiated according to the pensioners' contributory career (and they are not means-tested).

Representativeness of the calculations

The general social security regime covers about 80% of the working population, which is due to the fact that these projections are neither considering the special scheme for civil servants (appointed before 1/1/2006) nor the occupational schemes that cover a significant share of employment in telecommunications, banking and other financial services. Roughly, these are more generous schemes that provide higher pension benefits.

By the end of 2006 the average retirement age of the new flow of retirees was 63.7 (63.3 for men and 64.3 for women). The effective retirement age is somewhat lower than 65 – the normal retirement age – because there are some voluntary early retirement schemes and in some cases the retirement age can be anticipated (for some arduous and damaging occupations or for long-term unemployment situations).

Although there has been a considerable increase in the length of the contributory career, the average career is still lower than 40 years (32.3 for men and 23.9 for women).

Gender differences are very significant. Women are more likely to get lower pension benefits than men, because of their shorter careers and lower wages.

Main demographic and economic assumptions

The economic and demographic assumptions were set according to the ISG guidelines and the AWG demographic and macroeconomic assumptions.

According to 2008 Eurostat demographic projections, in Portugal the share of elderly population (aged 65+) is expected to increase from 17% in 2007 to almost 30% in 2046. On the other hand, working age population is expected to decrease from 67% of total population to 58%. This implies

that the old age-dependency ratio will steadily increase from 26% in 2007 to 50% by 2046. Average wages are expected to grow, on average, 1.8% a year.

Main results

Overall results show that in the long-run replacement rates will fall. This is mainly the result of changes introduced in the pension benefit formula, namely, the consideration of the full length of the workers' career and the introduction of a sustainability factor related to life expectancy.

However, it should be noted that the actual pension cuts resulting from the introduction of the sustainability factor are lower than previously expected in the 2006 projections (the actual cut for 2010 stands at 1.65% while the projections estimated it to be around 2.32%).The effect of the sustainability factor can also be countered through postponing the retirement decision. In 2010, workers can retire two (for 40 or more career years) to five months later (15 to 24 career years) and obtain no cut resulting from the sustainability factor.

The prospective replacement ratios also show that high wages and rising earnings profiles will have a higher reduction of the replacement ratios than low-wage earners. In fact, by considering the full career, high-wage workers will have smaller accrual rates than low-wage workers.

In the 10 years after retirement scenario the replacement rate is also expected to decrease. This is mainly related to the GDP projections presented for this period (below 2%) which, according to the new rules for updating pensions, will give raise to pension increases that are only indexed to prices (rather than a combination of CPI and GDP growth).

The scenarios for retiring before (at age 63) and after (at age 67) the normal retirement age are well representative of the effect of the new legislation concerning the promotion of active ageing (through higher penalties/bonuses to those who decide to retire before/after the age of 65).

Finally, net replacement rates are always higher than gross replacement rates because pension benefits are exempt from any income tax to a higher level than wages. The fiscal system is being reformed in a way that pension benefits and wages will be progressively taxed in the same way.

Table A.21.1 – Portugal: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63	Retirement at age 67	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	74,8	54,7	43,1	52,6	65,6	55,2	41,4	45,7	51,7	54,7	53,6	52,6	51,6	54,7	54,7	54,7	
Occupational and voluntary pensions	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Total gross replacement rate	74,8	54,7	43,1	52,6	65,6	55,2	41,4	45,7	51,7	54,7	53,6	52,6	51,6	54,7	54,7	54,7	
Total net replacement rate	90,7	70,6	55,6	67,9	84,4	66,3	59,3	60,6	67,3	70,6	69,3	67,9	66,6	70,6	70,6	70,6	
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.21.2 – Portugal: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	63,3
		F	64,3
		Total	63,7
2	Effective age of withdrawal from the labour market (2007)	M	62,9
		F	62,3
		Total	62,6
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	32,3
		F	23,9
		Total	28,5
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	81
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	/
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	-
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	/
	Average pension relative to average wage (in %)		
7	Median pensions (without other social benefits) relative to median earnings		0,47
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		/
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	33
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		-
14	Assumed average earnings in national currency		15.337
15	Average wage (productivity) growth rate	2006-2046	1,9

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

22. ROMANIA

Description of schemes included

Romanian pension system includes three components, the public pension system (regulated by Law 19/2000 on public pension system and other social insurance rights - PAYG scheme, based on intergenerational solidarity), private pensions (regulated by Law no. 411/2004 on privately administered pension funds – part of the contribution from the public pension scheme is accumulated in individual accounts) and voluntary private pensions (regulated by Law 204/2006 on voluntary pensions – voluntary participation, individual accounts). In 2007, the first contributions to voluntary pension funds were collected. In 2008, the first contributions to privately managed pension funds were collected. Therefore, only the public pension system will be dealt with in this paper.

The public pension system gives the right to receive a pension when the retirement age is reached, following a full contribution period for which the duration is stipulated by law. In addition, the law provides for an early pension or an early partial pension, for a period of up to 5 years before the official retirement age is reached, based on a pro-rata pension right. The early pensions or early partial pensions shall be re-calculated when the retirement age is reached, for the people who meet all the legal requirements and are entitled to a pension for full length of service. The retirees who receive pensions for full length of service but continue to work and contribute to the system after having reached the official retirement age shall be entitled to an increased pension re-calculated on an annual basis.

The public pension system is 99% financed from the social security contributions paid by both employers and employees. An essential element of the PAYG system is the outsourcing, as of 2006, of a number of rights which are transferred to the healthcare system (the leave and indemnity for temporary work inability, rights for illness prevention and recovery of the work capacity, leave and indemnity for sick children care) with the new system including up to around 95% the payment of pensions and other rights provisioned in the public pension system.

According to the provisions of Law no. 19/2000 on the public pension system and other insurance rights, the standard retirement age shall be 60 for women and 65 for men in 2014. Reaching the standard retirement age in 2014 shall be achieved by gradually increasing the retirement ages from the age of 57 for women and 62 for men. For both men and women, the minimum contribution period, in order to qualify for the pension is being gradually increased from 10 to 15 years by 2014. The full contribution period is being increased to 30 years for women and 35 years for men, both by 2014.

In 2006, the pension for old age limited by an age eligibility was established based on the contributions paid during the whole active life: each year the contributor receives a number of points as a ratio of her/his salary and the average national salary, established by the National Institute for Statistics, capped to a maximum of 5 points. At retirement age, the sum of the points is divided by the number of contribution years. The amount of the pension is obtained by multiplying the number of points by the monetary amount of the point, established by the National House of Pensions according to the balance of the pension fund in that year. For the year 2006, the law regulated that the monetary amount of a point could not be less than 30% and higher than 50% of the national average wage used to establish the budget of the pension fund in that year. Each year the pensions were indexed with inflation, though in some years this requirement was difficult to achieve. The main benefits provided by the pension system were for old age, disability and survivors.

In terms of the social security contribution rate, the employer contribution rate declined from 22% in 2005 to 19.75% in 2006. Starting with 1995, the PAYG system registered several deficits, supported by transfers from the state budget. However, in 2006, the result of the budget exercise showed a surplus due mainly to the reduced social expenditures as a consequence of the outsourcing of rights on a short term and the outsourcing of the farmers' pensions.

Representativeness of the calculations

Taking into account the figures for 2006, the public pension system counted 5.638 million pensioners. There are also about 235,000 pensioners retired from the Ministry of Interior, the Ministry of Defence, the Romanian Intelligence Service SRI and the Justice Ministry. These latter pensions are paid directly from the state budget based on different pension formulae. The pensions of independent farmers, after being paid from the state budget, were included, as of 2006, in the Social Security Budget.

In 2006 the average retirement age for both men and women was just over 53. As Romania's population ages and declines, funding pensions will be increasingly challenging. Under current reform effective retirement age is being increased by discouraging early retirement and preventing abuses of invalidity pensions.

Main demographic and economic assumptions

The economic assumptions have been chosen according to the ISG guidelines and AWG macroeconomic assumptions.

Main results

For the prospective replacement ratios there is a strong impact of the legislated increase of the statutory retirement ages, which will gradually reach 65 years for men and 60 for women in 2014. At present, the largest contribution to retirement income comes from the first pillar schemes .The gross replacement rates for a worker at the average wage retiring at 65 after 40 years of contributions currently lies at 27% (36% net), from the statutory scheme. By 2046 this is expected to be 66% (87% net).

The difficulties the current pension system is confronted with are generated by the demographic pressure, but also by he rapid growth of the number of retired for disability reasons (from 657.034 - 2001 to 886.233 - 2008). One serious problem continues to be the non-registered self-employed as well as the extensive emigration of workers (there are no official data about this phenomenon, but according to some estimates it ranges between 0.8 and 2 million).

In 2009, the minimum guaranteed social pension was introduced, set at the ceiling of 300 RON (EUR1=RON 4.2619) from 1st of April 2009 and 350 RON (EUR1=RON 4.2619) from 1st of October 2009. The minimum social pension is calculated as the difference between the set ceiling and the pension due or in payment.

At this point is subject to approval of Parliament a law on the unitary system of public pensions which will eliminate special pensions (235,000 pensioners -pensions will be calculated on the basis of earnings during the entire career and not on the last wage before retirement). If this law will be approved sustainability of the public pension system is expected to increase in the long run.

Table A.22.1 – Romania: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	27,1	66,4	49,0	63,2	71,0	66,4	50,0	55,4	63,3	63,7	61,9	60,1	58,3	64,7	63,0	61,3	63,7
Occupational and voluntary pensions	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0,0
Total gross replacement rate	27,1	66,4	49,0	63,2	71,0	66,4	50,0	55,4	63,3	63,7	61,9	60,1	58,3	64,7	63,0	61,3	63,7
Total net replacement rate	35,9	87,4	64,4	83,2	93,4	83,8	66,8	73,9	83,6	83,8	81,4	79,1	76,7	85,2	82,9	80,7	83,8
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.22.2 – Romania: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	55,5
		F	53,6
		Total	54,7
2	Effective age of withdrawal from the labour market (2006)	M	65,5
		F	63,2
		Total	64,3
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	38
		F	29
		Total	33
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	100
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	/
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	-
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	/
	Average pension relative to average wage (in %)		27,1
7	Median pensions (without other social benefits) relative to median earnings		0,39
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		29
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		/
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	29
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB and DC
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		-
14	Assumed average earnings in national currency		12.924
15	Average wage (productivity) growth rate	2006-2046	3,1

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: **National source**
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

23. SLOVENIA

Table A.23.1 – Slovenia: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	64,0	59,7	59,7	54,0	62,9	59,7	42,1	49,8	56,9	54,0	52,8	51,7	50,5	53,4	53,0	51,8	
Occupational and voluntary pensions	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Total gross replacement rate	64,0	59,7	59,7	54,0	62,9	59,7	42,1	49,8	56,9	54,0	52,8	51,7	50,5	53,4	53,0	51,8	
Total net replacement rate	82,0	83,6	83,6	76,3	87,7	81,1	62,7	72,1	80,4	76,3	74,7	73,2	71,7	75,4	74,9	73,4	
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.23.2 – Slovenia: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	63,7
		F	62,7
		Total	63,2
2	Effective age of withdrawal from the labour market (2006)	M	-
		F	-
		Total	59,8
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	30
		F	24
		Total	28
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	100
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	/
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	-
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	/
	Average pension relative to average wage (in %)		
7	Median pensions (without other social benefits) relative to median earnings		0,44
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		/
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	24,35
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		-
14	Assumed average earnings in national currency		3.279.288
15	Average wage (productivity) growth rate	2006-2046	2,4

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

24. SLOVAKIA

Description of schemes included

Following the 2004-2005 reform, the Slovak pension system consists of three components: the first two are the two tiers of the statutory pension scheme, while the third component is voluntary. The statutory pension system is mandatory for all employees and the majority of self-employed. Contributions to the statutory pension schemes are attributed to its two tiers:

- A first pay-as-you-go financed tier, defined-benefit and administered by the public Social Insurance Agency.
- A second tier, fully-funded, defined-contribution, administered by privately-run pension asset management companies chosen by individuals. As of December 2008, there were six pension companies operating. Contributions to this scheme are collected by the Social Insurance Agency, which transfers the funds to the individual retirement accounts.

From January 1st, 2005 to June 30th, 2006, most economically active population were given the choice either to remain fully reliant on the pay-as-you-go pension scheme or to enter the new, two-tier pension system. People entering Slovakia's pension system for the first time after June 30th, 2006 were automatically covered by the two-tier pension system.

However, since January 1st, 2008 the participation in mixed system is voluntary for people joining the labour market for the first time and system was opened on period of six month for possibility to switch-back and forth to and from the second tier. Since January 1st, 2009 new entrants have 6 months to make their decision when their pension insurance lasts at least 150 days. When an individual's pension insurance lasts less than 150 days this decision can be delayed until the individual moves into a full-time contract. The aim of the mentioned measure is to secure young people, for instance students that work on short temporary contracts. It also means that new entrants do not have to wait to reach 150 days of pension insurance before they can make their decision to start premium payments to the pension saving system (second tier).

The total contribution rate to the mandatory pension schemes is 28.75% of wages, from which 18% finance old-age pensions (employer 14%, employee 4%). People covered by the two-tier pension system contribute 9% of their wages into their personal retirement account, whilst the remaining 9% goes to the publicly administered pay-as-you-go financed tier. The overall pension contribution also includes 6% contribution to a disability funds (employer 3%, employee 3%) and 4.75% contribution to a reserve fund of solidarity (paid by the employer only).

Representativeness of the calculations

The base case of the calculation is a full-time worker, single, male (although the marital status and sex of the insured person have no affect on the calculation of pension benefits in the mandatory pension system), retiring at age of 65 after a 40-years career.

The calculations include pension benefits provided by both tiers of Slovakia's mandatory pension scheme. However, the replacement rates calculated for 2006 reflects the level of benefits provided by the pay-as-you-go financed pension system only. This reflects the currently legislated provision which allows pension benefit pay-outs from the fully-funded tier after 15 years of saving at earliest (i.e. no sooner than in 2020). The replacement rates calculated for 2046 mirror the level of pension benefits from both tiers of the mandatory pension system.

According to the ISG methodology, pensions from the 3rd pillar – a so-called hybrid scheme that are a combination of occupational and individual schemes (please see Table 2a in the main report) play a marginal role in the Slovak Republic and are, therefore, not included in these calculations.

Main demographic and economic assumptions

The economic and demographic assumptions have been set in accordance with the ISG guidelines and the Ageing Working Group (AWG) macroeconomic assumptions. Inflation is set at 2%, growth of earnings at 2.8% from 2006 onwards in accordance with the framework developed by the AWG.

Main results

The calculation of prospective replacement rates confirms a relatively strong linkage between the level of contribution paid to the pension system and the level of benefits, stemming from the new architecture of Slovakia's pension system. Nevertheless, in the transition period since 2004 to 2014 PAYG system provides higher replacement rate for low income people (application of the adjusting and reduction of average wage point in the calculation value). After year 2014 according to current effectual legislation, the replacement rates for whole wage level and 40 years of career length will be approximately 50 percentage point of the previous income.

The calculations of replacement rate are more complicated for year 2046, because there is using assumption payout of pension from both pillars. Annuity (pension from 2nd pillar) will depend on the value of the individual pension account and life expectancy (unisex mortality tables). The main factors which influence the value of the individual pension account are the period of pension saving, the amount of contributions and the net rate of return.

Table A.24.1 – Slovakia: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	49,4	50,4	41,4	43,3	58,4	50,4	37,9	42,0	48,0	39,9	39,6	39,2	38,8	38,3	36,6	35,1	
Occupational and voluntary pensions	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Total gross replacement rate	49,4	50,4	41,4	43,3	58,4	50,4	37,9	42,0	48,0	39,9	39,6	39,2	38,8	38,3	36,6	35,1	
Total net replacement rate	63,1	65,0	53,3	55,7	75,3	62,1	50,9	55,1	62,2	51,5	51,0	50,5	50,0	49,3	47,2	45,2	
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.24.2 – Slovakia: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	60,2
		F	56,8
		Total	57,8
2	Effective age of withdrawal from the labour market (2007)	M	59,7
		F	57,8
		Total	58,7
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	40,4
		F	34
		Total	35,8
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	100
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	/
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	-
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	/
	Average pension relative to average wage (in %)		
7	Median pensions (without other social benefits) relative to median earnings		0,54
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		/
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	28,75
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB and DC
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		-
14	Assumed average earnings in national currency		231.216
15	Average wage (productivity) growth rate	2006-2046	2,8

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

25. FINLAND

Description of schemes included

The mandatory statutory pension provision includes a basic national pension scheme that aims at guaranteeing a minimum income for all pensioners and an earnings-related pension scheme that enables workers to maintain their standard of living to a reasonable degree after retirement. The two schemes form the statutory scheme.

The national pension scheme provides a residence-based minimum pension that can reach EUR 515 per month (subject to 40 years' residence) in 2006. It decreases as the person's other pension income increases. The monthly amount of earnings-related pension of about 1050 Euros reduces the national pension to zero. The share of pensioners receiving only the national basic pension is on a declining trend. A housing allowance is granted to pensioners depending on their income and housing costs.

A large pension reform has been in force from the beginning of 2005. It is the biggest reform of the Finnish earnings-related pension system in forty years.

The earnings-related pension provides insurance-based pensions and covers all wage and salary earners and self-employed persons without any income ceiling. Old-age pensions for private sector employees accrued 1.5 % per year from the age of 18 to the age of 52, 1.9% from the age of 53 to the age of 62 and 4.5% per year from the age of 63 up to the age of 68. The pension is decreased actuarially if taken between 62 and 63 and a permanent bonus is calculated if the pension is postponed after the age of 68.

Until 2005 the pension was calculated on the basis of average earnings over the last 10 years in each different employment relationship. As of 2005, calculations will be based on the entire working career. When calculating the amount of a pension previous earnings were revaluated using TEL index until 2005, thus the development of wages and prices were taken into consideration on equal terms in adjusting the pensions to the changing economic situation. From 2005 onwards this index takes into consideration 80% of the development of wages and 20% of that of prices. The target (maximum) gross replacement rate was 60% until 2005 but that is abolished 2005 onwards.

All pensions in current payment are revaluated in line with an index where the weighting of the earnings level index is 20 per cent and that of the price index is 80 per cent.

A life-expectancy coefficient will be introduced in 2010 and it will reduce the monthly amount of pensions that are awarded after 2009 if people continue living longer.

Due to the comprehensive coverage of the statutory scheme, demand for voluntary supplementary pension provision is small. In 2006, the benefits paid out from second and third-pillar schemes amounted to 5.2% of all pension benefits, and the contributions to these schemes to 4.7% of all pension contributions. The second pillar schemes were therefore not included in the calculations.

Representativeness of the calculations

The calculations refer to a person insured under the most general pension scheme in Finland, TEL, which covers over 50% of the insured (the rules are practically the same in each scheme). The career length is 40 years between 25 and 65. The retirement age is 65.

In all the cases it is assumed for the sake of simplicity that the person was employed by only one employer. The assumption of the number of employers affects the amount of pension in the old system, but not in the new one, as the pension is no longer calculated by employment. If for example there were five employers, the amount of pension according to the old system would be a little bit lower. How much, depends on the development of wages. The pension in the old system would be lower especially when the development in wages is steep.

As the Finnish pension scheme is a defined-benefit scheme, the contribution affects the pension level only by being subtracted from the earnings before the calculation of the pension. The pension contribution is divided into the employer's and employee's parts. In 2006, the employer pension contribution is in average 17% and for the employee (under 53 years of age) 4.3%. In the reform, a higher contribution was introduced for people over 53 years being 5.4 percentage points in 2006. The total contribution in 2006 is 21.6%. When the older employees pay more, the employers pay less, meaning that the total contribution does not change according to age.

It has been assumed that the tax income brackets and all the other parameters in taxation follow the real wage growth, which means that the level of wage taxation remains the same as in the 2006 cases.

To calculate the life-expectancy coefficient, the mortality calculations of Statistics Finland have been used.

As agreed, we assume that there will be no other increases in the national pension and housing allowances than what is stated in the legislation. That means that no additional increases have been taken into consideration except price changes even though the practice so far has been to increase these benefits occasionally by separate Parliament decisions.

Main economic assumptions

The average annual real wage growth has been assumed to be 1.9% between 2006 and 2046.

Main results

Net and gross replacement rate levels are projected to decline for a worker retiring at 65 after 40 years at the average wage. Projected net replacement rate is 69% in 2006 (gross 64%) and 58% in 2046 (gross 52%). Replacement rate levels declines due to the extension of the calculation on pensions on a whole career. The replacement rate also declines due to the life-expectancy coefficient adopted in the reform, because the career length is assumed not to extend but to remain constant.

Several variants have been included, in particular careers of 38 and 42 years, as they are relevant in the Finnish national context. In the old system, pension was permanently reduced if taken before 65 (possible earliest at the age of 60), the reduction being 0.4% per month. In the new system, the pension can be taken out without reductions at 63.

In the old system, pension was increased if postponed after 65. Pension accrued until 65 and after that no contributions were paid of earnings if work continued. The increase to the pension was 0.6% per month. In the new system, earnings after 63 accrue pension 4.5% until 68 and only after that an increase is calculated, which is 0.4% per month postponed. All these are taken into consideration in the calculation for the cases of 38 and 42 years of career length.

The childcare breaks career is calculated assuming that two children are born two years apart covering periods of 0 to 3 years of absence. In the two children case, replacement rate levels in Finland remain roughly constant comparing to normal work career. In the new system childcare accrues pension during the first three years after the child is born. The first year of childcare accrues pension according to the wage to which the benefit is based (assumed to be the wage of the year before childcare) and the next two years according to a fixed wage of about 556 euro/month in the 2006 level. After this there is no accrual until the next child is born. Because the person hasn't worked between the childbirths, the pension accrues according to the before mentioned 556 during all the three years for the care of the second child.

The unemployment period gives no extra accrual of pension rights after the age of 63 and periods of unemployment are, therefore, not compensated in the pension system. The person can, however, retrieve a pension without any reduction to benefits from the age of 63. Before the age of 63,

periods on earnings-related unemployment benefits accrues pension, although the accrual is naturally lower than that of work income. This is because the unemployment benefit essentially gives a replacement rate of 75% of earnings, which is taken into consideration in calculating the pension accrual. In addition, the accrual rate is lower than for work income, being 1.5% whiles work income gives an accrual of 1.9%.

Table A.25.1 – Finland: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	63,8	51,5	44,3	45,0	57,8	54,4	38,8	42,9	48,9	51,5	51,7	52,0	51,0	48,3	45,0	44,3	
Occupational and voluntary pensions	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Total gross replacement rate	63,8	51,5	44,3	45,0	57,8	54,4	38,8	42,9	48,9	51,5	51,7	52,0	51,0	48,3	45,0	44,3	
Total net replacement rate	69,0	57,8	51,8	52,4	63,9	61,9	47,3	50,3	55,6	57,8	58,1	58,3	57,3	55,0	52,4	51,8	
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.25.2 – Finland: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	63,1 (59,4 all retirees)
		F	63,1 (59,6 all retirees)
		Total	63,1 (59,5 all retirees)
2	Effective age of withdrawal from the labour market (2007)	M	62
		F	61,3
		Total	61,6
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	33,3
		F	30,6
		Total	31,9
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	100
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	/
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	-
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	10,5
	Average pension relative to average wage (in %) *		0,49
7	Median pensions (without other social benefits) relative to median earnings		0,46
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		21,6
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		/
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	4.3 / 5.4
		Employee	17.3 / 16.2
		Other	-
		Total	21,6
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		-
14	Assumed average earnings in national currency		33.543
15	Average wage (productivity) growth rate	2006-2046	1,9

* Finnish Centre for Pensions

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.

2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7

3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.

4 See also table 3, column 2 and table 6 column 8

5 See also table 3, column 3 and table 6 column 9

6 See also table 3, column 4

7 Source: EU-SILC(2006) Pension indicator PN-P3

8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR

9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR

10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR

11 See also table 6, column 5

12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR

13 See also table 6, column 7

14 See also table 4, column 2

15 See also table 4, column 2

26. SWEDEN

Description of schemes included

The greater part of the income of Swedish retirees comes from the national pensions system. The statutory scheme introduced in 1999 consists of an earnings-related (contributory) scheme and an old-age guarantee pension (non-contributory). The income related scheme is defined contribution. Sixteen percentage points of the contribution rate of 18.5% of earnings are used for pay-as-you-go financing and are accumulated at a given interest rate as a notional pension capital (which accumulates roughly in line with the growth of average earnings) in the income pension scheme; 2.5 percentage points are invested in one or several funds chosen by the scheme member (the so-called premium pension scheme). The notional pay-as-you-go capital and the capital accumulated under the premium pension scheme are converted at the time of retirement into a pension the amount of which depends on the average life expectancy at the age of retirement.

The average age at retirement of new flows of retirees retrieving a national pension is around 65 years and the career length around 37 years.

The old defined-benefit pay-as-you-go system is currently being phased out and will continue to apply, on a diminishing scale, to persons retiring until 2017. For a base case worker, the gross replacement rate from the first pillar amounts to 50% in 2006 of which 35% accrued under the new system and 65% under the old.

The financial sustainability of the PAYG pension system is maintained by the adjustment of pension payments to average life expectancy. Furthermore an extra safety net in the form of an automatic balancing mechanism regulates outgoing benefits by adjusting the indexation of pension rights in the case of a financial imbalance. The automatic balancing mechanism means that a deviation will occur from the normal indexing of accrued pension rights and payable supplementary and income pensions, if pension liabilities exceed total assets – the value of income from contributions plus the value of assets in the system's buffer fund.

To protect those with a low or no income-related first pillar pension a guarantee pension tops-up the pension income, payable from the age of 65 years. The guarantee pension is price indexed and is a residence-based benefit where 40 years of residence in Sweden are required to receive a full guarantee pension. Fewer years as a Swedish resident lead to a proportionally decreased guarantee level. The benefit is financed via general tax revenue and is subject to income taxation.

The second pillar consists of large occupational pension schemes based on collective agreements and covering around 90% of employees. Contributions are typically between 2% and 5% of wages. Traditionally, these pensions were of the defined-benefit type, but are becoming increasingly defined-contribution schemes. In 2006, pensions paid out of these schemes accounted for about 18% of total pension disbursements.

The main scheme for private sector employees is the ITP-plan and is used in the Swedish modeling. From July 1, 2007 there is a new ITP agreement, ITP 1 (defined contribution) for those born in 1979 or later and ITP2 (mixed defined contribution and defined benefit depending on wage level) for those born in 1978 or earlier. The employer pays the contributions and the contribution rate varies between 4.5% or 32.5% depending on the wage level. The entry age is 25 in ITP1 and 28 in ITP2 and withdrawals are possible from the age of 55. In ITP2 the pension arrangements mix defined contribution components (ITP) with defined benefit components (ITPK). A salary up to 30 times the income amount (IBA) is pension accruing and employment of less than 360 months' reduces the ITP pension proportionally. The ITP pension is calculated as a percentage of the final salary. The defined contribution component, ITPK, receives 2 percent of the contributions.

Private pension savings are excluded from the Swedish calculations despite that the beneficiary's funds may be tied up until retirement, as they are not considered a compulsory or an essential part of the Swedish social security net. Private savings are more of an optional service for those who can afford it.

Representativeness of the calculations

Gross and net replacement rates are calculated for the base case retiring in 2006, 2046 with reference to work income the year before. The base case of the calculations is single, male[6], and fulltime private sector worker who retires at age 65 after a 40 year uninterrupted career. Inflation is set at 2 percent for predictions from 2004 and onwards in accordance with the framework developed by the Ageing Working Group (AWG).

The calculations encompass the national pension comprised of both the income pension and premium pension components, and a supplementary occupational pension based on the ITP scheme for white-collar workers. The funded tiers yield proceeds in line with the assumed real rate of return on pension funds, calculated at 3,0 percent net of administrative charges. Administrative charges also are below the 0.5 percent suggested in the calculation guidelines. A charge of, at present, 0.16 per cent of the credit balance on each premium pension account is deducted annually for administrative costs.

The ITP pension beneficiary is presumed to choose a life-long payment period for this pension scheme instead of five-year payment scheme. This is because the five-year payment scheme implicated unreasonably high replacement rates and heavily falling pension incomes after five years. The annual increment on the ITP pension is based on inflation. For the funded tier of the first pillar scheme, an assumption of funded insurance withdrawal has been made.

Private pension savings are excluded from the Swedish calculations despite that the beneficiary's funds may be tied up until retirement, as they are not considered a compulsory or an essential part of the Swedish social security net. Private savings are more of an optional service for those who can afford it.

Main demographic and economic assumptions

The economic and demographic assumptions have been chosen according to the ISG guidelines and AWG macroeconomic assumptions.

Main results

For an average worker defined by the base case, the gross replacement from the two tiers of the first pillar amounts to 50 % in 2006 (39.5 % in 2046). Occupational pension schemes add another 14.5 percentage points (12.1 in 2046) to the gross replacement rate, amounting to a total of 64.5 % (51.6 % in 2046). The net replacement rates amounts to 67.3 % (54.7 % in 2046). The difference between the gross and net replacement rates is accounted for through employee pension contributions that are not paid by pensioners as well as, in some cases, housing benefits received by pensioners only.

In 2046 base case first pillar amounts to 39.5 %, occupational pensions add another 12.1 percentage points. The total gross replacement rate equals thus to 51.6 % and the net equals to 54.7 %. It is, when comparing the two base scenarios highly important to note that the individual retiring in 2046 is expected to live considerably longer than the individual retiring in 2006. The results of these calculations show that younger cohorts receive a lower replacement rate than older cohorts but for a longer time due to increases in longevity and given that they retire at the same age. Future replacement rates from the first pillar can be expected to decline due to the rise in projected life

[6] Please note that the sex of the worker does not have any affect on the calculation for the Swedish pension system.

expectancy. This entails that the pension has to be divided by a greater number of years than for older cohorts and is reflected in the higher annuitisation divisor.

Ten years after the retirement in 2046, the total gross replacement rate can be expected to have fallen by around 6.5 percentage points. This is due to the fact that first pillar NDC pensions are index-linked to average earnings reduced by 1,6 percentage points per year giving a real growth of only 0,2 percent. Income growth follows the assumption of 1.8 percent.

Retirement at age 63 with 38 years of seniority gives a total gross replacement rate of 46.0 % which is 18.5 percentages points lower than in the base case. This gives a net replacement rate of 49.5 %. There reason for this is partly because of the lower contribution timeframe but also because of the actuarial fairness within the pension schemes. Delaying retirement until the age of 67 with 42 years of seniority gives at total gross replacement rate of 58.2 % with a net replacement rate of 61 %.

Workers on 2/3 of average earnings can expect gross replacement rates amounting to almost 60 %, resulting in a net rate close to 63.5 percent. The high replacement rate is a result of the guarantee levels.

A worker with 100 percent of average earnings but a concave earnings profile receives a lower gross replacement rate primarily due to a higher departing wage. A linear rising income curve results in lower gross replacement rates from the first pillar system. Workers with earnings rising from 100% to 200% of average earnings can, however, expect higher net replacement rates than workers with a lower rising profiles rising from 100 % to 120 %, 56.9 percent compared to 42.6 % this is due to the large amount that second pillar pensions contribute to the pensions of workers with a high departing salary and the assumptions in the baseline scenario.

Child care breaks do not affect the gross replacement rate due to the contributions made to make up for this time spent without working. The gross replacement rate is rather stable around 51-50 percent regardless of the length of the break. If a person spends one year in unemployment this gives a gross replacement rate of 50.5 % compared to 48.0% in the time spent is three years.

Table A.26.1 – Sweden: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	50,0	39,5	35,1	35,4	45,3	48,0	21,7	32,5	37,6	39,5	39,3	39,1	39,0	39,2	38,6	38,0	
Occupational and voluntary pensions	14,5	12,1	10,1	10,6	12,9	12,1	25,2	10,0	11,5	12,1	11,7	11,4	11,0	11,3	10,6	10,0	
Total gross replacement rate	64,5	51,6	45,1	46,0	58,2	60,0	47,0	42,6	49,1	51,6	51,0	50,5	50,0	50,5	49,3	48,0	
Total net replacement rate	67,3	54,7	48,6	49,5	61,0	63,5	56,9	47,6	52,9	54,7	54,2	53,7	53,2	53,7	52,6	51,4	
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.26.2 – Sweden: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	64,8
		F	64,7
		Total	64,7
2	Effective age of withdrawal from the labour market (2007)	M	64,2
		F	63,6
		Total	63,9
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	40
		F	34
		Total	37
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	100
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	-
		F	-
		Total	90
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	-
		F	-
		Total	-
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	-
		F	-
		Total	/
	Average pension relative to average wage (in %)		
7	Median pensions (without other social benefits) relative to median earnings		0,61
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		4.5
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	17,2
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		NDC and DC
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	4.5
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		DC
14	Assumed average earnings in national currency		324.618
15	Average wage (productivity) growth rate	2006-2046	1,8

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2

27. UNITED KINGDOM

The UK pension system can be divided up into three tiers. The provision of pensions by the State spreads over the first two tiers.

The first tier is public, unfunded and compulsory, and is composed by the Basic State Pension (BSP) and Pension Credit. The BSP is a flat rate pension scheme, which is based on National Insurance (NI) contributions and on credits given in respect of people such as carers, the unemployed and the disabled. Pension Credit, introduced in October 2003 replaced the Minimum Income Guarantee (MIG) as the main form of support for pensioners on low income. It consists of two elements: the Guarantee Credit and the Savings Credit the first providing pensioners on low income with a guaranteed level of income and the second rewarding those pensioners who have set aside additional funds for their retirement.

The second tier is a mix of public unfunded pensions with private funded pensions. This tier is still compulsory, though persons can contract-out from the State Second Pension (S2P) into occupational pensions or personal pensions. S2P is a reform of the State Earnings Related Pension Scheme (SERPS) designed to benefit the low paid, by giving them a better accrual than persons earning above an upper earnings threshold. The third tier is purely private and funded, and comprises annuities and Additional Voluntary Contributions (AVCs).

Calculations include participation in a defined contribution scheme with an overall contribution rate of 8%[7].

Representativeness of the calculations

The average retirement age of the new flow of retirees is 62.3 (slightly higher for males than for females). This is below the age when people start receiving state pension age. These retirees have average seniority (i.e. the number of years equivalent of average entitlement to Basic State Pension) at retirement of 42 for males and 26 for females. This is below the maximum seniority of 44 years for males and 39 for women, however, from 2012 the maximum seniority for both men and women is set to be reduced to 30 years.

Active membership of occupational and private pension schemes stands at 53% (55% for males and 51% for females) of the labour force (including self-employed and part-time workers). 55% of the annual flow of new retirees receives occupational or private pensions, but there is a significant gender divide, 74% of males contrasted to 39% of females. A relevant share of pensioners will therefore continue to rely mainly on the contribution provided by the statutory scheme.

The contribution to the statutory scheme stands at 18.5 (9.1% from employers and 9.4% from employees). However income below the primary/secondary threshold is exempt and different rates would apply to any income above the Upper Earnings Limit. The contribution covers some social benefits other than pensions – in 2007/08 82% of National Insurance Fund expenditure was on pensions, but does not include the portion spent on the National Health Service.

The choice of a defined contribution scheme is reflective of a general trend away from defined benefit schemes; however, it is still worth noting that around 60% of individuals in the private sector who are contributing to an open scheme are contributing to a defined benefit plan.

In 2006 the UK Government announced a new personal accounts scheme to improve access to saving for people on lower incomes and who have traditionally struggled to access private saving. As a result, from around 2012, individuals who are not members of an employer sponsored scheme

[7] This contribution rate is lower than the average contribution rate on 8.8% identified by the OECD in work on private pensions.

will be automatically enrolled into a work-place pension, which may include a new personal accounts scheme, which will give an 8% contribution level (4% employer contribution, 3% employee, 1% tax relief).

The overall contribution to occupational schemes stands at 17.9% (4.4% for members and 13.9% from employers), while assumptions used for projections rely on a lower contribution level of 8%.

Main demographic and economic assumptions

The economic and demographic assumptions have been chosen according to the ISG guidelines and AWG macroeconomic assumptions. The UK's total population is set to continue to rise, while that of the EU25 is projected to start contracting in 2025. The working age population in the EU25 is expected to begin falling in 2011, while projections for the UK show a drop from 2025 onwards.

The United Kingdom is expected to face similar demographic trends to most EU Member States, but the currently favourable situation protects it from the most urgent risks. The old-age dependency ratio, even if growing from 24% in 2003 to 45% in 2050, is still projected to be among the lowest in the EU.

Main results

The gross replacement rates for a worker at the average wage retiring at 65 after 40 years of contributions currently lies at 60% (75% net), 36% from the statutory scheme and 25% from the occupational scheme. By 2050 this is expected to be 58% (77% net).

Entitlement to the basic state pension is expected to continue to improve over the coming years, as more women get better entitlements and close the existing gap in entitlement compared with men and as the maximum required seniority is reduced. Pension credit take-up should expand further, as people become more used to the system and the amounts for which they are eligible become higher.

Those with a 3 years interruption to their career will receive a gross replacement ratio of 58% (71% net) and those with low earnings will receive a gross replacement ratio of 72% (86% net). Due to the redistributive nature of the state system, which is composed of a flat basic pension and a state-earnings pension that accrues more quickly to low income earners, the replacement ratios faced by high income earners are less generous. In the future the State Second Pension will be paid at a flat rate based on contributory years which will remove the link to earnings.

Table A.27.1 – United Kingdom: Replacement rates summary table

	2006	2046															
	Base Case	Base Case	Ten years after retirement	Retirement at age 63 with 38 years seniority	Retirement at age 67 with 42 years seniority	2/3 of average earnings	Rising earnings from 100% to 200% of average wage	Rising earnings from 80% to 120% of average wage	Concave earning profile	Childcare breaks				Unemployment breaks			Women's retirement age (where applicable)
										0 year	1 year	2 years	3 years	1 year	2 years	3 years	
Statutory pensions	35,9	33,1	30,6	32,3	33,5	46,9	20,8	27,5	31,5	33,8	33,7	33,6	33,5	33,5	33,3	33,1	
Occupational and voluntary pensions	25,1	25,1	17,5	23,6	26,5	25,1	16,3	20,9	23,9	27,2	26,5	25,8	25,1	26,5	25,8	25,1	
Total gross replacement rate	60,4	58,1	48,1	56,0	60,0	72,0	37,1	48,4	55,3	61,0	60,2	59,4	58,6	60,0	59,1	58,1	
Total net replacement rate	74,6	70,7	60,2	68,5	72,7	85,7	46,6	60,0	67,7	73,7	72,9	72,0	71,2	72,7	71,7	70,7	
Of which means-tested benefits in percentage points of total net replacement rate																	

Table A.27.2 – United Kingdom: Selected assumptions and representativeness

Notes	Representativeness of calculations		
1	Average retirement age of the new flow of retirees	M	62,7
		F	61,9
		Total	62,3
2	Effective age of withdrawal from the labour market (2007)	M	63,6
		F	61,7
		Total	62,6
3	Average seniority (including non contributory periods) at retirement of the new flow of retirees	M	42
		F	26
		Total	35
4	Coverage of the statutory pensions (percentage of persons enrolled in the labour force)	M	-
		F	-
		Total	100
5	Active membership of occupational (or private in general) pensions (as % of the labour force)	M	55
		F	51
		Total	53
	New flow of retirees receiving occupational pensions (in % of the annual flow of retirees)	M	56
		F	25
		Total	38
6	Coverage of means-tested benefits (such as housing) (as % of population 65+)	M	25
		F	24
		Total	24
	Average pension relative to average wage (in %)		
7	Median pensions (without other social benefits) relative to median earnings		0,41
8	Overall contribution to the statutory pensions as percentage of average earnings for private employees		-
9	Overall contribution to occupational pensions as percentage of individual earnings for private employees		9
	Assumptions for calculations		
10	Contribution to the statutory pensions as % of gross earnings	Employer	9,1
		Employee	9,4
		Other	-
		Total	18,5
11	Type of statutory pensions provision eventually included in the calculations (DB, defined benefit DC, defined contribution or NDC, notional defined-contribution)		DB
12	Contribution to occupational pensions as % of gross earnings	Employer	-
		Employee	-
		Other	-
		Total	8
13	Type of occupational pensions provision eventually included in the calculations (DB, defined benefit or DC, defined contribution)		DC
14	Assumed average earnings in national currency		24.550
15	Average wage (productivity) growth rate	2006-2046	1,8

1 See also table 1, column 6. Average age of retirement with reference to the statutory pension scheme.
2 Source: Eurostat, Labour Force Survey - 2007 Pension indicator PN-P7
3 See also table 1, column 7. Average age of retirement with reference to the statutory pension scheme.
4 See also table 3, column 2 and table 6 column 8
5 See also table 3, column 3 and table 6 column 9
6 See also table 3, column 4
7 Source: EU-SILC(2006) Pension indicator PN-P3
8 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
9 See also table 6, column 11. Overall contribution refers to the sum of employee and employer contribution. Used to calculate current TRR
10 See also table 6, column 10. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
11 See also table 6, column 5
12 See also table 6, column 12. Overall contribution refers to the sum of employee and employer contribution. Used to calculate prospective TRR
13 See also table 6, column 7
14 See also table 4, column 2
15 See also table 4, column 2