

The French pension system and 2003 reform

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The maturing of the French pension system, which was edified in 1945 after the Second World War, and the growing participation rate of women in the labor market have contributed to the raising of average pension levels and the maintaining of living standards after retirement. Pensions account for more than 80% of all income of people aged 65 or over. The living standard of retired households is very close to the living conditions of the active population.

The main characteristics are of a typical Bismarckian pension system. It is always based on compulsory, earnings-related and pay-as-you-go schemes which cover 98% of the total pension expenditure. They are mainly financed by social security contributions (employer and employees) and taxes for a slightly smaller proportion. Generally, schemes are closely linked to employment status. It is a little more fragmented than certain pensions systems in the EU but probably less than those implemented in Italy or in Greece, for instance.

The architecture of the schemes varies according the sectors of activity. In the private sector, employees are covered by a two-tiered scheme which represents 63% of the total pension expenditure. In the first tier, the general scheme is organized by law and provides strong solidarity, in particular for atypical and mobile workers who have experienced fragmented careers (including rearing children), for instance due to unemployment, during their working life. This 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). This benefit formula was more generous until the Balladur reform in 1993 which modified the main parameters used to calculate the pension level (Table 1).

The second Tier, the supplementary pension schemes, is also mandatory, financed on a pay-as-you-go basis but based on a point system (Annex 1). It is regulated by collective agreements, aiming to legally protect all employees. The benefit formula is more earnings-related, and the rules of calculation effectively ensure a closer link between contributions and benefits paid, even if some solidarity elements exist. Compulsory schemes for the self-employed also have a comparable two-

tiered structure. The first tier is organized by law while the second results from the occupational initiative approved by the regulatory authority. However, membership in these supplementary schemes does not make participation compulsory for employers and their employees. Only farmers and traders are planning to implement one in the near future. Financial equalization mechanisms exist between these different schemes.

Civil servants and employees of public enterprises and specific institutions are also covered by some special schemes organized into a single tier with no distinction between the basic scheme and supplementary pension. They provide an earnings-related pay-as-you-go pension and cover 28% of total pension expenditure. Before the reform that Fillon implemented in 2003, it was normally calculated as a replacement rate as a percentage of final salary, corresponding to 2% per qualifying year, up to a maximum duration of 37.5 years or 75% of final salary. One point to note is that a significant proportion of civil servants' earnings-bonuses, which represent on average 17% of their salaries-is not included in the calculation. The replacement rates of these special schemes are close to those for private sector employees but the duration required to qualify for full pension were inferior.

An important feature of the French pension system is the existence of provisions to guarantee a minimum level of resources for people and households who have insufficient (or zero) contributions, with an incomplete insurance contribution career, to be eligible for the basic and supplementary pension schemes. Means-tested payments may apply to such top-up benefits designed to raise incomes, i.e. earnings-related pension entitlements, to a specified minimum level. Fully means-tested social assistance is offered for people who have never contributed. In any case, the minimum income for old people (aged over 65) is 600 euros for a single person or 1,075 euros for a couple.

Given the generosity of the compulsory schemes, there is only limited room for the diffusion of occupational and individual plans even though they have tax incentives attached to them. Nevertheless, they have been given more room today with the succession of reforms set up during the 1990s and very recently in 2003.

Although legislation and regulations govern the

index-linking method and pension increases, there are strictly speaking no legally guaranteed reference figures on the level of pensions compared with the last earned income level, as is the case in the Netherlands for instance, subject to the above regarding the special schemes. Nevertheless, it is an important issue particularly followed by the social partners and regular statistical work calculates average replacement rates.

1. Pension in France: issues and reforms before 2003

The awakening to the consequences of population ageing on the sustainability of the pay-as-you-go retirement system became of political concern since the early 1990s. As with other developed countries, France faces population aging due to longer life expectancy and also the important baby-boom generation born after 1945 who will reach retirement after 2005. The demographic dependency ratio (population aged 60 years and above / population aged 20-59 years) will double during the next 40 years. It was equal to 0.38 in 2000 and will reach 0.73 in 2040. However, compared to other European countries or Japan, the French situation is relatively better because of a higher fecundity ratio: 1.9 children per woman, instead of 1.2 in Italy or Spain, for instance. Nevertheless, there are now 44 retired per 100 active and in 2040 there will be around 80 retired per 100 active.

In 1991, the socialist government of the Prime Minister Michel Rocard published a White Book on the subject which showed that maintaining financial sustainability in the face of an expected rise of the old-age dependency ratio over the coming decades was seen as the main challenge. However, the first important reform was carried out in 1993 by the right-wing government of Edouard Balladur. He applied a reform discreetly during holidays by a decree reforming the calculation rules of the pension of the private sector. The duration of contribution necessary to get a full rate of retirement benefit increased from 37.5 to 40 years and the basis for the calculation of retirement benefit has been changed to the best 25 years (as opposed to the best 10 years previously). The effect of this latest significant reform is amplified by the new process of revalorization of the pensions (cf. Annex 2). For a private sector basic pension, the actualization of past earnings is done with a price index. As wages grew faster than prices in the context of the EU convergence pact, past wages were under-evaluated. So the 1993 reform leads to a fall of about 10% of the replacement rate.

Two years after, in 1995, the Juppe government tried to reform special systems (railways, public sector) but the attempt collapsed because of hard strikes (e.g. railways during December 1995).

Toward the end of the 1990s, pension problems became more and more of a political issue. After the return of the Socialists to government in 1997, the socialist Prime Minister Lionel Jospin set up the Retirement Guidance Council (COR), a quasi independent instance gathering together administration, social partners and experts. Its first report was published in 2001. Its diagnostic and ideas of solutions would have broadly influenced the 2003 reform of the former right-wing government (Mr. Fillon, Minister of Labour).

This report pointed to different alternatives to secure the sustainability of the pay-as-you-go pension system: postponement of retirement age, a reduction of pension level, and an increase in contribution rate.

Figure 1 illustrates the possible choices of combination of these three parameters for equilibrium in 2040. The level of pension is now 78% of the net average wage. But regarding the 1993 general scheme reform and the 1996 supplementary scheme reform, and given constant legislation, it will decrease to 64% in 2040 for private-sector employees. This result depends of course of the assumptions made about net average pension growth (the hypothesis was 0.5% less than wages per year). If the age of retirement remains the same as at present, the demographic change will raise the contribution level by 10% of gross wage (point A). On the other hand, if no one wants to increase the social contribution, we would have to postpone the age of retirement by 6 years (point D). If we also do not want to change the age of retirement, the only possibility is to reduce the pension by a third (point C)

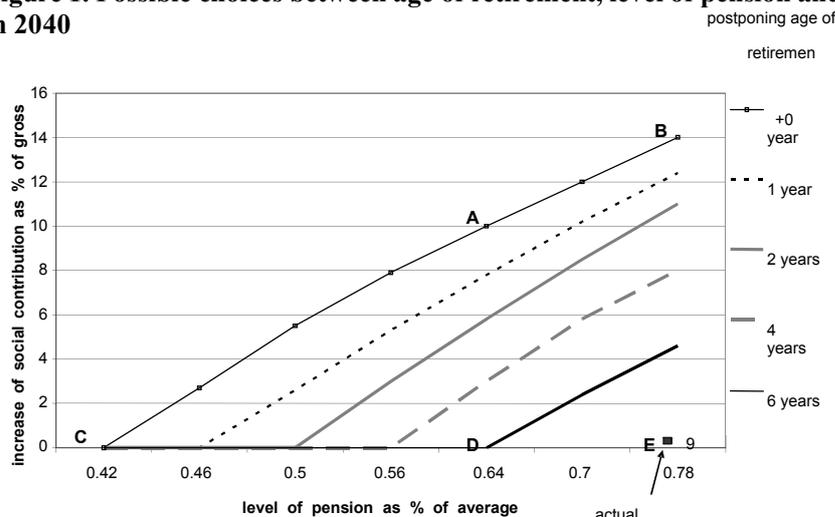
It seems unrealistic to maintain the actual rate of replacement of 78%: it would be necessary to postpone the age of retirement by 9 years (point E) or to raise the rate of contribution by 14% of gross wage (point B).

2. The 2003 reform and first effects

The main facts of the reform are:

- Equalization of the duration of contributions between public and private sectors (40 years in 2008 for a full pension).
- Adjustment of contribution period with life expectancy: the working period should be double the expected retirement period. Practically, the contribution period will be

Figure 1. Possible choices between age of retirement, level of pension and rate of social contribution in 2040



Source: Conseil d'Orientation des retraites

increased by one quarter every year (41 years in 2012, 42 years in 2016). Every four years, the parameters of retirement system will be discussed and prepared by a report of Pension Orientation Council.

- More flexibility with introduction of deductions and bonuses according to duration of contribution with actuarial neutrality. Anyone older than 60 years can retire, with a deduction of 5% per year for fewer than 40 years of contributions and with a bonus of 3% per year for greater than 40 years of contributions.

The reform of 2003 is the result of a bargain between the government and some trade unions: only two of them, namely CFDT and CFTC, accepted the deal. They obtained a compromise they requested, i.e. the possibility for people who began working early (at 15, 16 or 17) to retire before 60, if they have worked for more than 40 years. Other trade unions (CGT, FO, SUD, etc.) did not want any bargain and remained hostile to

the reform (strikes were organized during the months following the implementation of the reform, in May and June 2003). But now, retirement is less a political issue, and further reforms are concerning only special schemes, in particular those related to the national electricity firm (EDF) and the Parisian metro (RATP).

So, the 2003 reform concerned mainly the public sector. As Table 1 shows, the replacement rate fell because of the 1993 reform in the private sector, and for the public sector the 2003 reform affected careers shorter than 40 years.

3. Main other effects of 2003 reform

It is too early to evaluate the 2003 reform for two reasons:

- The full effect of the reform will be reached only in 2014 (for instance, the deduction for civil servants who have only a 39 year career will increase gradually from 1.5% in 2006 to 5% in 2014);

Table 1. Net replacement ratio for three cases (for people born in 1948) (in %)

	Private sector						Public sector		
	A Blue collar			B Executive			C Teacher		
	40	37.5	35	40	37.5	35	40	37.5	35
Before 1993 law	86	85	63	73	70	56	73	73	68
Before 2003 law	83	69	45	70	59	41	73	73	68
After 2003 law	83	69	50	70	59	44	73	66	61

Source: DREES 2004

Typical case A: blue collar worker born in 1948. He began at 70% of the average wage and finished at 100%. He was affiliated to ARCCO.

Typical case B: Executive (intermediate level). He began at 75% of the average wage and finished at 220%. He was affiliated to ARCCO and AGIRC.

Typical case C: Teacher (civil servant). He began at 120% of the average wage and finished at 180%.

- We have obviously only very few figures for the 2004 year.

The most important and immediate effect is the long career retirement: 150,000 people in 2004 and 100,000 in 2005 of the private sector could retire before the age of 60 years (mostly men, half of them are less than 58). This figure has to be compared to an annual flow of retirement 550,000. So the short-term effect of the reform is a degradation of the balance of retirement. In 2004, its debt was only 250 million euros (after 1 million euros in 2003). Official accounts estimated the effect of early retirement as 570 million euros. The initial deficit was expected between 2005 and 2007 because of retirement of the first baby-boomers.

The preliminary calculations on the effects of the recent French reform have been made and published by the COR in 2004¹. In the long term, recent budgetary projections (including various different scenarios) made by the government for the COR illustrate the main issues associated partly to the ageing and reform, in particular expected pressures on public finances in France. The description of the underlying assumptions is necessary to understand the results.

The baseline scenario retained by the COR, which is the same used in 2001 to analyze the effects of the pension reform 1993, assumes the following macroeconomic and demographic assumptions:

- *the unemployment rate² should converge towards an annual rate level of 4.5% by 2015, with a strong hypothesis concerning the number of early pensioners and the unemployed who are exempted to seek a job. They are supposed to decrease significantly during the over projection period.*
- *labor productivity and per capita wage growth are equal to an annual rate corresponding to 1.8%.*
- *the demographic trends correspond to the INSEE Central scenario, published in 2001: fertility rate is stabilized to 1.8; life expectancy is projected to steadily increase over the projection period according its observed past path; net inward migration is equivalent to +50,000 people per year.*
- *the evaluation of the 2003 pension reform concerns:*
 - *the evolution of the number of retired people; and*
 - *working age population trend (positive effect of the pension reform is estimated as +400,000*

individuals by 2050)

According the baseline scenario retained,³ the reform implemented in 2003 will reduce the deficit of the social security pension system (the general basis scheme) from 15.5 billion euros (initially expected in 2020 according to the baseline scenario made by the COR in 2001) to 10.2-11.2 billion euros (Table 2), without transfers to balance the system.

The "parametric" changes on the pension system (lengthening of the insurance duration, modification of the prioritization, implementation of effective incentives to extend working lives of older workers) will have the biggest impact on the general scheme, which are expected to support a saving estimated between 5.4 and 6.4 billion euros, depending of the effects of the bonus on employment behaviors.

In addition, the old-age insurance based pension will receive also a supplement amount of 900 million euros due to an increase of 0.2 points of social security contributions since 2006. On the contrary, several measures, mainly the raising of the means-tested guaranteed minimum income for the elderly or the agreement entitling those who started working early to early retirement before 60 years of age and also measures concerning the pensioners who have contributed during their occupational career in different schemes (polypensionnaires), will worsen the deficit of the general pension scheme until 2020 to 2 billion euros.

Applying compensation transfers from unemployment social contributions (to finance the unemployment benefit scheme) to old-age insurance, as is expected by law, to make up the shortfall between expenditure and revenue, will serve to balance the social security accounts in the pension field. The necessary compensatory amount is evaluated at between 10 to 11 billion euros. To reach a situation of equilibrium of the general pension scheme, it is necessary to transfer 2 points from unemployment contributions, in accordance with an assumption of an unemployment rate equal to 4.5%, as in the baseline scenario retained by COR. The financial projections contained in the report of the Social Security Accounts Commission (CNAV) published in 2003 show that the unemployment benefit scheme will be in surplus by 15.3 billion euros in 2020, with a hypothesis of an unemployment rate close to 5%, which represents at least 3 points of unemployment contributions.

Other calculations carried by the CNAV or the Social Security Accounts Commission are very

Table 2. Impact of the 2003 pension reform on the general pension scheme

(in billions of euros)

	Effects on the general sheme
Initial deficit* (a)	-15.5
"Parametric changes"***	+5.4/6.4
+0.2 pts of contributions (2006)	+0.9
Means-tested guaranteed minimum income	-0.6
Early pension allowed	-0.3
"Polypensioners"	-0.9
Other measures***	-0.2
Global effect of all the measures (b)	+4.3/+5.3
Transfers of contributions necessary to balance the general basis pension accounts (c)	+10.2/+11.2
Financial position (a) + (b) + (c)	0

Source: Conseil d'orientation des retraites, premier rapport, December 2001.

close to these results, and bring for the last one some useful indications. Considering the retirement effects associated with the implementation of the last pension reform as estimated in these first projections, the long-term sustainability of French pension public finances is less alarming, but is explicitly linked to the labor-market improvements in order to meet an equilibrium objective.

4. Future issues: perspectives and new challenges

The main issue for the future of the French pension system is the employment situation, for two reasons:

(1) The senior employment rate is very low in France

Only 40% of the population aged 55-64 years (45% men, 36% woman) is working. This proportion is 57% for those aged 55-59 years. During last 20 years, firms used to downsize pre-retirement of older workers. People over 55 years-sometimes 50-could get a public allowance (pension or unemployment benefit) if they stopped working (with a replacement rate of 70-90%). Under these conditions and with the habit of early retirement, it is difficult to postpone retirement age. The 2003 pension reform contains some characteristics to increase the level of senior employment: pre-retirement is more highly taxed for firms, and a new possibility to add pension and wages.

(2) Unemployment has a cost on social security
Because unemployed people do not pay pension contributions, the effect of unemployment on the public pension account is accurate. According to COR 2001 simulations, a 1% increase in unemployment will degrade the pension account by 0.3% of GDP.

The forecast of first COR report was done in

2001 when employment perspectives were optimistic (a forecast unemployment rate of 4.5% for 2010). The actual rate is 9.9%. To illustrate the impact of the evolution of the labor market on the sustainability of the pension system, four updated variants of the unemployment rate have been calculated in 2005 by DREES, the Research and Economic Evaluation Directorate of the French Ministry of Social Affairs, at the request of the COR: the equilibrium unemployment rate reached in 2015 is assumed to be 3%, 7% and 9%, compared to 4.5% in the baseline scenario. Moreover, another variant considers an equilibrium unemployment rate 5 years earlier, i.e. in 2010. If the equilibrium unemployment rate is higher, the expected growth of GDP will be lower during the 2005-2015 period. If the unemployment rate reaches an equilibrium in 2010, before 2015, the growth of the GDP will be higher in 2005-2010 but smaller during the 2010-2015 period.

Table 3 shows that with an equilibrium unemployment rate close to 7% after 2015, the public pension expenditure will be 16.1% of GDP in 2040 and the deficit 3.3 points of GDP. And if the employment rate is still higher and equals 9% after 2015, the public pension expenditure will increase from the initial scenario to around 2 points of GDP to 16.5% of GDP in 2040 and the deficit will reach 4.1 points of GDP.

This is obviously higher than in the baseline initial scenario which retained an equilibrium unemployment rate close to 4.5% after 2015, where the public pension expenditure equals 15.6% of GDP in 2040 with the deficit equivalent to 2.8 points of GDP.

But the hypothesis retained on the equilibrium unemployment rate level also has some effects on

Table 3. Variants of the unemployment rate

	2000	2003	2005	2010	2015	2020	2030	2040	2050
	Pension expenditure in % of GDP								
Basis scenario	12.4	12.8	13.0	13.0	13.1	13.6	14.8	15.6	15.9
Equilibrium unemployment rate :									
4.5 % in 2010	12.4	12.8	13.0	12.7	13.1	13.6	14.8	15.6	15.9
3 % in 2015	12.4	12.8	13.0	12.9	12.9	13.4	14.6	15.4	15.7
7 % in 2015	12.4	12.8	13.1	13.3	13.5	14.1	15.3	16.1	16.5
9 % in 2015	12.4	12.8	13.1	13.5	13.9	14.4	15.7	16.5	16.9
	deficit of the pension system in % of GDP								
Basis scenario	0.2	0	-0.2	-0.2	-0.3	-0.8	-2.0	-2.8	-3.1
Equilibrium unemployment rate :									
4.5 % in 2010	0.2	0	-0.1	0.2	-0.3	-0.8	-2.0	-2.8	-3.1
3 % in 2015	0.2	0	-0.2	-0.1	-0.1	-0.6	-1.8	-2.5	-2.9
7 % in 2015	0.2	0	-0.3	-0.5	-0.7	-1.3	-2.5	-3.3	-3.6
9 % in 2015	0.2	0	-0.3	-0.6	-1.0	-1.6	-2.9	-3.7	-4.1

Source: DREES calculations; COR projections.

the UNEDIC unemployment scheme. A higher equilibrium unemployment rate has two linked effects: it generates a bigger deficit of the general scheme pension because of lower wages and social contributions; and also it reduces the potential surplus that is assumed to be facilitated by a decrease in unemployment. This potential surplus is projected to be 1.7 points of GDP in 2015 if the equilibrium unemployment rate is equal to 3%, but it could only be equal to 0.3 points of GDP with an unemployment rate balanced at 9%.

While some progress in raising employment rates, particularly of older workers, can be expected due to the incentives introduced by the 2003 pension reform, the success of the reform will crucially depend on individuals' behavior in the labor market and further efforts are needed in this field to ensure the long term financial sustainability of the French pension system.

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Annex 1. Compulsory French retirement regimes

	Basic arrangements	Supplementary schemes
Employees of the private sector (industry and services)	General arrangement of the employed persons (National pension fund)	ARRCO (employed non frameworks) AGIRC (frameworks)
Agricultural workers	Agricultural social reciprocity brought with the general Arrangement	IRCANTEC (agents non-titular of the state and other local authorities)
Miners	Special scheme managed by the CANSSM	
Craftsmen	CANCAVA Brought with the general Arrangement	Obligatory supplementary scheme
Industrialists and tradesmen	ORGANIC Brought with the general Arrangement	Obligatory supplementary scheme being created
Professions	CNAVPL Gathering 12 professional sections CNBF (lawyers)	Obligatory supplementary schemes for the majority of the professions Additional advantage old age for the officially agreed experts and medical auxiliaries
Farmers	Agricultural social reciprocity	Obligatory supplementary scheme being created
Civil officials and soldiers of the state	Special scheme managed by the pension service	
Officials of hospitals and local authorities	Special scheme managed by the CNRACL	
Employees of public-sector companies	Special schemes of the SNCF, of the RATP, of EDF-GDF...	
Other individual categories of employees (clerks of notaries, sailors, etc.)	Special schemes managed by the CRPCEN, the ENIM...	

Source:DSS

Annex 2. CALCULATION RULES OF THE BASIC PENSION FOR EMPLOYEES IN THE PRIVATE SECTOR

Standard calculation of the pension for employees in the private sector to the CNAVTS after the reform of 2003.

By 2008, the old-age pension of the basic arrangement will be calculated according to the number of years of pensionable service validated by the person, according to the formula:

$$P = 50\% \times (1 - \delta n) \left(\frac{d}{160} \right) \times \text{SAM}$$

if the total duration of all insurance arrangements is lower than or equal to 160 quarters; or

$$P = 50\% \times (1 + \alpha \eta) \left(\text{Min}[1; d/160] \right) \times \text{SAM}$$

if the total duration of all insurance arrangements is equal to or higher than 160 quarters, where:

- *P* is the amount of the pension in euros.
- 50%, called "full rate," is the maximum payment rate of the pension, which connects the level of the pension to that of previous wages.
- *rebate (1st formula)* (: the "rate of allowance" of the payment rate of the pension, applicable if necessary between 60 and 65 for excluded person years. This involves a reduction of the pension, brought back under the legislation from 2003 to 1.25% by quarter missing by 2013 (which is equivalent to a reduction of the rate full of 0.625% per missing quarter) either in relation to the condition of duration of insurance of all arrangements (carried gradually in more than 160 quarters as from 2009⁴), or in relation to the condition of age (65 years). Of these two calculations, it is the most favorable one to the person insured which is retained.

This double condition induces a floor threshold below which the rate liquidation cannot descend. When the person insured justifies, between 60 and 65 years, of a duration of insurance all arrangements lower than the legal duration, the decreased payment rate of the pension of the allowance rate cannot indeed be less than 37.5% (against 25% before reform).

n is the number of missing quarters to reach the duration of insurance all arrangements required for obtaining the "full rate" (i.e. 160 quarters as from 2003 for the generation born in 1943, and 168 quarters as from 2009 for the 1949 generation).

- *d*, expressed in quarters, is the duration of insurance validated to the general arrangement alone. The ratio $d/160$ expresses the pro rata calculation of the pension used for the pensioner by the general arrangement according to the number of quarters validated in this arrangement (if the person achieved a certain number of years of her career outside of this arrangement, they

are *pluri-pensionnee*, i.e. it will perceive a pension complement on the part of the other arrangements to which it will have been affiliated).

Note that the duration of pro rata calculation is introduced gradually in 160 quarters between now and 2008 (against 150 quarters under the legislation of 1993, until 2003 included). As from 2009, it will follow the development of the duration of insurance necessary to obtain the full rate.

- *surcote capped (2nd formula)* (: the "rate of increase" of the payment rate of the pension is, applicable if necessary as from 60 years for persons having validated at least 160 quarters and continuing working. This involves an increase of the pension of 0.75% per quarter (which is equivalent to an increase of the rate full of 0.375% per quarter) applied since 2004.

η : the number of quarters is to which the *surcote* applies. As the *surcote* is capped, only the quarters actually contributed (which excludes the assimilated periods) as from 1 January 2004 are taken into account for calculation, achieved beyond the 60-year age and of the duration of insurance necessary to obtain the full rate (i.e. 160 quarters, for the generations 1943 to 1948).

- *SAM*, expressed in euros, is average annual wages. This involves the wages taken for reference for the calculation of the pension (including the premiums), which reflects partly the wage career of the person insured. The wages which serve as a base for the calculation of the pension which corresponded to the 10 best years until 1993, are increased gradually to the 25 best years by 2008, at a rate of an additional year taken each year as from the 1934 generation (timetable not called into question by the reform of 2003). In 2003, the 20 best years of the career are therefore used to calculate the SAM.

Let us note that since 1993, these wages carried to the account for the calculation of the SAM have been revalorized according to the price index and no longer to wages (in accordance with the practice in fact applied since 1987), which leads in practice to maximum replacement rates less than 50%.

This involves the standard rules of calculation of the basic pension, but these in fact are modulated by solidarity rules which aim to improve the pension level of certain categories of persons insured. In particular, the number of quarters validated for the calculation of the pension can differ from that actually worked, because:

- a quarter is validated since the person contributed on the basis of 200 hours of SMIC. However, it cannot obviously be validated more

than 4 quarters a year, even for higher wages. Let us specify that since the reform of 2003, the quarters for which too low remuneration was perceived have been neutralized for the calculation of the SAM (in order not to lower it).

- *increases of duration of insurance are granted in several cases*: to the mothers (at a rate of a quarter per year and per high child, within an eight-quarter limit by child), to allocate persons of certain family allowances under conditions of resources (old-age insurance of the parents to the hearth) or to those which pay their pension after 65 years without having 160 quarters of affiliation to the general arrangement (2.5% by quarter validated beyond this age in addition to the actually validated quarters, since the raised total can then exceed 160⁵).
- *certain periods, said to be assimilated, give right additional quarter validations* (illness, maternity, compensated unemployment, unemployment not compensated within certain limits, etc.).

Moreover, the weakest pensions are carried at least contributive, since the person insured qualifies for the full rate (that he is obtained by the number of quarters of insurance or at 65 years, without condition). More than 40% of the liquidated pensions of direct right to the CNAVTS in 2001 were thus brought to this minimum. Lastly, an

increase of 10% of the amount of the pension is granted to the fathers and mothers having raised at least three children.

Once liquidated, it is envisaged that pensions are revalorized based upon prices excluding tobacco. "Specific inch knocks" can nevertheless be applied over and above the price trend, by way of derogation under the legislation of 2003.

¹ See Conseil d'Orientation des retraites, 2004.

² namely the "equilibrium unemployment rate."

³ See (COR, 2004) for the alternative scenarios.

⁴ Until 1993, the necessary duration was 150 quarters. As a result of the reform of 1993, the number of necessary quarters was increased gradually to 160, at a rate of an additional quarter a year from the generation born in 1934. The reform of 2003 envisages reaching 168 quarters by 2012, then to lengthen this duration by sharing the earnings of life expectancy at 60 years so as to keep constant the ratio of duration of insurance on duration of activity, appreciated on conventional bases.

⁵ Until 2003, the value of reference was of 150 quarters. For example, with 67 years, a person having 128 quarters will have in fact $128 * (1 + 2.5% * 8) = 153.6$ validated quarters, which carries its proratisation at $153.6/160$.