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## **Financial markets trend: ageing and pension system reform**

Panetta, Ida Claudia

Ida Claudia Panetta University of Rome - Dipartimento Banche  
Assicurazioni Mercati

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# **"FINANCIAL MARKETS TREND: AGEING AND PENSION SYSTEM REFORM"**

**Ida Claudia Panetta\*\***

***1. Introduction – 2. The demographic changes in EU countries - 3. Ageing population and saving consequences: theoretical framework - 4. Pension Reform and Private Pensions in largest EU countries - 5. Private saving for retirement in France, Germany, Italy and UK - 6 Saving for retirement: implication for financial market - 7. Conclusion***

## **ABSTRACT**

Ageing have prompted important changes in the structure of pension system with substantial differences across the most developed countries. Given that ageing populations are driving a growing need for private form of saving for retirement, the pension fund industry is like to exert an increasing influence in the financial markets. Much of the additional retirement related flows to capital markets will be intermediated by pension funds although their importance varies considerably across country. This work reviews recent change in the pension funds industry (updated at 2006) originated from pension system reform across countries as well as risk management practices, such as ALM; the paper also focus the potential implication of pension funds investments strategies on financial markets identifying the main gaps in the availability of financial instruments needed for pension funds.

## **1. Introduction**

Even though the burden of population ageing has been pointed out by scientists already some time ago, only rather recently has the issue entered more systematically the political debate, especially as regards the sustainability of the welfare and pension systems. Thus, because of the heavy consequences that such a process might bear for the society, the need for a comprehensive analysis of plausible future demographic developments should be of great concern not only to demographers, but also more generally to financial makers.

Ageing have prompted important changes in the structure of pension system with substantial differences across the most developed countries. Given that ageing populations are driving a growing need for private form of saving for retirement, the pension fund industry is like to exert an increasing influence in the financial markets. Much of the additional retirement related flows to capital markets will be intermediated by pension funds although their importance varies considerably across country.

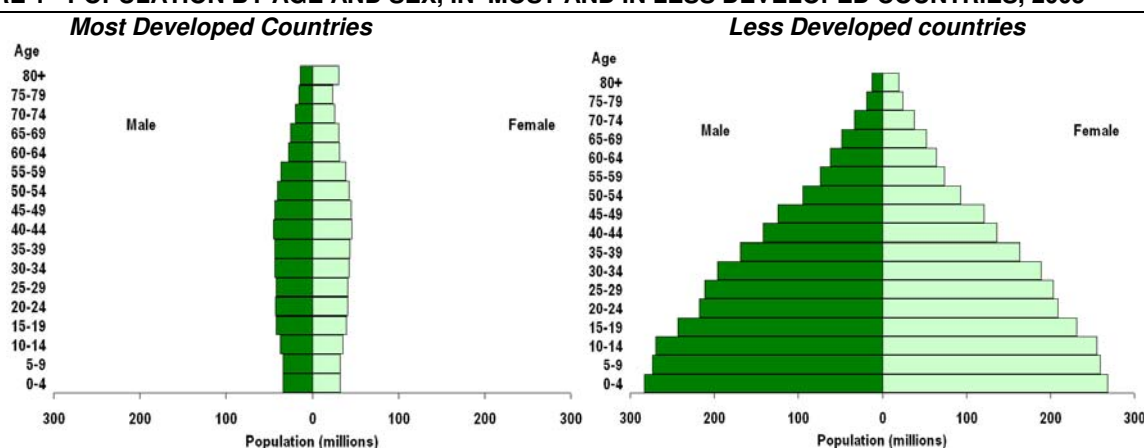
This paper examines potential impact of population ageing on financial markets emphasizing on the role on increasing role of pension fund industry. The paper is divided in sections. After a brief review of the demographic changes in most developed countries focusing its attention on France, Italy, Germany and UK, the largest European countries and summarising the projected evolution of the share of the population between 45 and 65 years old and over 65, the section three develops a theoretical framework for analysing how ageing population affects the demand for financial markets in the literature debate. The fourth section explores the most recent reforms experienced in most part of EU countries in recent years, focusing on Italy, German, France and UK, to face the sustainability of pension expenditure related with the ageing process. Those reforms imply an increasing role of pension fund industry which can affect financial market structure in next year, especially in those countries in which the private saving for retirement is not full developed. So that the last two sections reviews recent change in the pension funds industry originated from pension system reform across countries as well as risk management practices, such as ALM; the paper focus the potential implication of pension funds investments strategies on financial markets identifying the main gaps in the availability of financial instruments needed for pension funds.

## **2. The demographic changes in EU countries**

The population is ageing more rapidly than past decades, especially, but not exclusively, in G10 countries. The change is relevant, even if there are several sources of uncertainty in demographic projection, especially as regards long-term population projections such as (i) the volatility of fertility; (ii) the difficulty of anticipating changes in life expectancy; and (iii) the fluctuations in international migration, which are heavily influenced by political considerations. Because of declining birth rates and increasing longevity, the share of the elderly in

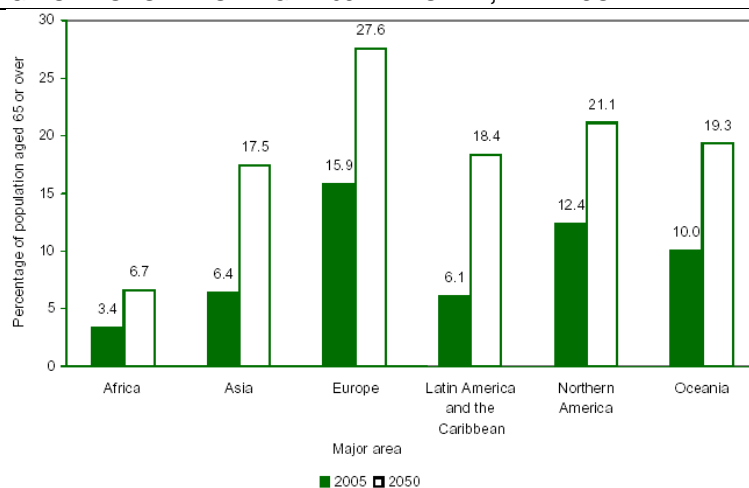
the populations of the G-10 countries has been growing for the past 150 years; generally the more developed regions register much higher proportions of older persons than the less developed regions. Although demographic projections are not entirely certain, it is probable that this trend will accelerate sharply as the post-World War II baby boom generation begins to reach retirement age late in the next decade. The major change anticipated for the more developed regions is thus, in effect, a transfer of population from the working ages to ages 65 and over. To express the changes differently, the old-age dependency ratio (the ratio of population aged 65 and over to the population aged 15-64, expressed per 100) could rise even faster if recent trends towards earlier retirement continue. Furthermore, the percentage of people aged 65 and over is expected to increase in the more developed regions, rising from 15.3 per cent in the year 2005 to 25.9 per cent by 2050<sup>1</sup>.

**FIGURE 1 - POPULATION BY AGE AND SEX, IN MOST AND IN LESS DEVELOPED COUNTRIES, 2005**



Source: United Nations, *World Population Prospects: The 2004 Revision* (2005).

**FIGURE 2 - PERCENTAGE OF POPULATION AGED 65 AND OVER, BY MAJOR AREA**



Source: OECD, 2006

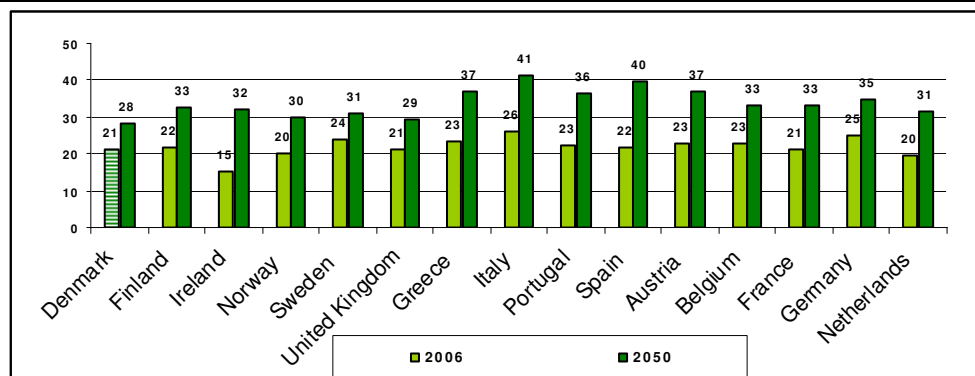
In Europe, the situation is even more extreme, as the ratio is expected to more than double, reaching 48.0 in 2050. In EU zone Italy and Germany are going to increase more rapidly the presence of older people; for instance in Italy, characterised by a particularly low fertility rate, the ratio are set more than double between now and 2050 to 66%. Italy is also characterised by an high percentage of 80 years old person (21% of population) that is estimated to growth at the rate of 78%.

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\*\*PhD in Banking and Finance, Assistant Professor at "La Sapienza", University of Rome, Faculty of Economy, Department 'Banking and Finance'(Dipartimento di Banche Assicurazioni Mercati)

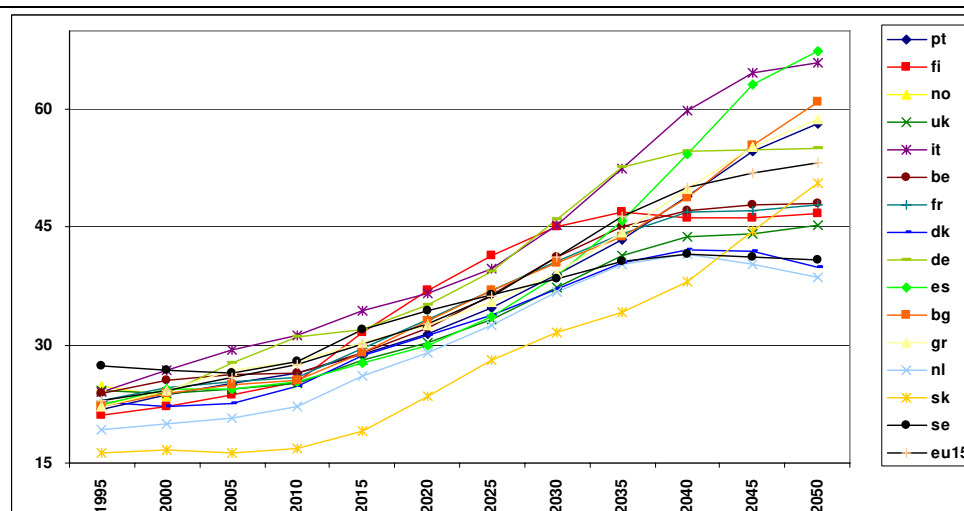
<sup>1</sup> United Nations Population Division.

**FIGURE 3 - POPULATION AGED 60 YEARS OR OLDER IN EU 15 (% of total population)**



**Source:** United Nations Population Division, *World Population Prospects: the 2005 Revision*.

**FIGURE 4 - OLD-AGE DEPENDENCY RATIOS IN EU-15 COUNTRIES**



**Source:** Eurostat

### 3. Ageing population and saving consequences: theoretical framework

The ageing of populations is likely to affect economies in many ways. This demographic phenomenon directly alters labour supply and more indirectly its rate of utilisation, investment, productivity, consumption patterns, external balances and cross-border capital flows. Demographic change unfolds slowly, so that many of its implications will materialise only gradually. However, to the extent that they are already anticipated, some of them may show up ahead of the ageing process, particularly in financial markets.

One of the main focuses of ageing has to be on the **relation between ageing and financial asset demand** for the personal sector since they are the ultimate holders of financial claims. Theory suggesting a strong link between an individual's age, consumption and saving decisions originated with the permanent income hypothesis (Friedman 1957), and the later life cycle hypothesis (Modigliani and Brumberg (1954), and Ando and Modigliani (1963))<sup>2</sup>. Saving patterns will in turn affect the aggregate size of the financial system, albeit also being affected by features such as the presence of pay-as-you-go (PAYG) pension systems as discussed below. Following this insight, at retirement, income normally decreases, and individuals may start to dis-save<sup>3</sup>. This involves selling off some of their financial assets, including pension fund decumulation. In the context of ageing, the life cycle is a crucial background as it implies that personal saving will rise when the high saving group grows, then fall as the population ages, and a larger proportion of individuals enter the

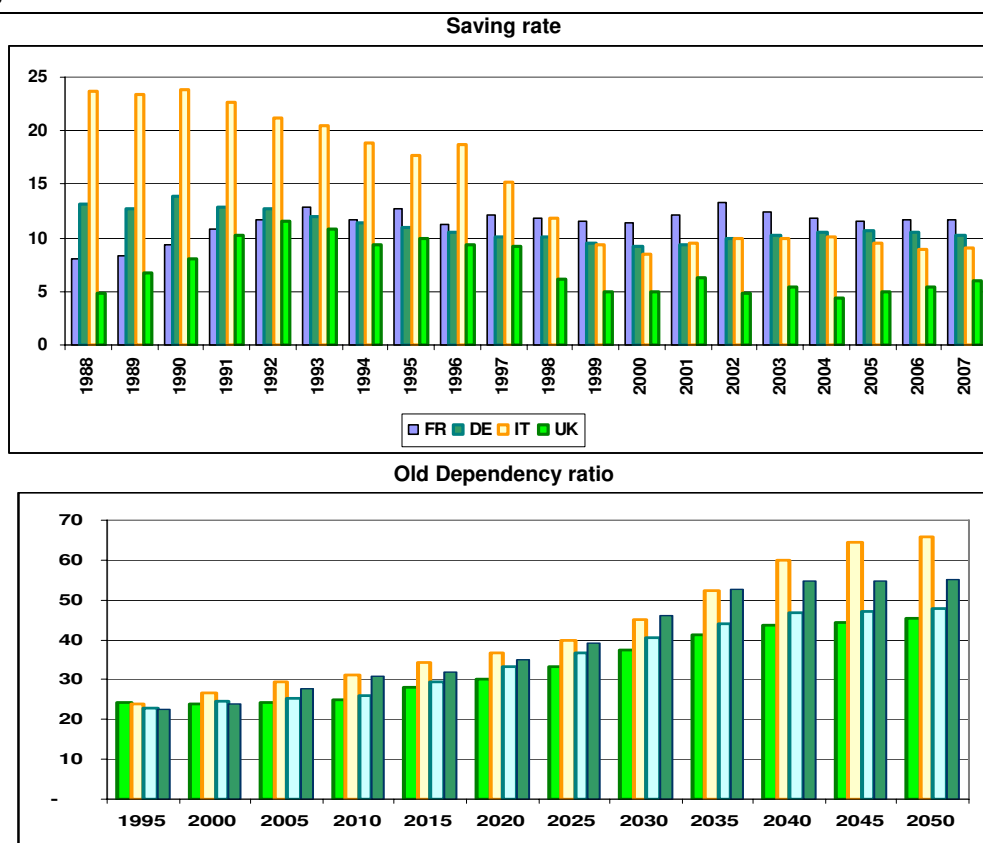
<sup>2</sup> For an overview on main contributors see Deaton (1992).

<sup>3</sup> The life cycle theory of consumption suggests that early in one's life, consumption may well exceed income as individuals may be making major purchases related to buying a new home, starting a family, and beginning a career. At this stage in life, individuals may borrow based on their expected labour income in the future (human wealth). In mid-life, these expenditures begin to level off while labour income increases. Individuals at this point will repay debts and start to save for retirement in equities, bonds, pension schemes, etc.

low- or negative-saving age groups. As regards empirical evidence, Disney (1996) noted that, consistent with the life cycle, saving rates tend to decline in countries where there are a larger number of retired people. The demographic trends in most developed countries show declining household saving rates pointing out two important questions concerning (1) the sufficiency of private saving to help finance investment and achieve adequate economic growth, and (2) the adequacy of saving by individuals in preparation for retirement. As showed there is an empirical evidence of the relation between old dependency ratio and private saving rate, even if it varies across countries. In FIGURE 5 it is represented the situation in four EU country: Italy, France, German and UK

The changes in savings lead to changes in demand for financial assets<sup>4</sup>. Masson et al (1995) found the total dependency ratio to have a significant negative effect on private saving in a panel of both advanced and developing countries, with an elasticity of -1<sup>5</sup>. Modigliani (1986) shows life-cycle savings follow a hump shaped pattern where an investor's asset holdings increase with age and decline after retirement. Higgins (1998) also found a strong age effects on saving; a similar exercise by Bosworth and Keys (2004) found a peak impact on saving at 40-55 and a negative effect of cohorts over 70. Al-Eyd et al (2006) found a strong positive effect on consumption from the 20-39 cohorts, but no differential between the middle aged and elderly as would be expected if the latter draw down savings to pay for retirement.

**FIGURE 5 - HOUSE HOLDING NET SAVING RATE (% disposal income) AND OLD DEPENDENCY RATIO IN 4 EU COUNTRIES**



Sources: data provided by ISTAT, ECONLINT database

This in turn may link to pay-as-you-go pension schemes in most of Europe. There is an apparent contradiction between micro and macro evidence which would affect strongly the predictions about personal saving when ageing takes place: in fact Poterba (1998) underlines that the life cycle hypothesis cannot be proven by focus on average cross-section based asset accumulation profiles. It is important to add that as the population ages, the public sector will tend to lower its saving, ceteris paribus. It is this aspect which is encouraging governments to scale down public pension commitments and switch to funding.

While the life cycle hypothesis focuses on overall household asset demand, empirical evidence also suggests **household portfolios of specific asset classes would vary with age**, which in turn would have a major effect on financial structure. Hence, further work has related to the changing demand for financial

<sup>4</sup>Econometrically, a strong effect of demographics on private saving is found by many studies. Pioneering work in this area was by Fair and Dominguez (1991); Attfield and Cannon (2003) apply their work to the UK using a vector-error-correction approach.

<sup>5</sup> Later work by and Loayza et al (2001) reduced this estimate to around -0.2. McMorro and Roeger (2003) found an average elasticity of -0.75 across existing studies.

assets over the lifecycle. One underlying aspect of this relates to implications for asset holding of the lifecycle pattern of borrowing and repayment, as well as pension accumulation. Another aspect of the underlying theoretical view is that risk aversion may vary over the life cycle, with individuals seeking lower risk late in the life cycle (i.e. shifting from equities to bonds). Complementing this, the duration of assets would appropriately change over the life cycle, with long duration assets such as equities being more appropriate for young workers saving for pension claims far in the future, and shorter duration assets such as bonds being more relevant for older workers. It is important to underline that such effects relate on the one hand to directly-held assets but on the other to assets held indirectly via pension funds.

Goyal (2001), using aggregate stock market data, looked at the effect of cohort size on outflows from the US equity market, defined as the difference between the value weighted stock market return (NYSE, AMEX and NASDAQ) including dividends and the percentage increase in stock market capitalisation. He found that outflows are related to a rise in the size of the cohort aged 65 and over, and inflows are linked to the size of the cohort aged 45-64, suggesting that a rise in the over-65 cohort will reduce the net supply of equity finance. Bergantino (1998) showed that 35 years old households generally have near zero ownership of bonds and stocks.

**TABLE 1-THE COMPOSITION OF HOUSEHOLD PORTFOLIOS HAS SHIFTED OVER TIME<sup>6</sup>**

	1970	1980	1990	2000	change 2000-1980	2001	2002	2003	change 2003-1980
<b>France</b>									
<b>Deposits</b>	49	59	38	27	-54%	29	31	30	-49%
<b>Bonds</b>	6	9	4	2	-78%	2	2	2	-78%
<b>Equities</b>	26	12	26	34	183%	29	24	25	108%
<b>Institutions</b>	6	9	26	34	278%	36	39	39	333%
<b>Germany</b>									
<b>Deposits</b>	60	60	47	34	-43%	34	36	36	-40%
<b>Bonds</b>	8	12	17	10	-17%	10	11	11	-8%
<b>Equities</b>	11	5	6	16	220%	14	9	10	100%
<b>Institutions</b>	15	17	21	39	129%	40	42	41	141%
<b>Italy</b>									
<b>Deposits</b>	54	64	34	25	-61%	26	27	27	-58%
<b>Bonds</b>	19	17	31	18	6%	21	23	22	29%
<b>Equities</b>	11	10	25	28	180%	25	23	22	120%
<b>Institutions</b>	8	6	10	28	367%	28	27	28	367%
<b>United Kingdom</b>									
<b>Deposits</b>	34	43	30	20	-53%	23	27	26	-40%
<b>Bonds</b>	7	7	2	1	-86%	1	1	1	-86%
<b>Equities</b>	24	12	19	22	83%	18	15	15	25%
<b>Institutions</b>	23	30	44	53	77%	54	53	54	80%

Sources: French Ministry of Finance and Economy, Deutsche Bundesbank, Bank of Italy, U.K. Office for National Statistics.

However he found a divergence in stock and bond holding of older households. Ownership of stocks for those over 55 tends to decrease more rapidly than for bonds. He attributes this to possible cohort effects and risk aversion. It is also noteworthy that financial assets make up only 37% of household's total assets, of which 15% are held directly in stocks. Thus, total assets are mostly non-financial assets. The link between changing demographic structure and conjuncture trends at a macroeconomic level has been widely studied; see for example Turner et al (1998), Kohl and O'Brien (1998), McMorrow and Roeger (2003) and Batini et al (2006). There is also an extensive literature of the impact of ageing on pension systems and public finance, see Dang et al (2001) and McMorrow and Roeger (2002) for recent examples. US researchers have put a considerable focus on links of demographic trends to financial asset prices (see Poterba (2004) for a recent survey, also Davis and Li (2003)). There has also been work on demographic impacts on saving (see the review in Bosworth et al 2004). However, there has been more limited systematic research into the impact of demographic changes on individual financial asset volumes and financial market structure more generally.

The stock market, by facilitating long term investment, may give rise to "endogenous growth" benefits to the economy that are not present with shorter-term bank credit. Extensions such as Levine (1999) have additionally allowed for the role of certain legal aspects of securities markets (linked to creditor and investor

<sup>6</sup> "Institutions" refers to pension funds (also "collective" ones), insurance corporations and mutual funds. For France, data from 1970 to 1990 are from Byrne and Davis (2003). For Germany, data from 1991 onwards are based on ESA 95 financial accounting principles (earlier data corresponding to the categories "other equity" included in "equities" and "mutual fund shares" included in "institutions" were not available). Percentages may not add to 100 because of the presence of "other financial assets" not classified in the above four categories.

rights, contract enforcement and accounting standards) in financial development, and found that these are crucial for economic growth more generally. This influence may operate, *inter alia*, by influencing the proportion of firms that have access to external finance (Demirguc-Kunt and Maksimovic 1998, 2000). In the context of financial development and growth, pension funds are of particular interest given their close link to ageing. Davis and Hu (2005) investigate the direct link between pension fund assets and GDP growth, with the inclusion of pension assets/GDP as a shift factor. Their rationale is that pension assets can affect economic growth indirectly via financial market development (Davis and Hu 2005b; Walker and Lefort 2002), or by its economy-wide impact through corporate engagement (Clark and Hebb 2003, Davis 2002a and 2004) and also by giving rise to less labour market distortion following pension reforms (Disney 2004). They found that pension funds drive output growth in short and long run.

#### 4. Pension Reform and Private Pensions in largest EU countries

As a consequence of population ageing, economies will have to devote an increasing share of output to supporting a relatively larger elderly population. The biggest pension issue in the developed countries is the impact of rapidly ageing populations on pension regimes that rely substantially, or principally, on Pay As You Go (PAYG) funding. As remarked it has come about due to falls in birth rates and increased life expectancy. At present, in all the countries, there are four people of working age available to support each pensioner. However, between now and 2050, the proportion of working age people will halve, so that only two workers will be paying for each pensioner.

In 2002, a European Commission report<sup>7</sup> found that, on average, each EU-15 country would have to increase expenditure on pensions by a third from 10.4% to 13.5% of GDP if it wished to maintain pensions at their current level. In the five countries being considered in this section, the situation was sometimes much better and sometimes much worse: whereas the UK estimated that it does not face a problem as expenditure on compulsory pensions is predicted to fall from 5.5% in 2000 to 4.4% in 2050<sup>8</sup>, the other three countries face huge increases, especially Germany, where the cost could rise to 16% of GDP (see TABLE 2).

**TABLE 2 – LONG TERM PROJECTIONS OF STATE PENSION EXPENDITURE (% GDP)**

	2050	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990
<b>EU-15</b>	<b>13.05</b>	<b>12.7</b>	<b>12.5</b>	<b>12.5 p</b>	<b>12.6</b>	<b>12.7</b>	<b>12.6</b>	<b>12.9</b>	<b>12.9</b>	<b>12.8</b>	<b>12.9</b>	<b>12.9</b>	<b>12.5</b>	<b>12.0</b>	<b>11.8</b>
<b>Germany</b>	<b>16.09</b>	<b>13.4</b>	<b>13.3</b>	<b>13.1</b>	<b>13.0</b>	<b>12.8</b>	<b>12.8</b>	<b>12.8</b>	<b>12.7</b>	<b>12.5</b>	<b>12.4</b>	<b>12.3</b>	<b>11.9</b>	<b>11.5</b>	<b>12.0</b>
<b>France</b>	<b>15.08</b>	<b>13.0</b>	<b>12.9</b>	<b>12.8</b>	<b>13.0</b>	<b>13.4</b>	<b>13.4</b>	<b>13.5</b>	<b>13.5</b>	<b>13.4</b>	<b>13.2</b>	<b>13.2</b>	<b>12.7</b>	<b>12.5</b>	<b>12.3</b>
<b>Italy</b>	<b>14.01</b>	<b>15.1</b>	<b>15.0</b>	<b>14.7</b>	<b>14.7</b>	<b>15.1</b>	<b>14.8</b>	<b>15.3</b>	<b>14.8</b>	<b>14.5</b>	<b>15.0</b>	<b>14.9</b>	<b>14.5</b>	<b>13.6</b>	<b>13.4</b>
<b>UK</b>	<b>4.04</b>	<b>11.0</b>	<b>11.1</b>	<b>11.8</b>	<b>12.2</b>	<b>11.5</b>	<b>11.4</b>	<b>12.0</b>	<b>11.9</b>	<b>11.9</b>	<b>12.0</b>	<b>12.2</b>	<b>11.9</b>	<b>11.2</b>	<b>10.2</b>

Source: Eurostat database.

Governments and parliaments have recognised the challenge using a variety of ways to reform standard PAYG (or partly funded) public pension systems; the most prominent include:

- reducing the degree of indexation of benefits to wage developments;
- reducing the size of individual benefits relative to earnings;
- reducing favourable tax treatment of pension income;
- tightening eligibility criteria for disability pensions;
- raising the standard age of retirement;
- lengthening the contribution period for eligibility;
- targeting benefits on the poorest retired households;
- Shifting partially to mandatory individual advance-funded accounts.

Most G-10 countries have already embarked on some of them (though in some cases the reforms are not driven solely or even primarily by the ageing of populations) (TABLE 3), moving towards more sustainable pension systems. Even if some additional reforms are under consideration, generally pension system parameters such as contribution rates and periods, benefit indexation, statutory retirement age and/or access to early retirement have been adjusted and in some cases social security trust funds have been set up, although their size to date remains limited. Moreover, some countries – notably Belgium – are trying to pre-fund part of future pension outlays by running a sizeable primary general government surplus. Even so, more remains to be done in at least several G10 countries to put the publicly-financed pillar of the pension system on a sound footing. To the extent that the benefits to be paid out under that pillar are to be curtailed, and given that contributions rates – which are already high in a number of G10 countries – cannot be raised

<sup>7</sup>“The Adequacy and Sustainability of Pensions”, European Commission, December 2002.

<sup>8</sup> Some commentators argue that expenditure as a share of GDP will remain stable or even rise if all forms of support to pensioners is included in the estimate.



without adverse consequences on labour supply, further expansion of private retirement saving is required, all else (e.g. retirement age) being equal.

This section provides an outline of the current state of pension and retirement savings in the four largest EU countries: France, Germany, Italy and UK; taken together, the four countries covered in this study constitute about 68% of the EU's population (EU15). The section considers whether the current wave of pension reforms will create demand for more private pension saving. In all the countries under study, substantial reductions in the state pension (in terms of average earnings) are planned or are already underway, leaving today's workers with a choice of working longer, increasing their savings, paying higher taxes or having a lower income after retirement.

The trend in all countries considered is that there is likely to be increased demand for private pension saving in most of the countries, though the level will vary and company pension schemes are likely to be favoured over personal pensions. However, the growth in demand will depend on the current pension level, the nature of pension reform, and the fiscal and legal treatment of both long-term and medium-term savings products. After providing some brief background points, the analysis provides an outline of the pension regime in each country, then an overview of pensions and savings across the five most representative EU-countries.

**TABLE 3 - MOST G10 COUNTRIES HAVE RECENTLY REFORMED THEIR PENSION SYSTEMS**

	Date of last major reform	Mandatory pensions		Public Pension benefit	Mandatory private regime	Last Major reforms	
		Contribution rate (employer + employee) in %	Gross replacement rate at average earnings (2002) in %			Changed Level of DB	Increased contribution rates
United States	1983	12,40	39	DB, NF	NO	...	NO
Belgium	1997	16,40	41	DB	NO	Reduced	NO
Canada	1997	9,90	43	DB, P	NO	No	YES
Sweden	1998	18,90	65	NDC	QUASI	Abolished	NO
Germany	2001	19,50	46	DB	NO	Reduced	YES
France	2003	16,50	53	DB	NO	Reduced	YES
Switzerland	2003	23,80	58	DB	YES	Reduced	NO
Italy	2004	32,70	79	NDC	NO	Abolished	NO
Japan	2004	18,30	50	DB, NF	NO	Reduced	YES
Netherlands	2004	28,10	68	DB	QUASI	Reduced	YES
United Kingdom	2004	23,80	37	DB	NO	No	NO

Sources: OECD (2005); Social Security Administration.

More, it is worth keeping in mind that savings rates are already quite high by international standards in a number of the countries and this may make it difficult to generate the additional saving needed to combat ageing.

**TABLE 4 - HOUSEHOLD SAVING RATE AS % OF DISPOSAL INCOME**

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
France	8,0	8,3	9,3	10,8	11,7	12,9	11,7	12,7	11,2	12,2	11,9	11,5	11,4	12,2	13,3	12,4	11,8	11,6	11,7	11,7
Germany	13,2	12,7	13,9	12,9	12,7	12,1	11,4	11,0	10,5	10,1	10,1	9,5	9,2	9,4	9,9	10,3	10,5	10,7	10,5	10,2
Italy	23,7	23,5	23,8	22,7	21,2	20,5	18,9	17,7	18,7	15,2	11,9	9,4	8,4	9,4	9,9	9,9	10,1	9,5	8,9	9,1
United Kingdom	4,9	6,7	8,0	10,2	11,5	10,8	9,3	10,0	9,4	9,2	6,2	4,9	5,0	6,3	4,8	5,4	4,3	5,0	5,4	5,9

Source: Eurostat Database

The main elements of the pension regimes for the four countries are described with reference to:

1. compulsory pension saving,
2. voluntary occupational pension saving,
3. voluntary personal pension saving, and non-contributory "safety-net" pensions.

The summaries then outline recent reforms and how the position will change over the coming decades.

The **French** pension and savings regime provides near universal cover at high replacement rates (70% of earnings). The percentage of pensioners with incomes below 50% of median income (10%) is below the average for the EU-15 (12%). Both the state-managed and employer-managed pensions are mandatory. Both types of pension operate on a PAYG basis. Personal pension products on the EET model<sup>9</sup> have only just become available in France (May 2004). The French save considerable sums for retirement through tax

<sup>9</sup> The EET model – contributions and investment growth are exempt from tax but pension payments are not.



favoured medium-term life assurance products. A non-contributory means-tested pension is available for those without sufficient pension income. The French pension system is currently being reformed in order to cope with increased costs due to population ageing. Without action, the French regime would pass into deficit by the end of the decade and pension costs would rise from 12% of GDP in 2000 up to almost 16% in 2040. The reforms, which have recently been approved by the French parliament, will establish a link between the level of pension and the average life expectancy of the population. As a result, the years of contributions required to have a full pension will rise from between 37 and 40 years at present to 41 years by 2012 and nearly 42 years by 2020. It is likely that further increases will follow. If people do not increase their years of contribution, one French insurance industry association expert estimates that the pension level will fall to about 45% by 2050. In addition, to encourage extra saving, the French government has just introduced funded occupational and personal pensions that will operate on a voluntary basis. As the occupational schemes will be subject to employee consultation, over the longer term, as the state pension falls, pressure may be placed on employers to provide additional pensions. As for personal pensions, although the initial response to these products has been very positive, it seems unlikely that they will attract sustained flows of money as tax-favoured medium term savings products offer individuals more flexibility (access to savings at any time, no need to purchase an annuity) than the typical EET and annuity-based pension.

**German** pensions currently provide adequate retirement provision for almost the entire population. Replacement rates from the compulsory (state) PAYG scheme are high, especially for average earners, who can receive as much as 70% of former income, provided they have a full contribution record of 45 years. (However, few former employees in Germany have worked for so long, so replacement rates are often closer to 50%.) By comparison with the average for the EU-15 (12%), the German pension system is effective at ensuring that very few pensioners are poor. Only 6% of pensioners have incomes of less than 50% of median income. Voluntary occupational pensions are relatively undeveloped. Voluntary personal pensions, though more important than voluntary occupational pensions, also only make a small contribution to retirement provision and are most popular among higher earners. Local insurance industry experts believe that poor take up of personal pensions is in part due to product complexity resulting from government regulation. Instead, Germans prefer to save in tax-favoured medium-term products that allow them access to their money at any time. Pensioners on low incomes are entitled to a non-contributory pension. The rapid ageing of the population has encouraged policy makers to reduce the value of the compulsory (state) pension regime and place more reliance on other methods of saving. Had no action been taken, the cost of providing pensions would have risen by about 5% of GDP from 12% to 17%<sup>5</sup>. The 2001 pension reform (the "Riester" reforms) will gradually reduce the maximum pension from 70% to 63.5% and limit contributions to between 20-22% of salary<sup>10</sup>. It also established the legal and fiscal framework for a new range of funded occupational and individual pensions. Towards the end of 2003, the German Government indicated that it would implement a further wave of reforms that would, by 2030, reduce the compulsory (state) pension to about 45% of previous salary<sup>11</sup>. The gap between current and future pensions is to be made up by additional occupational and personal pension saving. Provided individuals save between 4% and 8% in the new products, it is estimated that the German pension system will be well on the way to meeting the challenge of ageing<sup>12</sup>. It is not yet clear whether these targets will be met.

The **Italian** compulsory (state) pension currently provides a good income in retirement (70% of average earnings after 35 years of contribution) for most former employees and will continue to provide a sound level of benefits after the substantial reforms agreed in the 1990s come into full effect around 2030 (64% of average earnings after 40 years of contributions). It is also better than average at protecting pensioners from low incomes. Only 8% of pensioners have incomes below 50% of the median compared to the EU-15 average of 12%. Voluntary occupational pensions, known as "closed funds" are still rather underdeveloped and account for only about 5% of pensioner incomes. Nevertheless, these are expected to increase in importance as employees become aware of reduced entitlements from the compulsory pension and the government establishes national-level funds for each profession. Voluntary personal pensions are also expected to grow, although at present Italians appear to prefer to invest directly in mutual funds and equities. Currently, such savings account for about 70% of retail savings. Pensioners on low incomes are eligible for a non-contributory state pension. Although Italy faces one of the most rapidly ageing populations in the EU, the major reforms of the 1990s appear to have set the Italian pension regime on the right course for achieving sustainability. While the current level of state pension expenditure is higher than the EU-15 average (13.8% rather than 10.4% of GDP), the reforms already agreed will limit the rise to between 1% and 2% of GDP over the next 30 years before falling back to its current level. This has been achieved by

<sup>10</sup> "The German Public Pension System: How it Was, How it Will Be", August 2003, Mannheim University.

<sup>11</sup> Ibidem.

<sup>12</sup> The German Public Pension System: How it Was, How it Will Be, August 2003, Mannheim University.

gradually switching the state pension from a PAYG system to a Notional Defined Contribution (NDC)<sup>13</sup> basis. In Italy, everyone who started work after 1995 will be fully under the NDC system. Those with 18 years of contributions by 1995 will remain totally under the PAYG pension. Others will be partially under the NDC system. Expenditure on those wholly or partly under the PAYG system may be further limited as a result of reforms currently being considered by the Italian parliament.

The **UK** state pension, which comprises the basic state pension and the State Second Pension, provides about 38% of earnings for the average earner with a full contribution record of 44 years<sup>14</sup>. The number of pensioners on lower incomes (less than 50% of median income) is the same as the EU-15 average of 12%. Individuals have the option of diverting their contributions destined for the State Second Pension to an occupational pension, to a personal pension, or to other private pension vehicles (this system is known as “contracting-out”). About 40% of the working population is currently a member of an occupational pension scheme, though the proportion covered is beginning to fall<sup>15</sup>. Around 60% of pensioners retiring today receive occupational pension income<sup>16</sup>. On average, these pensioners receive occupational pension income equivalent to 133% of their state pension income. Occupational pension income is unevenly distributed: 40% of pensioners receive none, while 20% receive more than £200 per week<sup>17</sup>. Approximately 12% of employees or 4 million households make regular contributions to a personal pension<sup>18</sup>. Currently, personal pensions provide only a small contribution to overall retirement income. On average the amount saved per person in a personal pension is £1,665 p.a. There is also a means-tested non-contributory pension, which currently provides additional top-up income for approximately 40% of pensioners<sup>19</sup>. Although the UK, like the other EU countries considered here, is also facing an ageing population, due to pension reforms during the 1980s, the UK is able to afford its impact on state pensions. According to government projections, the cost of pensions will fall over the next 50 years from 5.5% to 4.4% of GDP<sup>20</sup>. (This compares to the EU-15 average expenditure of 10.4% rising to 13.5% of GDP.) However, over the same period, the value of the state pension will gradually fall from its current level of 38% of average earnings to about 22% by 2050, so it may be that UK pensions, while sustainable, may no longer be adequate. Moreover, as some employers have reduced their contributions to occupational pension schemes as new workers are placed in Defined Contribution rather than Defined Benefit schemes, there is a risk that pension income from this source may also fall over the period. In response to ageing, the UK Government has focussed many of its pension reforms on promoting increased voluntary pension saving and extending working lives. One of the most important initiatives, introduced in 2001, was the requirement on most employers not already providing an acceptable level of pension, to offer the facility for employees to open a Government approved personal pension. These Stakeholder pensions are highly flexible and are subject to a charge cap of 1%. This initiative has been accompanied by a range of measures intended to increase awareness of future pension entitlements. These include forecasting and planning tools that will provide each individual with information on the amount they will receive from their state, occupational and personal pensions. Current reforms focus on increasing the security of occupational pensions by establishing new prudential rules and a compensation fund that will provide cover against the risk of a private sector Defined Benefit occupational scheme becoming insolvent. Also, by introducing a major simplification of the tax regime, the Government aims to reduce the cost of pension provision to employers and potential pension managers. In 2003 the UK Government established a Pensions Commission to consider the effectiveness of voluntarism and whether there is a need to go beyond it. This may include consideration of further compulsion.

The pension arrangements are quite similar in France, Germany, Italy, but very different in the UK. In fact, Germany, France and Italy currently rely heavily on **compulsory pension provision**, mainly managed centrally by the public sector or by other non-commercial bodies. In these countries, the current level of pension for the average earner ranges from 60 to 70% of previous earnings, provided they have a full contribution record (varying between 35 and 45 years). In general, reliance on supplementary voluntary occupational pensions and voluntary personal pensions has been modest. By contrast, the United Kingdom only uses compulsory pension saving to provide a basic level of retirement income, with an average earner receiving a maximum pension of 38% of previous earnings after a full contribution record of

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<sup>13</sup> Notional Defined Contribution systems are funded on a PAYG basis but each person has an individual account and the level of pension is based on the contributions made, the age of retirement, and the average longevity of the population. In other words, NDC systems operate very similarly to funded Defined Contribution pensions but do not involve buying an annuity as payments are made from the general public budget.

<sup>14</sup> The contribution requirement for a full basic state pension is currently 44 years for men and 39 years for women. However, the women's rate will gradually rise to 44 years up to 2020. The contribution period required for receipt of a full State Second Pension is currently 26 years.

<sup>15</sup> “Occupational Pension Schemes 2000” Government Actuary's Department, April 2003.

<sup>16</sup> “The Pensioners' Income Series 2001/2”, National Statistics, 2003.

<sup>17</sup> Ibidem.

<sup>18</sup> “The Expenditure and Food Survey”, National Statistics, 2003.

<sup>19</sup> “State Pension Models”, Pensions Policy Institute, July 2003.

<sup>20</sup> “The Adequacy and Sustainability of Pensions”, European Commission, December 2002.

44 years<sup>21</sup>. Under the UK system, for additional retirement income, reliance is placed on voluntary private provision (employer or individual) to top-up retirement income. This has generally worked well for the 60% of pensioners who have been in an employer-provided occupational pension or for the minority with substantial personal pension saving. On average, those in occupational pension schemes increase their retirement income by 133% of the value of the state pension, though there is much variation across different income segments. However, for those not in an occupational pension scheme, retirement income is lower than in the other countries, though this is partly mitigated by the relatively high-level of means-tested non-contributory pension. Most of the countries (France, Germany and the UK) operate their compulsory pensions on a traditional PAYG basis, though the level of contributions varies substantially, even where the final pension is broadly equivalent. Total contributions vary from only 13.5% in the UK up to around 30% in France and Italy. Contributions tend to be either split evenly between employer and employee (Germany and the UK) or the employer pays the lion's share (notably Italy, but to a lesser extent, France). In Germany, the level of contributions is far less than needed to cover pension payments; about 35% of pension payments are met from general taxation. In contrast to the general reliance on traditional PAYG schemes, in Italy, following reforms in the late 90s, younger employees (especially those under 30 years of age) have been switched out of the PAYG scheme and into schemes that operate on an NDC basis.

**TABLE 5 - RETIREMENT INCOME IN 2000 FROM COMPULSORY PENSION SAVING**

Country	% of former income for the average earner with a full contribution record	Contribution Years for a Full Pension
France	70	38.5
Germany	70	45
Italy	70	35
UK	38	44

Source: See footnotes 17

**Occupational pensions (Voluntary Schemes)** - either Defined Benefit or Defined Contribution - cover around half of employees in both Germany and the United Kingdom but less than 5% of employees in the other countries. While the number of beneficiaries in Germany and the United Kingdom are similar, the values of the pensions are not. In the United Kingdom, for those with an occupational pension it increases their retirement income by 133%, whereas in Germany, by only 5%. The high level of the state pension in Germany means that, until recently, there has been little interest in providing additional voluntary occupational pensions, other than for higher earners.

It is difficult to assess the importance of **individual retirement saving** as it takes many different forms across the five countries analysed. Moreover, personal pension products, similar to those in the UK (funded pensions based on the EET model), have only recently been introduced in Italy, France and Germany. However, it is possible to provide a general outline of savings habits. At present, the percentage of the working population contributing to personal pensions ranges from less than 1% in France and Italy, to 12% in the UK and 16% in Germany. Income from personal pensions currently only adds a small amount to retirement income, though this will change in the future as they become more widely used as a savings vehicle. More generally, the percentage of retail savings directed towards life and pension products ranges from 10% or less in Italy to more than 50% in the UK. The figure for Germany is 22% and for France it is 30%. These substantial differences can be explained, at least in part, by the fiscal treatment of the products in question. For example, in France, life assurance savings products are used as a means of sheltering money from inheritance tax, while in Germany, they are used to offset high marginal rates of taxation.

To cope with the challenge of the increased cost of state pensions due to population ageing, all the four governments are planning to reduce the size of the pension (as a % of average income) from compulsory saving by about 30% over the next 25 to 50 years. In broad terms, for the same number of contribution years, this means that in Germany, France and Italy, pensions will fall from about 70% of previous earnings to about 45%. In the UK it will fall from 38% to 23% of earnings. However, in both France and Italy, working longer (by about five years) will entitle workers to a pension close to current levels. The reductions in future pension costs have generally been achieved by altering the relationship between contributions and entitlements and by introducing a linkage between the ageing of the population and the pension paid. Following the recommendations of the Rurup Commission (2003) the German

<sup>21</sup> Ibidem.

government also plans to reduce the pension level as the population ages (the “sustainability factor”). In France, the level of pension will fall as the life expectancy of the population increases. In Italy the current PAYG Defined Benefit state pensions are gradually being replaced by an NDC system which should ensure that pension costs can be contained and may even fall.

All governments are also trying to increase the employment rate in the population as a whole by removing fiscal incentives for early retirement (in the UK they are also providing incentives to work beyond the State Pension age) and by introducing measures to make it easier for women to return to paid work after having children (for example, by providing more childcare). In France, and to a lesser extent in other countries, taxes have been used to reduce the cost of bringing up children and thereby reduce financial disincentives to having children. The other main way in which the five countries plan to deal with ageing is to encourage increased saving through voluntary occupational and personal pension saving.

For instance, the UK has long relied on voluntary occupational and personal pensions based on pre-funding and the EET principle. This path is now being followed by all the other countries looked at here. In Germany, Italy and France the legal and fiscal regime for funded occupational and personal pensions is already in place. Typically, each country has established a regime for pensions to be managed collectively at the company level and one to be managed on an individual basis. In the UK all employers not already offering an occupational pension (or a Group Personal Pension with a 3% employer contribution) but with more than five employees must now provide a facility for their employees to make contributions to flexible, low-cost, pension products (Stakeholder pensions). Personal pensions have been made compulsory, with all employees making a contribution of 7% of their salaries.

Furthermore, in several countries, it seems that governments have sought to promote occupational pensions over individual arrangements. For example, in Germany, tax incentives have been used to encourage take up of the company-based schemes (which may be managed by insurers) rather than personal pensions. While employees in company schemes were given tax-relief on contributions for up to 4% of salary from the introduction of such schemes in 2001, tax-relief to individual schemes was only given for 1% of salary at inception, and will not rise to 4% until 2008. Less directly in Italy, giving employer-employee committees a role in the negotiation and establishment of funded pensions is also likely to encourage collective provision. France has adopted a similar approach. Furthermore, to encourage people to use the new funded pension products, Italy, France and Germany have provided a mixture of tax relief and direct subsidy. In Germany, the relief can be worth up to 4% of salary and the subsidy, generally given to those on a low income or parents, is of a similar amount. In Italy, tax relief of 4% is also provided, but only where the individual's money in the state severance fund (TFR) is transferred into the pension as well. In France, tax relief is available on pension contributions up to 10% of income. In the UK, from 2006, people will be able to receive tax-relief on pension contributions up to 100% of their salary (subject to an annual allowance of £215,000 and a lifetime allowance of £1.5 million).

Given that the reformed **French** PAYG system will continue to provide a high level of benefits if individuals work for about 42 years, there is unlikely to be an immediate increase in demand for pension products. This is especially true as the fiscal and legal rules for medium-term products currently provide individuals with a more flexible alternative. Nevertheless, by about 2020, the ageing of the population will require people to work considerably longer to achieve a set level of benefits and this may then trigger additional pension saving.

The fact that **German** state pension reform includes a substantial cut in pensions from 70% to 45% of earnings and that the Government has created a range of incentives that promote additional saving of about 4% of salary suggests that the factors are already in place for a substantial degree of additional pension saving. This additional saving is likely, at first, to be focussed through company pension schemes as the Government has skewed the subsidies in favour of company schemes over personal pensions and it has given employer-employee committees responsibility for the management of company schemes.

The reformed **Italian** state pension regime will go on providing a good level of pension (about 64%) provided people work for about 40 years (five more than at present). This may mean that only modest amounts of discretionary saving will be directed towards voluntary and occupational pension products. However, the Italian Government continues to introduce reforms aimed at increasing the incentive to save in private pensions. Therefore, over the medium to long-term additional pension saving is likely, especially for those who wish to avoid working for a full 40 years. Last year's pension reform encouraged the development of a funded supplementary pension system by redirecting workers' severance pay, known as *Trattamento di fine rapporto* (TFR), into private pension funds. To date, the government and the social partners have been unable to agree on how €14 billion (US\$17.1 billion) of TFR accruals will be transferred or invested under a reformed pension system. Today, employers allocate about 7% of employee earnings toward the TFR, which guarantees a return approximately equal to inflation and is paid out as a lump sum upon termination of employment for whatever reason (for example, unemployment or retirement). Last year's reform provided that employees be given a period of 6 months to decide whether to leave their accumulated severance pay with their employer or have it transferred to an occupational pension plan. Alternatively, employees are allowed to assign the accumulated TFR to the social security system to improve their future pension benefit.



If a worker fails to make a choice, the TFR accumulations will be transferred into the pension funds. Other factors delaying implementation are the lack of regulations for investing TFR accumulations and lack of clarity over which public agency will regulate the funds. The 2004 reform bill made the pension regulator the sole authority, but recent unrelated legislation has complicated matters by transferring part of that body's jurisdiction to the public agency responsible for regulating the Italian securities market.

By comparison to most other large EU countries, there is already a substantial degree of voluntary occupational and personal pension saving in the **UK**, although recently the level has dipped. The legal framework has been in place for many years. Much of this saving is probably due to the comparatively low level of the state pension and the fact that until 1988 employers could make membership of their scheme compulsory. Fiscal incentives to save also play a role in encouraging saving. The introduction of "contracting-out" may also have played a role. However, although the need for increased saving grows as the value of the state pension is projected to fall (38% to 23% of previous earnings by 2050), it is not certain that individuals will actually save more or, if they do, that they will save via pensions. Despite the Government ensuring that employees of all but the smallest companies have access to a Stakeholder pension more than 80% of them remain unused. Much may depend on the deliberations of the Pensions Commission and whether the UK Government decides that a further major reform of pensions is necessary. Such a reform would need not only to review the current low level of the state pension, but also to consider the wider regulatory environment and whether the Government's fiscal incentives allow for products that are sufficiently appealing to consumers.

## **5 Private saving for retirement in France, Germany, Italy and UK**

Ageing populations and the desire to preserve the relative living standards of the retired create challenges of sustainability for private funded systems as well as for publicly-financed schemes. This is key for the likely continued increase in savings for retirement going into private funded pension schemes. Indeed, countries that have reformed their publicly-funded pension systems have often done so in the expectation that the resulting reduction in replacement rates will be compensated by the growth of private funded schemes.

So that, growth in private pension funds and other institutional assets should be associated with this demographic development. Private pension funds could also be boosted by reductions in future public pension benefits in order to avoid unsustainable prospective government deficits. In a similar vein, a continued shift from defined-benefit private pension plans (which can be underfunded) towards defined-contribution plans (which are fully funded), as has been occurring in some countries, could also raise pension saving.

Currently the importance of private saving for retirement differ substantially across country, both as regards pension funds of various sorts and other forms such as life insurance, personal saving plans on investment in real asset. Actually there are four type of financing pension plans by financing vehicle:

1. **Pension funds (autonomous)**, in which the pool of assets forms an independent legal entity that are bought with the contributions to a pension plan for the exclusive purpose of financing pension plan benefits. The plan/fund members have a legal or beneficial right or some other contractual claim against the assets of the pension fund. Pension funds take the form of either a special purpose entity with legal personality (such as a trust, foundation, or corporate entity) or a legally separated fund without legal personality managed by a dedicated provider (pension fund Management Company) or other financial institution on behalf of the plan/fund members.
2. **Book reserves (non-autonomous)**, which are sums entered in the balance sheet of the plan sponsor as reserves or provisions for pension benefits. Some assets may be held in separate accounts for the purpose of financing benefits, but are not legally or contractually pension plan assets.
3. **Pension insurance contracts**, that specify pension plan contributions to an insurance undertaking in exchange for which the pension plan benefits will be paid when the members reach a specified retirement age or on earlier exit of members from the plan.
4. **Other type of financing vehicle** not included in the above categories.

The selected European countries reveal some differences in the used finance vehicle in their pension plans; it is partially explicated by both the pension reforms adopted during recent year and the importance in each market of different intermediaries, in particular the role of institutional investor.

**TABLE 6 - INVESTMENT IN PRIVATE SAVING RETIREMENT BY FINANCIAL VEHICLE (million \$ and asset as % of GDP)**

Type	Country	2001		2002		2003		2004		2005	
		INVEST	%GDP	INVEST	%GDP	INVEST	%GDP	INVEST	%GDP	INVEST	%GDP
Pension funds (autonomous)	France	..	..	..	..	22.595	1,25	24.849	1,21	24.856	1,17
	Germany	65.147	3,44	70.470	3,49	88.887	3,64	104.161	3,78	107.856	3,86
	Italy	25.194	2,25	28.312	2,32	36.787	2,44	44.351	2,57	49.520	2,81
	United Kingdom	1.040.472	72,47	..	..	1.175.335	65,07	1.467.118	68,76	1.541.100	66,2
Book reserves (non-autonomous)	France	..	..	..	..	..	..	..	..	..	..
	Germany	0	0	0	0	0	0	0	0	0	0
	Italy	4.298	0,38	4.197	0,34	0	0,00	0	0,00	0	0,00
	United Kingdom	..	..	..	..	..	..	..	..	..	..
Pension insurance contracts	France	..	..	..	..	100.660	5,59	98.775	4,79	98.804	4,65
	Germany	0	0	0	0	0	0	0	0	0	0
	Italy	5.612	0,50	6.561	0,54	1.444	0,10	2.671	0,16	4.149	0,24
	United Kingdom	..	..	..	..	..	..	..	..	..	..

Source: OECD DB

UK is the largest market in Europe for the sale for life and pensions products with EUR 61.0bn of these products estimated to have been sold in 2003. There is a large market for both life insurance based products and personal pensions in the UK. France and Germany, the second and third largest life and pensions markets in Europe, are worth EUR38.2bn and EUR28.9bn respectively. Both have large life insurance markets, with life-based investments being popular due to tax advantages, however in neither country is there a significant private pensions market. Italy is developing this market reaching in recent years EUR17.7bn.

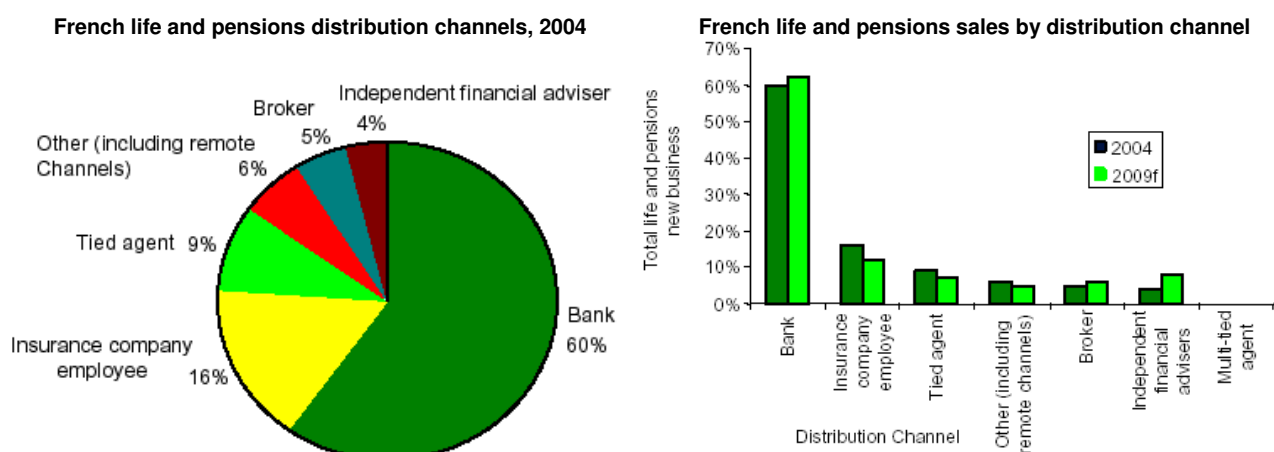
Each EU country considered in this paper, differs also about the number of life assurance and pension providers and about the way in which products are sold (Individual Financial Advisers (IFAs), banks, etc.).

In **France**, the market concentration is close to the EU average, with the top five life assurance and pension providers serving just over 50% of the market. However, put together, the two largest companies, CNP and Axa, serve as much as 30% of the market. Four of the top five providers are French owned. Most distribution is currently through banks (60%), with direct sales forces (16%), Independent Financial Advisers / brokers (10%) and tied agents (8%) far behind<sup>22</sup>. Bancassurance is the major distribution channel in France, holding 60% of the market. Factors influencing this channel success in the French market include the strong relationship between French banks and customers, the fact that banks have been successful in driving cost efficiencies from their bancassurance operations, and the fact that French customers have not traditionally demanded a high level of advice or product sophistication in financial services, making it an ideal market for commoditized bancassurance products. Insurance company salespeople hold 16% of the French distribution market for life and pensions; this channel has been declining rapidly as the bancassurance channel has grown.

There is limited demand for independent offerings in the French market, with most consumers happy to use their bank's offerings. French independent financial advisers were only given a separate regulatory recognition in 2004.

<sup>22</sup> "European Insurance in Figures, Basic Data 2002, Complete 2001 Data", CEA, June 2003.

**FIGURE 6- FRENCH LIFE AND PENSIONS DISTRIBUTION**



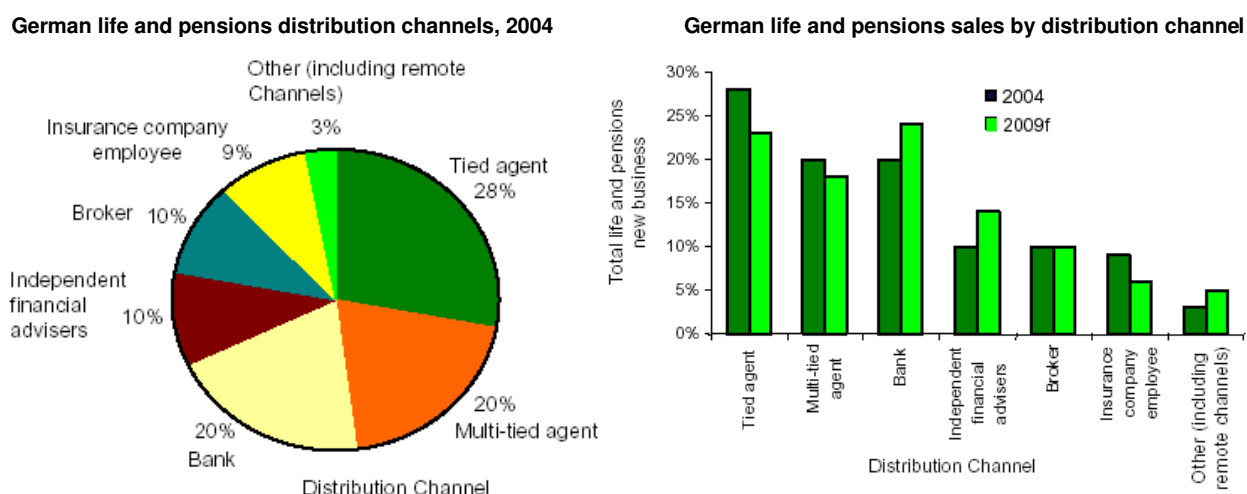
Source: Datamonitor's Life and Pensions Database 2005.

The **German** life assurance and pensions market is characterised by a high number of medium-sized providers. The top five companies service only 31% of the market, compared to an EU average of 50%. Four of the five are wholly German. The largest company, Allianz, accounts for about 13% of the market. Distribution is dominated by tied-agents (54%), with Independent Financial Advisers (IFAs) (20%) and banks (18%) also playing an important role<sup>23</sup>. Agents have been a crucial channel in the German financial services distribution market, with Strukturvertriebe holding a major market share; but this is set to be eroded in the next five years. Regulatory change will be the dominant factor in changing the life and pensions distribution landscape in Germany in the next five years. Most important will be the Investment Services Directive. This will force insurance distributors to be regulated in one of the following three ways:

- Exclusively as an insurance intermediary.
- Operating under the so-called 'Haftungsdach' or liability umbrella of a financial services institution.
- By establishing the company as a financial services institution and investment advice company that is regulated by BaFin, the financial regulator established in 2002.

At the same time stringent European Union capital adequacy and professional indemnity requirements are set to have a particularly dramatic effect on the German market with a large proportion of the smaller players being forced to close. According to the Association of Private Client Investment Managers and Stockbrokers, the German market will be particularly affected by the European Union legislation because it has not gone through the consolidation of the financial services distribution market that has already occurred in the UK.

**FIGURE 7- GERMAN LIFE AND PENSIONS DISTRIBUTION**



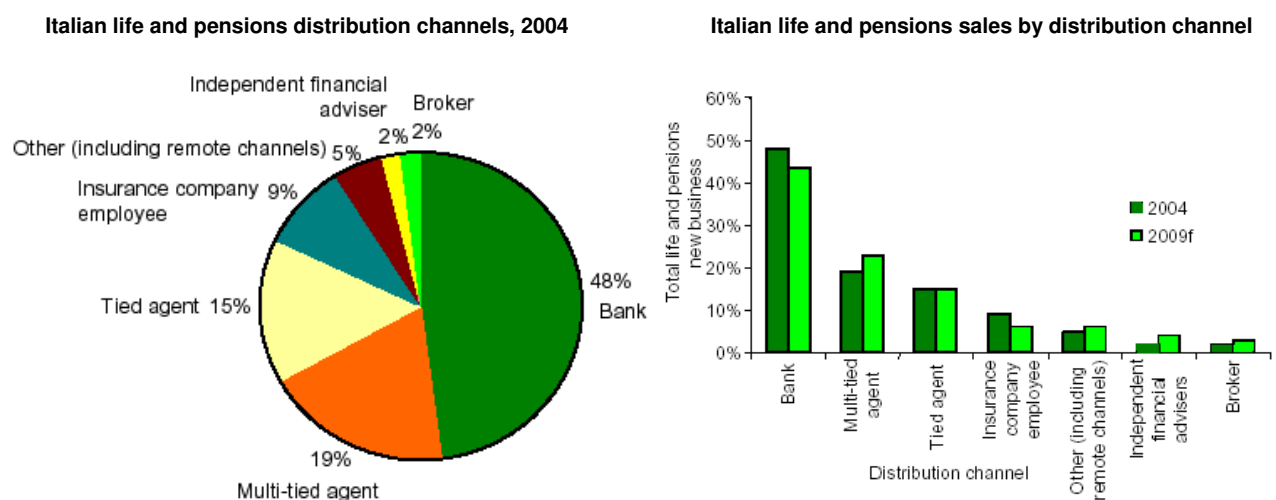
Source: Datamonitor's Life and Pensions Database 2005.

<sup>23</sup> Ibidem.



The **Italian** life assurance and pensions market is served by an average number of providers by EU-15 standards but one company in particular, Generali, has a very large market share. It accounts for 20% of the market while the other major players must not more than about 5% each. Distribution is dominated by banks (50%) and tied-agents (25%)<sup>24</sup>. Banks in Italy currently control a large proportion of life and pensions distribution, largely through selling commoditized life-based investment products. However as product complexity increases, particularly with the forecast growth of the private pensions market in Italy, agents and independent advisers will increase their share of the market. Banks hold 48% of the Italian life and pensions distribution market. Banks tend to sell a large amount of commoditized life products, for example following the equity downturn 2000-2003 they sold a large number of life bonds with an element of capital protection to customers that were concerned about their exposure to equity market risk. About the 34% of life and pensions new business goes through tied or multi-tied agents, which are known as Promotori Finanziari in Italy. These Promotori Finanziari are tied to SIMs (investment companies) many of which are of significant size including Fideuram, Mediolanum, Rasbank and Banco Generali. Between them Fideuram, Mediolanum and Rasbank employ over 13,000 financial advisers.

**FIGURE 8- ITALIAN LIFE AND PENSIONS DISTRIBUTION**



Source: Datamonitor's Life and Pensions Database 2005.

The independent financial advice and independent brokerage channels in Italy are small and reserved for very wealthy customers. They sell only 4% of life and pensions products collectively. This is largely because of the regulatory controls in the Italian market requiring that all financial intermediaries are tied to a SIM.

The major driver behind growth in the Italian life and pensions market in the next five years is expected to be growth in personal pensions products, driven by the government introducing reforms in this area. Such reform has long been anticipated and is expected to be radical given the current lack of private pensions saving in Italy (only 2% of financial advisers' sales currently come from private pensions, and the severity of the impending dependency crisis).

The majority of private pension new business is expected to go through the agent channel. Agents in the Italian market, who work through SIMs, offer a higher level of financial advice than is available through banks, and this should help them to sell private pensions, which are complex products requiring considerable advice. The market share of multi-tied agents is expected to grow to 23% by the end of 2009, while the tied advice market is expected to remain stable at 15%. The very small independent financial advice channel is also expected to benefit from the introduction of these products, growing to 4% of the market by 2009.

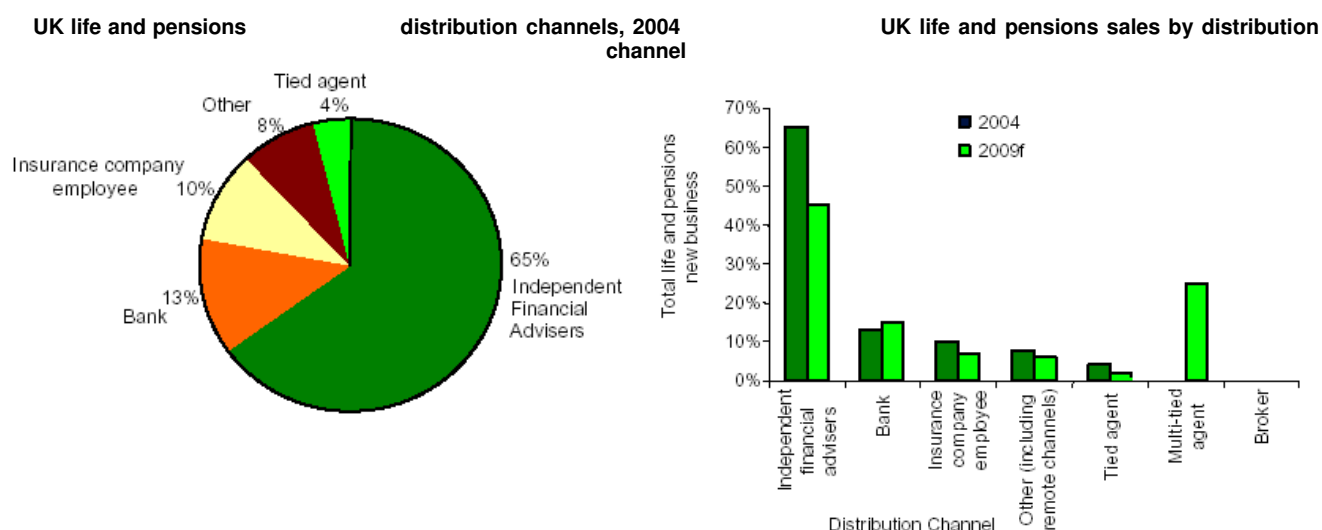
While Italian banks are expected to lose some of their market share as they continue to emphasize selling commoditized products such as life bonds to Italian customers. The market share of banks is expected to fall to 43% of the market by 2009. Technological developments and the further spread of broadband services in the Italian market are likely to result in an increase in the amount of life and pensions sold through the remote channels; this will drive the share of the market held by 'other' channels by to 6% by the end of 2009.

The **UK** life assurance and pensions market is a little more competitive than the EU-15 average, with the top five companies serving only 45% of the market compared to the EU-15 average of 50%. All five of the largest companies are British – Halifax, Norwich Union, Barclays Life, Prudential and Standard Life. Each

<sup>24</sup> "European Insurance in Figures, Basic Data 2002, Complete 2001 Data", CEA, June 2003.

has a similar share of the market. The distribution of life and pension products is dominated by the Independent Financial Adviser channel (65%). In contrast to the other large EU countries looked at in this study, distribution via banks (13%) plays a minor role<sup>25</sup>.

**FIGURE 9- UK LIFE AND PENSIONS DISTRIBUTION**



Source: Datamonitor's Life and Pensions Database 2005.

The key development in the UK life and pensions distribution market in the next five years will be the result of regulatory change. Traditionally in the UK, financial advisers have been split into those that offer the products from a full range of providers (Independent Financial Advisers) and those that are tied to a single provider (tied advisers). Banks in the UK hold only a small part of the life and pensions distribution market. This is partly because they are not able to offer a choice of providers' products, and partly because they do not have a reputation for offering high quality advice on long-term investment products. Banks sell EUR7.9bn of life and pensions products in the UK. Insurance company employees and tied agents have both suffered from declining market share in the UK in recent years as the burden of regulation has increased and the costs of operating sales forces tied to a single provider's products have increased. Insurance companies are estimated to have sold EUR6.1bn of premiums on new life and pensions contracts in 2003 in the UK while tied agents sold only EUR2.4bn. new business. This situation was ended at the end of 2004 by "depolarization" which allowed the introduction of multi-tied advisers, meaning that for the first time in 20 years financial advisers can offer products from a range of providers without having to offer products from all the providers in the market. As a result of this probably a considerable number of firms which are currently Independent Financial Advisers will move to a multi-tied status over the next five years, resulting in a 20% drop in the percentage of life and pensions new business that will be conducted by Independent Financial Advisers. Furthermore, the introduction of regulation making it cheaper to offer financial advice to less wealthy customers is likely to result in a small increase in distribution through the bank channel (13%-15%).

## 6 Saving for retirement: implication for financial market

Demographic trends can potentially affect financial markets through a variety of channels, including shifts in government saving, private saving and, in particular, pension saving.

The effects of ageing on national saving rates, and on the growth and composition of pension funds in particular will have important implications for domestic and international financial markets. One influence will be on the scope and structure of these markets. This section concentrates principally on the recent and prospective trends in private pension funds and their implications for financial markets.

Over the past few decades, institutional investor have enhanced their role as collectors of savings and increased their share on institutionalised savings: this trends is likely to continue as retirement saving grows. Increased pension saving will augment the size of capital markets; at present time the relative size on pension fund assets varies enormously across countries, reflecting differences in social security arrangements as well as in financial system.

<sup>25</sup> "European Insurance in Figures, Basic Data 2002, Complete Data 2001", CEA, June 2003 and ABI estimates, April 2004.

According to the empirical evidence (see TABLE 7) relative to the size of financial markets aggregate fund asset we notice a raising importance of pension fund industry in EU analysed countries but also in the other most developed nations; they total more than 65% of GDP in UK, but only 2-7% of GDP in France, Germany and Italy, quite far from the most developed markets of Switzerland (112%) and Netherlands (95%).

**TABLE 7 - EVOLUTION OF THE SIZE OF PENSION FUNDS RELATIVE TO GDP, 1990-2004 (TOTAL INVESTMENTS OF PENSION FUNDS AS A PERCENT OF GDP)**

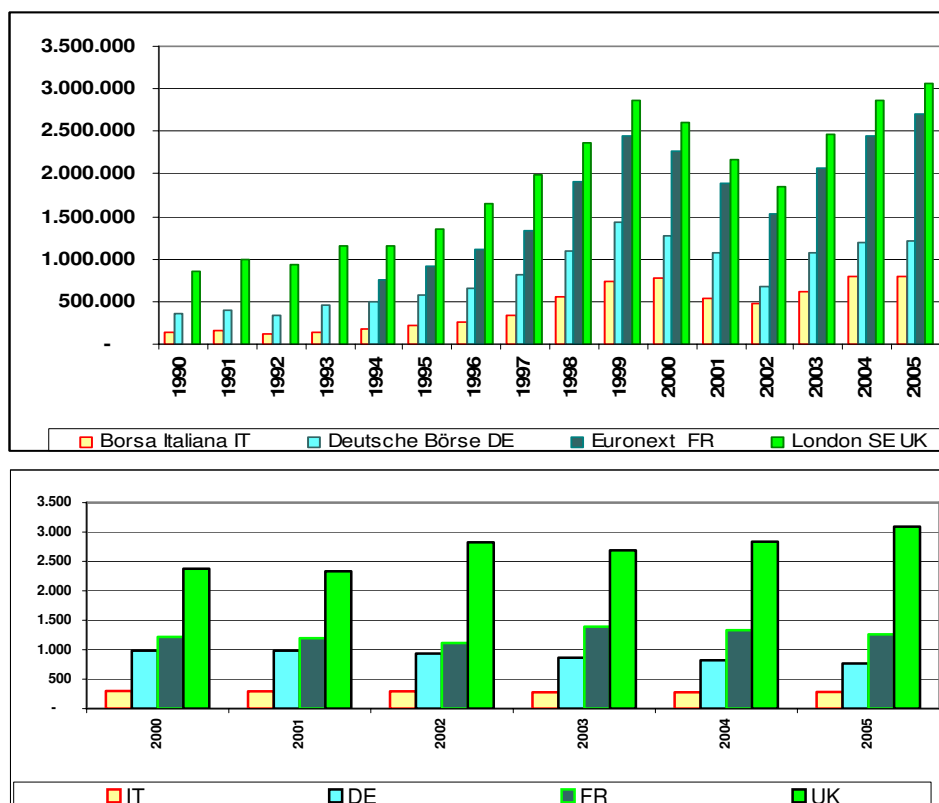
OECD Countries	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Change 2000-1990	Change 2000-2004
<b>France</b>								3,9	6,6	7,0	7,0		
<b>Germany</b>	3	3	3	3	3	3	3	3	3	4	4	0%	26%
<b>Italy</b>	3	4	3	3	3	5	5	4	2	3	3	67%	-34%
<b>United Kingdom</b>	50	68	69	79	79	88	79	72	72	65	65	58%	-4%
<b>Euro area</b>								70,2	52,0	63,7	59,6		
<b>Canada</b>	29	39	42	44	48	46	48	48	48	52	52	66%	34%
<b>Japan</b>	12	15	15	16	16	19	19	19	14	15	14	58%	-6%
<b>Netherlands</b>	72	85	93	101	108	119	114	105	89	106	106	58%	25%
<b>Sweden</b>	2	2	2	3	3	3	3	4	8	8	13	50%	533%
<b>Switzerland</b>	56	..	80	..	98	..	105	104	97	112	112	88%	..
<b>United States</b>	42	57	61	67	71	74	69	94	82	92	95	64%	67%
<b>Total G10</b>								86,5	75,8	83,9	86,4		
<b>Total OECD</b>								84,9	74,2	81,9	84,1		

**Source:** OECD, Global Pension Statistics.

One important reason for these differences is the varying degree to which public pension systems provide benefits for retirees, which in turn affects the demand for private pension plans. Another relevant factor is the diversity across countries of government regulations concerning the funding of private pension plans, as remarked before. It is also notable that the greatest expansion of pension fund assets has occurred for the most part in the G-10 countries that already had a large pension fund sector. In EU, countries like Switzerland and Netherlands which have had mandatory or quasi mandatory of pension funds for many years, exhibit the largest pension funds in relation to the size of their economies, but the largest voluntary pension fund systems in EU is the British one.

The expected raising of saving in European countries may increase the breadth and depth of worldwide financial markets. The composition of that saving will also influence the structure of those markets. For example, countries with large funded private pension systems tend to have highly developed securities markets, while countries with small private pension fund sectors tend to have relatively underdeveloped equity markets. In the selected countries, UK and Germany reveal a relevant capital market size, while Italy is the less developed. Those differences are only partially explained by the financial system structure, in fact while UK is a market oriented system the other one are characterised by a bank oriented system. Furthermore, in the three continental countries actually the size of equity market doesn't seem influenced by the role of institutional investors.

**FIGURE 10 - DOMESTIC MARKET CAPITALIZATION AND NUMBER OF LISTED COMPANY**



Source: World Federation of Exchanges

**TABLE 8 - FINANCIAL ASSETS OF INSTITUTIONAL INVESTORS (AS A PERCENTAGE OF GDP)**

COUNTRY	INVESTOR	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001p
France	Total financial assets	34,6	35,7	43,6	48,8	50,8	56,4	61,9	73,9	71,7	77,7	86,6	97	106,9	124,2	131,8	131,8
	Insurance companies	14,8	14,7	18	20,4	20,3	22,6	25,4	32,5	32,6	41,4	48	55,8	60,2	67,5	69,2	69
	Pension funds	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Investment companies	19,8	21	25,6	28,4	30,4	33,8	36,5	41,5	39,1	36,3	38,6	41,2	46,7	56,7	62,5	62,8
	Other forms of institutional investment	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Germany	Total financial assets	27,2	28,7	31	32,9	32,8	33,9	34	38,9	41,3	45,3	50,6	58,8	66,3	76,9	79,8	81
	Insurance companies	19	20,2	21	21,7	21,9	22,1	22,3	24,2	25,4	27,6	30	32,6	34,6	36,9	38,6	41,3
	Pension funds	2,7	2,7	2,8	2,8	2,8	2,9	2,9	2,5	2,5	2,7	2,8	3	3,1	3,2	3,3	3,3
	Investment companies	5,4	5,8	7,2	8,3	8,1	8,9	8,8	12,2	13,4	15	17,9	23,2	28,6	36,9	37,9	36,4
	Other forms of institutional investment	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Italy	Total financial assets	10,8	10,1	9,3	9,2	12,5	20,6	21,8	28,2	32,2	32	39	53,9	79,6	99,5	97,8	94
	Insurance companies	3,5	4	4,5	5,1	5,7	6,3	7,1	8,3	9,9	10,7	11,8	13,5	15,7	18,4	20,8	22,3
	Pension funds	..	..	..	..	3,3	4	3,7	3,7	3,5	3,5	3,2	3	3,1	4,6	4,5	4,4
	Investment companies	7,2	6	4,7	4,1	3,6	3,9	4	7	7,9	7,1	10,4	18,5	34,7	43	38,8	33,5
	Other forms of institutional investment	..	..	..	..	..	6,4	7	9,1	10,9	10,8	13,7	18,9	26,1	33,4	33,7	33,8
UK	Total financial assets	109	106	107	125	104	116	131	162,2	143	162,8	172	194,1	202	227,7	212,8	190,9
	Insurance companies	43	41,9	42,3	48,1	42,3	48,7	56	70,3	62	73,3	78,9	89,8	96,9	108,9	102,9	97,1
	Pension funds	51,7	50,4	52,3	61,2	49,9	54,7	59,8	71,8	62	68,2	69	78,9	79,3	87,8	78,7	66,4
	Investment companies	14,2	13,9	12,8	15,6	11,7	13	14,9	20,1	18,9	21,4	24	25,5	25,8	30,9	31,2	27,4
	Other forms of institutional investment	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
USA	Total financial assets	102	105	106	114	113	124	127	136,3	135,9	151,8	162,9	178,4	192	207,8	198,7	191
	Insurance companies	28,3	29,7	30,9	31,9	32,5	34,3	34,6	36,1	36	37,9	38,6	40,4	41,5	42,5	40,7	40,5
	Pension funds	39,6	39,5	39,5	43,5	42	46,9	47,7	50,5	50,3	57,1	60,7	66,9	71	73,9	69,3	63
	Investment companies	16,4	17,2	17,2	19,4	19,9	23	25,7	30,9	31,1	36,8	43,2	50,3	58,1	67,9	65,6	65,4
	Other forms of institutional investment	18,1	18,6	18,8	19,4	18,9	20	19,2	18,8	18,4	20	20,4	20,9	21,3	23,5	23,1	22

Source: OECD, Global Pension Statistics.

The **composition of private pension fund assets** has an important role in influencing financial market structure. The pension funds asset allocation varies significantly among the considered countries (Table 9). For example, pension funds in the United Kingdom and the United States hold the majority of their assets in

equities, while those in Germany and Italy invest largely in bonds and hold only negligible amounts of equities.

**Table 9 - PENSION FUND PORTFOLIO ALLOCATION, 2004<sup>26</sup>.**

Countries	Cash and Deposits	Bills and bonds issued by public administration	Corporate bonds	Loans	Shares	Land and Buildings	Mutual funds (CIS)	Unallocated insurance contracts	Other investments
Germany	2,6	2,5	26,6	28,1	32,2	3,8	..	..	4,2
Italy	5,9	34,8	..	n.a.	8,4	9,2	10,3	24,5	7,1
United Kingdom (1)	2,5	14,7	6,8	0,5	43,4	4,3	15,4	6,0	6,3
United States	8,3	6,4	5,0	0,1	35,5	0,6	30,7	9,4	4,0
Canada (1)	5,0	18,7	5,4	..	23,6	3,5	36,7	..	7,2

Source: OECD Global Pension Statistics.

However, the problems experienced in recent years by pension funds highlight the importance of other, complementary forms of private saving for retirement, which can provide diversification benefits for investors. Over the past few decades, institutional investors – in particular pension funds, mutual funds and insurance companies – have enhanced their role as collectors of savings, and increased their share of institutionalised savings (TABLE 8). This trend is likely to continue as retirement saving grows. Increased pension saving will augment the size of capital markets. As noted above, at present, the relative size of pension fund assets varies enormously across the analysed countries, reflecting differences in social security arrangements as well as in financial systems. Thus, there is clearly scope for significant growth in most countries. Against this background, there will be a growing need for a variety of financial instruments.

The growth of funded pensions and the increasing emphasis on risk management should strengthen the role of pension funds as stable, long-term institutional investors. However, this requires (among other priorities) that investment strategies more fully address the specific nature and structure of pension fund liabilities, thereby differentiating pension funds from many other institutional investors. Rather than seeking to report a profit or to outperform various indices, the ultimate purpose of DB pension schemes is to meet their future pension liabilities. In particular, this requires that liabilities be covered by suitable assets (*i.e.*, an ALM focus). However, pension fund investment and risk management practices have often focused more on asset returns than the actual liability structure of the pension balance sheet. In part, this is because assets are more easily adjusted in the short term to meet changing circumstances than pension liabilities, and because full actuarial recalculations typically only occur once every three years, with partial updates (*e.g.* reviewing assumptions such as inflation and prospective investment returns) only once a year or possibly every six months. One consequence of a limited focus on liabilities and ALM is that, in practice, many pension funds have pursued investment strategies measured relative to broad market indices. Recently, some pension funds and sponsors have also given thought to ways to manage liabilities more actively, including the conditionality of pension benefits. Such flexibility would again impact pension fund investment and risk management/ALM practices. Recent regulatory and accounting changes, as well as market developments, have put more focus on risk management and ALM practices. Pension fund managers wishing to limit the volatility of their regulatory funding ratios may hold a larger allocation of assets with a higher correlation (or matching) to the discount rate used for liabilities. Corporate bond yields are increasingly used by pension regulators as the relevant discount rate for liabilities. In some countries liability matching may be required to meet return guarantees imposed by law. Looking ahead, a number of risks are likely to be faced more directly by pension funds as part of the pension fund ALM process. These include the duration gap between assets and liabilities, inflation, positive longevity shocks and the financial strength of the sponsor company. Pension funds increasingly need to develop investment portfolios to better manage these risks, rather than benchmarking performance against market indices. In particular, longevity bonds or other hedges may develop, reinsurance may be considered to hedge longevity and other risks, inflation-protected pension benefits may be in large part hedged by index-linked bonds and other instruments (such as inflation swaps), and sponsors may need to define more clearly their right and ability to modify or suspend certain obligations (see below). With respect to DC plans, the main risk relates to whether contribution rates over the working life and the effect of volatility during both the contribution phase, and, more importantly, at the time of retirement, will deliver adequate pension benefits.

<sup>26</sup> The values registered on variable "Other investments" include short term payable accounts to the fund managers (commissions), payable loans and the amount relative to the liquidation of one pension fund, transferred amount relative to the liquidation of one pension und, transferred to social security, worth about 1 billion Euros. (1) 2003 data.

Policy changes in areas such as regulation and financial accounting have increased the sensitivity of pension funds and their sponsor companies to market values and shorter-term price movements. The shift to more market-based accounting (and regulatory) principles, for example, has made the volatility of DB pension fund balance sheets more visible on sponsor companies' financial accounts. This can be expected to influence pension fund risk management and investment behaviour.

A number of other factors are also likely to influence investment strategies in the future. While attempts to address funding gaps may in the short term lead some pension funds to adjust their asset allocation, national or regional market characteristics will also play a role in determining investment preferences and styles for pension funds. For example, a limited supply of certain financial instruments in national or regional markets may limit the desired investment alternatives of pension funds to meet their specific investment needs. Similarly, domestic or regional market characteristics may also influence the availability and selection of financial instruments for households to achieve their investment objectives, which may be quite different from those of occupational or corporate pension plans. Because demographic projections indicate that countries and regions will be ageing at different rates, the time profiles of savings, consumption and investment will differ across different geographical areas. All else equal, such differences could imply potentially significant gross and net capital movements (including growing financial investments by pension funds, mutual funds and other institutional investors). These movements, in turn, are likely to be associated with notable shifts in current account balances. A free flow of capital across different countries is likely to have a positive influence on achieving an efficient allocation of capital by allowing scarce capital to shift to geographical areas with expanding labour forces. Patterns of holdings have been changing, although not uniformly across countries. In recent years, the shares of equity holdings in pension funds have been declining in the United Kingdom. Pension funds generally have displayed a strong home bias in their investment strategies and consequently have been much less internationally diversified than the world market portfolio. In most countries only a small portion of private pension funds' assets are invested abroad and a little of the international exposure is in emerging markets. Nevertheless, there has been some movement towards greater international diversification in recent years.

Portfolio theory suggests that a diversified investment portfolio offers the best way to balance risk and return, so that pension fund managers supporting a balanced portfolio approach are increasingly diversifying their portfolios across asset classes and geographically, and looking to enhance returns through more active portfolio and asset management, including various "alternative investments" designed to provide less correlated returns (and sometimes inflation hedges), such as private equity, real estate, commodities, infrastructure projects, and more recently hedge funds. In fact, for pension funds, real estate is a traditional way of improving portfolio risk diversification.

Hedge funds are being increasingly considered, even though, to date, aggregate amounts invested into hedge funds remain relatively limited (few pension funds have made hedge fund allocations above 5 percent of their total portfolio), and no dramatic change is foreseen in the near term.

As pension funds focus more on ALM (particularly the relative duration of assets and liabilities), pension fund managers routinely stress that additional financial instruments (new instruments, and a greater supply of existing securities) are needed to help them better manage and hedge certain risks, such as duration, inflation and longevity risks. These instruments certainly include long-dated bonds (30 years and longer) and inflation-linked instruments. The availability of such instruments is seen as an essential complement to a more market-oriented or risk based regulatory framework, which is likely to encourage pension funds to better match their assets and long-term liabilities. There has also been significant growth and diversification in the range of investment products available to individuals for retirement.

In particular, investors' general demand for long-term fixed-income assets is likely to increase over the years to come, as a result of recent and impending regulatory and accounting changes. One illustration has been the successful revival of long-term government bond issues, including the launch of very long-term instruments – notably 50-year bonds.

In most mature markets, authorities have given greater consideration to the need to further develop longer-dated bond markets, which remain small relative to the size of pension fund and insurance company portfolios, and thus potential demand. While the market for long-term bonds is deepest in the United States, even there the size of the market for maturities beyond 10 years is relatively modest. In early 2005, a few European countries started issuing very long-dated bonds, namely France (50-year bonds issued in February) and the U.K. (50-year gilts issued in May and July).

In addition to governments, corporate issuers desiring longer-term funding exist in most mature markets, such as capital-intensive industries, utilities, and financial services (banks and insurers). However, corporate issuance of long-term bonds may have been hampered by a variety of factors, including the price uncertainty resulting from the lack of public benchmarks, tax disincentives in some countries for very long issuance (*i.e.*, beyond 30 years), as well as more cyclical factors, such as the current strong liquidity position of many corporate balance sheets worldwide and the very low cost of shorter-term credit. At present, even a relatively

modest reallocation by institutional investors into these markets would overwhelm outstanding supply, and the lack of liquidity in many outstanding long-dated issues could lead to significant short-term price volatility. As such, the planned and proposed new issues and supply are welcome, notably in Italy, where we notice a relevant lack of corporate bond supply. The hope is that Italian corporate, losing their TFR funds, starting to issue corporate bond to sustain their investments: the risk for Italian economy is that the private and institutional intermediaries saving could be driven to abroad investments.

As with long-dated bonds, the market for index-linked bonds (ILBs) remains small relative to potential demand. The scale of the shortage of indexed securities is illustrated by occupational pension funds and life insurance companies in the United Kingdom already holding 80 percent of outstanding long-dated and index-linked gilts. This holds even with an asset allocation to bonds at many funds of only 20-30 percent of their total portfolio. The EU largest ILB market is in the UK, with nominal amounts outstanding of about \$150 billion followed by France with less than \$100 billion. The German authorities have announced their intention to issue their first inflation-linked bond in the next year.

As a result of the limited supply of long-dated fixed-income securities, derivative instruments have also attracted some pension fund managers seeking to increase asset duration, or to obtain some form of protection against inflation or interest rate risks. Interest rate and inflation swap markets (or swaptions – i.e., options on interest rate swaps) can be more liquid and may provide greater flexibility to tailor duration and cash flow profiles to match the specific needs of a pension fund, thereby helping reduce balance sheet mismatches at relatively low cost and credit risk (on a collateralised basis). In some cases, investment strategies have included adding a full swap overlay to the bond portfolio of a pension fund in order to reach a duration target reflecting a given pension liability structure. Furthermore, the development of more liquid cash markets for index-linked bonds should deepen these inflation derivative markets.

Financial instruments which could help pension funds and insurance companies better manage longevity risk (and reinvestment risk) may also increase the supply of annuity products, by encouraging insurance and reinsurance companies in particular to allocate additional capital to their annuity businesses. For example, longevity bonds, such as the one proposed by the European Investment Bank (EIB), are potentially promising instruments in this regard. The U.K. Government indicated that, while it did not envisage issuing longevity bonds in 2005-06, it may revisit the subject at a later date, and has been seeking comments from the market regarding long-dated bonds and other instruments.

Another, at present hypothetical, alternative may be the development of “macro-swaps”, through which (for example) the pension fund and health care industries may swap their complementary exposures to longevity. Indeed, such swaps would allow pension funds to reduce their exposure to unexpected increases in longevity by transferring the “increased” liabilities to health care companies, whose higher revenues from increased age-related health care expenses would allow them to meet these liabilities. Governments could encourage such long-term swaps by introducing appropriate incentives for the health care industry (e.g. incentives for longer-term financing related to R&D for certain products or services targeted to elderly consumers), with payments to pension funds corresponding to the longevity of an indexed population.

## 7. Conclusion

The rapid ageing of the population across the EU has forced governments to substantially reform national pension arrangements and to reduce the value of state pension benefits. As the ratio of workers to pensioners halves over the next 50 years, state pension benefits will be cut by about 30% when measured as a percentage of average income. In consequence, if tomorrow's pensioners wish to enjoy the same levels of retirement income in relative terms as today's, they will need to pay higher taxes, work longer or save more. Over the last decade, Italy, Germany and France have all undertaken fundamental reforms. The UK underwent a wave of reforms in the 1980s. In Italy and France, people will have to work about five years longer to receive a pension of equivalent value to that received today. In these cases, by 2050, people will have to work between 40 and 45 years. In Germany, where the pension system already requires a working life of around 45 years, the Government aims to encourage the shortfall to be made up by additional voluntary pension saving. The German Government appears to have assumed that a working life of more than 45 years, even with growing longevity, would be unrealistic. The UK Government currently also intends shortfalls to be made up by additional voluntary saving, although the independent Pensions Commission has been established to consider the effectiveness of voluntarism and whether there is a need to go beyond it. The Italian Government is still working on furthermore adjustment to complete the pension system reform and on how to develop pension fund industry.

Overall, the evidence in this work suggests that state pension reforms across the EU will reduce future state pension income (as a % of average earnings) so many people will need to consider saving in private occupational or private personal pensions; although EU countries face similar challenges (ageing populations and pressure on public budgets) there are many different solutions and these are most likely to



be successful where they reflect local approaches and practices. While requiring people to work longer to receive a full state pension may work in several countries, this may not work in the UK, where the period of contributions necessary to receive a full state pension is already long by comparison with other EU countries; furthermore the new private pensions will look very similar to those in the UK, they will usually be on a Defined Contribution basis and be based on the EET (contributions tax-exempt; investment growth tax-exempt; taxation of benefits) and annuity model. Private occupational pension saving is most likely to be effective where employers play a leading role in pension provision, especially if the employer makes contributions and establishes a dialogue on pensions with employees.

There can be no doubt that individuals will need to undertake more voluntary saving if they are to enjoy the same living standards as today's pensioners.

This increasing role of private saving for retirement may have relevant implications for pension fund investment strategies and financial markets, including changes in their asset allocation, and the increasing need for more and new capital market instruments to better manage pension liabilities.

In some countries, including countries where an "equity culture" or fund management industries are relatively less developed, insurance companies have traditionally played an important role in providing fixed-income based savings products (often offering minimum return guarantees). As household demand for products related to retirement savings or income has been expanding, and in particular with the expected increase of funded pension schemes, the role of life insurance companies and products, and more broadly of the asset management industry, may evolve. In such countries, like France and Germany where insurance companies and products already play an important role in the savings market, policymakers may seek to expand these products as well as develop new products that help households secure a sufficient retirement income level. As noted above, there is substantial demand for long-dated and inflation-linked bonds in order to provide pension funds and insurance companies with a greater ability to hedge their long-term liabilities, including longevity risk. One obstacle to the development of such markets is the difficulty to price and manage extreme longevity risk, which remains an important and costly tail risk for insurers.

The process of financial innovation has been driven strongly by the growth of pension funds and other institutions such as mutual funds and life insurance companies active in the retirement sector. The challenge for policy-makers is to ensure financial stability without hampering the entrepreneurial activities of financial market participants<sup>27</sup>. A well-functioning funded pension system requires a stable and efficient financial market infrastructure consisting of the legal framework, accounting standards, the regulatory and supervisory framework, clearing and settlement systems, and the micro-structure for trading securities. Most industrial countries have made considerable progress in developing a solid regulatory and supervisory framework, although further progress is still needed. For instance, several industrial countries have not yet established the proper legal and regulatory basis for dealing with takeovers, minority shareholder protection, insider trading and institutional investor operations. In addition, disclosure requirements, which vary in part because of differences in legal systems, should be made more uniform. Improvements in disclosure requirements are particularly urgent in emerging market economies, as the recent turmoil in Asia has made clear. It has become increasingly evident that greater transparency is a critical factor in sustaining cross-border flows of pension fund investments from industrial countries into emerging markets. Even in well-developed financial markets with effective regulatory arrangements, a well and prudently managed pension fund may encounter difficulties.

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<sup>27</sup> For example, increasing the supply of inflation-indexed government bonds could be particularly helpful in spurring the growth of private pensions.

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