

European Economics for Investors

Demographic trends in Europe: One foot in the grave?

At our recent seminar on the impact of demographic trends on the Eurozone, Paul van den Noord of the OECD, the keynote speaker argued that these would result in trend GDP growth rate halving to less than 1% by the 2020s, unless governments introduced product and labour market reforms to boost productivity and utilised labour more efficiently. Ageing could also lead to fiscal problems.

- ▶ **David Willetts**, MP and an advisor to DrKW, also spoke. He argued that the main demographic problem is that baby boomers are starting to retire, ending a period of very favourable demographics. He also argued that working longer is not an ideal solution as companies use early retirement to rejuvenate their workforces. He questioned whether companies would be able to meet their existing pension promises. In the US he thought that the government will eventually have to assume companies' obligations, but it was not clear who would do so in the UK – if anyone.
- ▶ Members of the DrKW Macro team also spoke. **Leo Doyle** looked at the productive age workforce which adjusts for the fact that workers' productivity rises as they age till the final few years of employment when it falls. This has actually increased in recent years in the Eurozone, but is set to slow sharply and start declining over the next decade and could reduce trend growth by around ½% by 2015. The productive age labour force is also set to slow in the UK and US, though not as dramatically as in the Eurozone.
- ▶ **David Owen** questioned whether official estimates of life expectancy were too conservative. They assume mortality rates at younger ages are already very low and future gains in life expectancy would require on-going improvements at older ages that are far from certain. He argued savings were likely to rise as life expectancy increases and the demand for domestic investment to fall as labour force growth slows. This would put downward pressure on interest rates and could result in capital leaving the Eurozone in search of higher returns elsewhere.
- ▶ **Anthony Thomas** considered the implications of higher government spending on budget deficits and debt levels as the Eurozone's population ages. On unchanged policies, it could lead to debt mushrooming out of control. However, deficit reduction and even small reforms to pension and health programmes could improve the outlook significantly - if undertaken as soon as possible. As Paul van den Noord also pointed out, most countries debt problems would be significantly reduced if member states ran balanced budgets or surpluses as they are meant to under the terms of the Stability Pact.
- ▶ **Karen Olney**, argued that with populations ageing, more money will have to be set aside for retirement. Companies won't pay up as they have a pensions' deficit of €250bn to begin with and are already using the switch from defined benefit (DB) to defined contribution (DC) schemes to reduce their contributions. The result is that individuals will have to pick up the bill, which could lead to a boom in mutual fund sales. Finally, spending patterns are likely to change as the population ages, which should benefit Utilities, Pharmaceuticals, Health, Personal Care and Food & Beverage companies.

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How much will ageing effect trend growth?

We all know that European demographics are not great but just how big a factor is this for trend GDP growth? We estimate that the productive age labour force in the Eurozone is still growing. However a steeper deceleration trend has just begun. In just over five years time it should start to fall. Compared to the last 10 years demography is set to reduce trend growth by about 0.5% in the next decade.

- ▶ Here we focus on the impact of demography on the effective labour supply, the most powerful and predictable way in which ageing will effect GDP growth. Apart from the quantity of labour we also adjust for the impact of demography on average productivity and look at the productive age labour force.
- ▶ In all major Eurozone countries this has been growing steadily in the last three decades, albeit at a diminishing pace. There was some respite from the slowdown trend in the first five years of the current decade but that is misleading. A more pronounced slowdown in growth of the effective labour force growth is in prospect. Inside we show individual country projections.
- ▶ Outside of the Eurozone the UK is also in for weaker labour supply growth, but the slowdown trend should be much less severe. In the US the productive age labour force should continue to grow but also at a reduced pace. The gap between labour supply growth in the US and Eurozone will not shrink but it shouldn't grow much either.
- ▶ The US and the UK have both bucked a deteriorating demographic trend in the past twenty years and maintained fairly constant trend growth rates - the Eurozone has not.
- ▶ In the 1980s and 1990s GDP growth in the Eurozone grew by 1.75% more than the productive age labour force. The recent trend is just 1.5%. With a prospective demographic contribution of zero in the next ten years it will require a significant turn-around in economic performance to meet current ideas of trend growth.

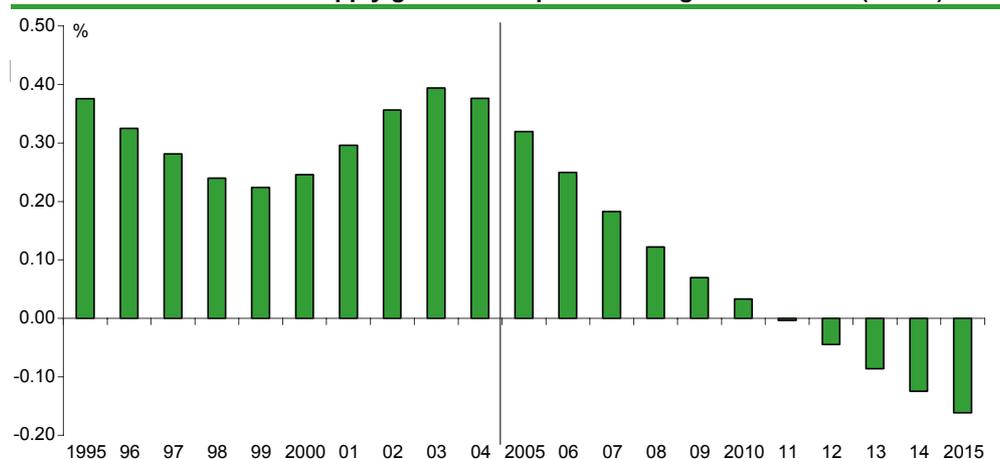
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Chart 1: Eurozone labour supply growth: The productive age labour force (%YoY)



Source: DrKW Macro research

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How much will ageing slow economic growth?

This section looks at the impact of demographic change on trend GDP growth. The fact that ageing is not going to help economic growth is well known. Here we aim to be more precise in telling you when the demographic slowdown is set to bite and offer a sense of scale as to how important these effects are (or are not).

The focus is deliberately narrow, in concentrating only on the areas we know most about, namely the impact of ageing on labour supply growth. We also limit our predictions to the next 15 years as we can be much more confident about the working population predictions over that time horizon.

Ageing can effect trend GDP growth in a number of ways but there are three main types of argument. First and most obvious is the growth of labour supply. Second, ageing can have an effect on saving and investment behaviour. Third, there is the familiar theme of the rising cost of a growing dependent population.

The labour force

- ▶ Quantity of labour
- ▶ Quality of labour

Savings and investment

- ▶ Capital per worker
- ▶ Asset price effects

Cost of dependent population

- ▶ Higher contributions

As noted, for reasons of certainty the focus here is on the labour supply. In passing it is worth noting that most studies on the savings and investment issue suggest that demographic change should mean higher not lower capital per worker over the next 20 years or so in the developing economies – a positive for potential growth. But against this most agree that an increasing dependency ratio should mean higher contributions from the working population, which might imply weaker work incentives.

In looking at the labour market effects of ageing I am going to focus on the next 15 to 20 years. Apart from the complication of migration, this is a period where we can forecast trends in the population of working age with some certainty. Labour force growth will also depend on participation rates. A number of factors will influence this but we can reasonably estimate the role of population change.

In theory demography will have some effect on the productivity or quality of labour as well as the quantity. We try to capture this by assuming that the productivity of labour follows a similar age profile to that of average earnings. We have looked at labour supply prospects using three demographic measures.

Demography and the labour supply; three measures

The population of working age: based on existing retirement ages.

The labour force: We add to population trends the effect of demographic change on labour market participation.

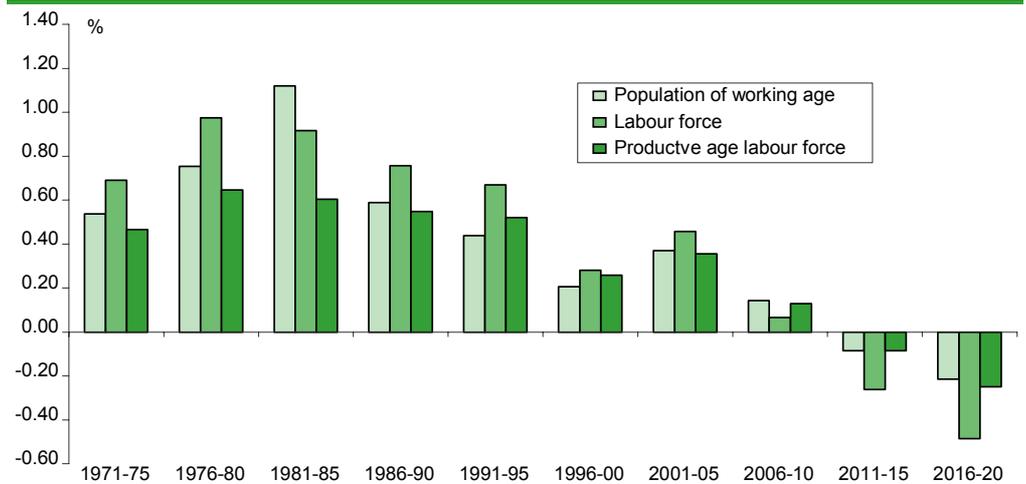
The productive age labour force: Assuming an up and slightly down profile for productivity by age, we add a demographic productivity effect to labour force effects.

For the population of working age we use the medium variant population projections from the European commission (drawing on national estimates). Next we add in the role of demographics on participation rates. Together with the population of working age, this gives the effect of ageing on the labour force, which is also known as the workforce. The more contentious measure involves the assumption for productivity by age group based on profiles of earnings. Combined with the labour force this demographic effect on productivity yields our third measure, which we define as the productive age workforce.

The demographic adjustment for the quality of labour (based on earnings profiles) is far from perfect but it is probably more accurate than the implicit assumption that all age cohorts in the labour force are equally productive. In practice it doesn't make a huge difference to the main demographic trends, but it does change some of the history.

Here are the three measures shown in five year periods back to the 1970s and going forward fifteen years.

Labour supply growth: Eurozone



Source: DrKW Macro research

All of them show that the demographic effect on the labour supply has been deteriorating steadily since the early 1980s, with a slight positive blip in the last five years. More worryingly they all suggest a marked deterioration over the next fifteen years. This is most marked in the demographic effect on the size of labour force. Our age adjustment to give the productive age workforce doesn't look as bad as the labour force projection, but the trend is still progressively more negative.

For simplicity, in subsequent charts I have dropped the labour force measure and focused on the two 'extreme' measures, the very predictable population of working age, and the more contentious but probably more accurate, productive age workforce. In most countries the broad trends are the same whatever the measure, but when we look in close up this can change.

Our first case is Germany. The population of working age is due to decline in the next five years by more than it has of late, but our preferred productive labour force measure looks more reassuring. After 2010 however the productive labour supply in Germany is set to fall sharply.

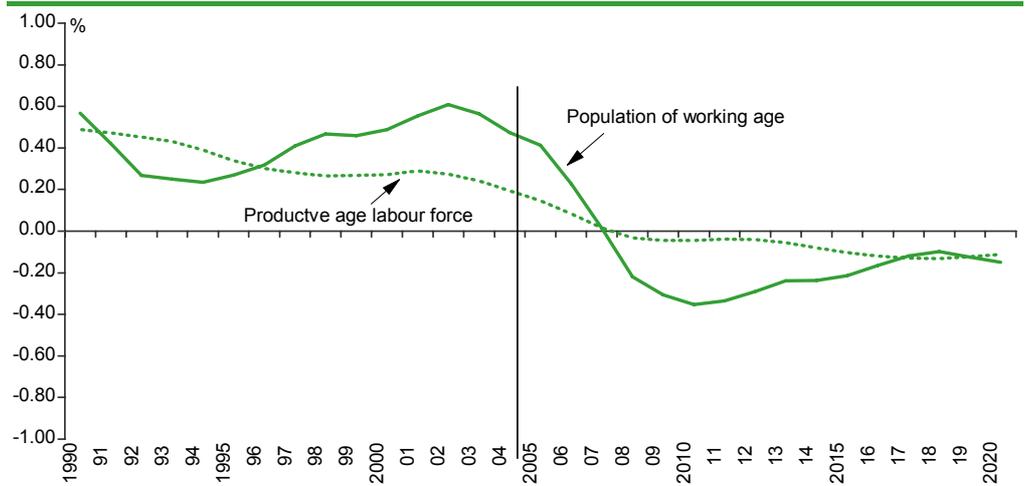
Labour supply growth: Germany



Source: DrKW Macro research

When do the problems start in other countries? In France the 15 year prospect is not as bad as Germany although the deceleration in its demographic position is happening right now.

Labour supply growth: France



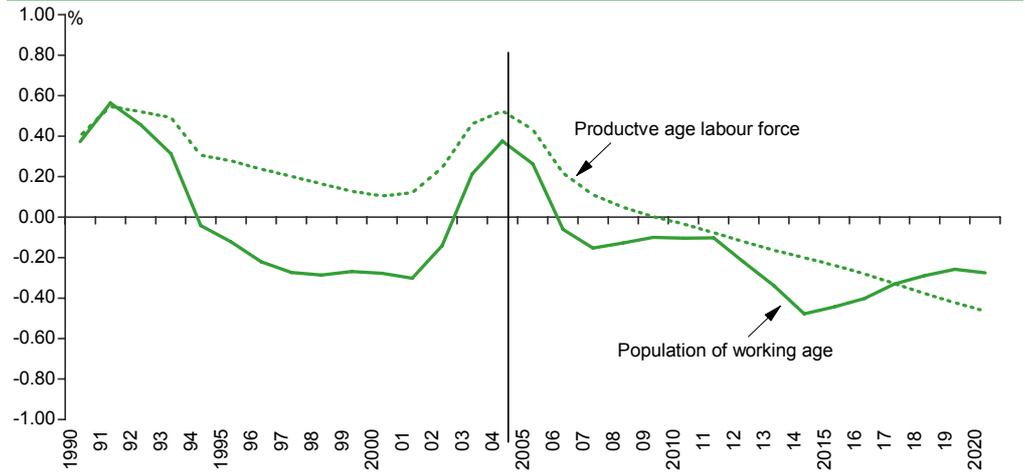
Source: DrKW Macro research

Italy in the last two years has seen its working population boosted significantly by immigration. If this returned to a more normal level then the negative demographic trend will resume.

Spain has enjoyed very positive demographic effects on the labour supply in recent decades and immigration has added to that in the last few years. Although the labour force is not expected to fall over the next decade, as in other countries, ageing should mean a pronoune slowdown in labour force growth.

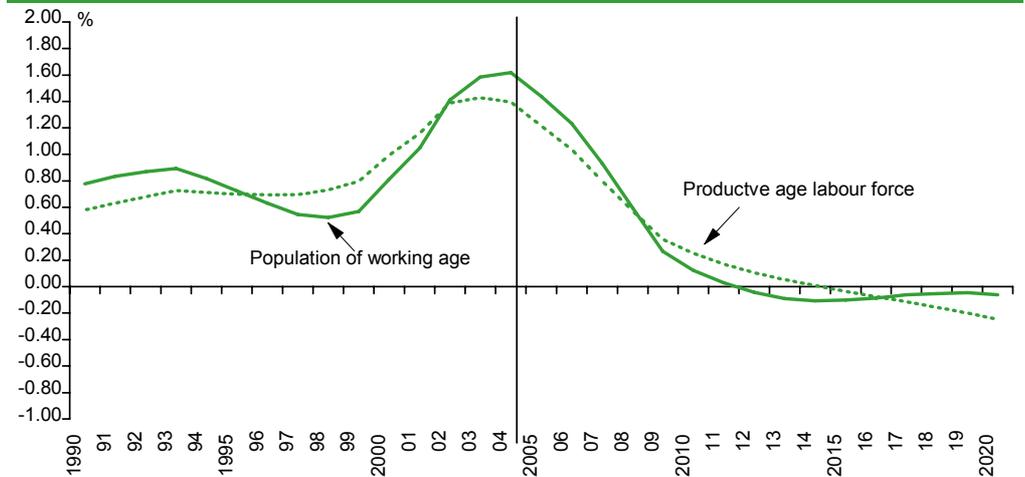
This is a general pattern across the Eurozone. A marked slowdown in growth of the productive age force has begun in the last two years.

Labour supply growth: Italy



Source: DrKW Macro research

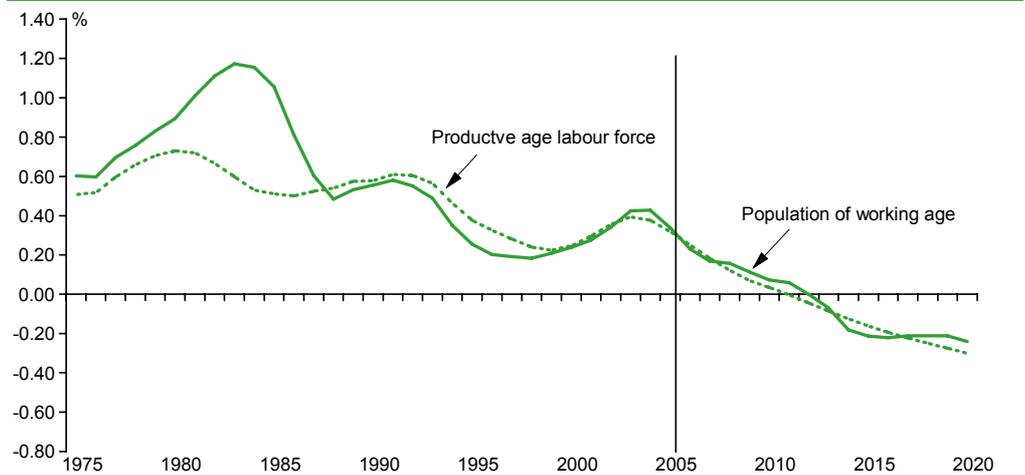
Labour supply growth: Spain



Source: DrKW Macro research

In the last 15 years demographic effects have boosted the effective labour supply in the Eurozone by an average of 0.3% per year. The next 10 years have a projected contribution of zero to overall growth of the productive age labour force. Moreover there is a deteriorating trend throughout. As noted above, the growth of the productive age workforce has been on a deteriorating trend for 25 years, but if anything, the next 15 years are going to see a sharper slowdown.

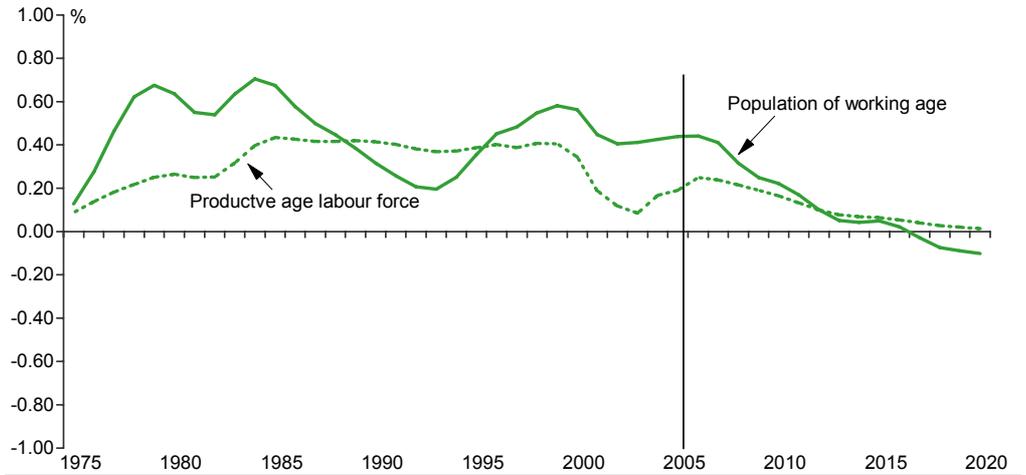
Labour supply growth: Eurozone



Source: DrKW Macro research

How do other countries compare? The near term demographic prospect in the UK is brighter. There is some deceleration in prospect but much less marked than the Eurozone.

Labour supply growth: UK



Source: Thomson Financial Datastream

Demographics in the US have been much more supportive of labour force growth than in Europe. On our projections the productive labour supply growth should remain positive, but importantly, not as positive as it was. Indeed the slope of the line is almost as steep in the next 10 years as that shown for the Eurozone.

Labour supply growth: USA

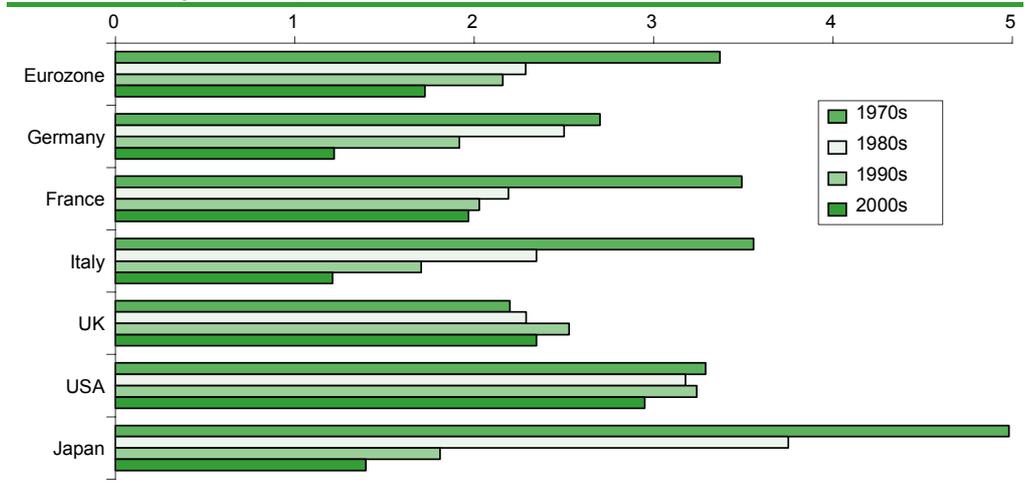


Source: DrKW Macro research

The idea that demographics will work to widen the gap in trend GDP growth rates over the next decade is exaggerated. Demography will still favour the US, but ageing is a challenge to potential growth in the US as well as Europe.

So does the deterioration in labour supply trends condemn wealthy nations in general and the Eurozone in particular to slower GDP growth? The omens are not good in the Eurozone. Each decade GDP growth has been weaker than in the preceding decade. The same is true of Japan.

Growth rates by decade (%)



Source: DrKW Macro research

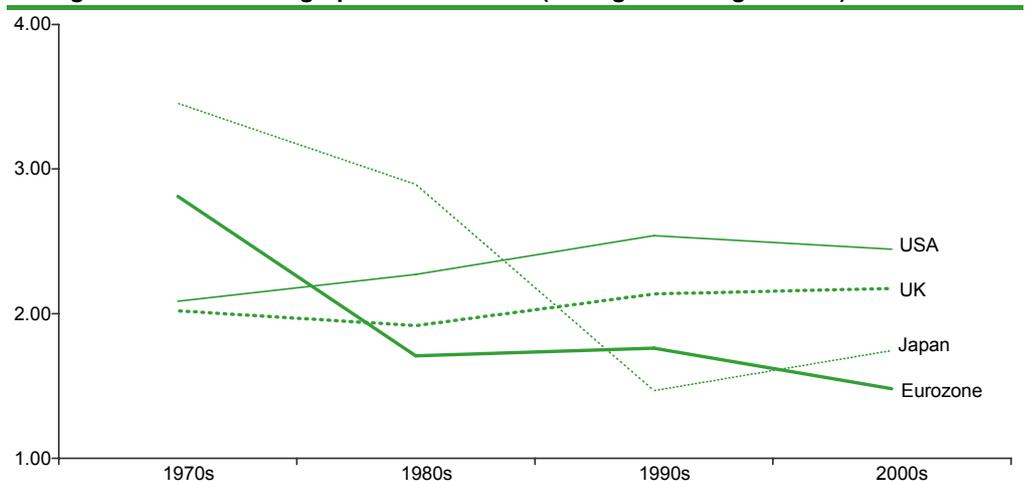
The US and the UK have since the 1970s enjoyed a much more stable trend. The US has managed roughly 3% each decade and the UK roughly 2.25%.

Can the long slowdown in the Eurozone countries be explained by demographics? If demography matters then we should find that GDP growth minus the estimated demographic effects will exhibit a flatter profile from decade to decade.

This is broadly correct. We look here at GDP growth minus growth in the productive age labour force – meaning the potential labour force based on trend participation rates rather than the actual labour force. This is conceptually a broad brush measure of productivity growth. It doesn't just measure output per hour; it also includes how long people work and importantly how good an economy is in getting people into the workforce.

The lines are not flat but the downtrend in the Eurozone is less marked. GDP growth minus productive age population growth has slipped from 1.75% to 1.5% in the last two decades.

GDP growth minus demographic contribution (average annual growth %)



Source: DrKW Macro research

In the US and the UK GDP growth minus the demographic effect on labour supply has risen from 2% to 2.25% in the UK and 2.5% in the US. So the US and the UK have offset the demographic downtrend but it is not easy. Moreover maintaining strong productivity

growth is not enough for the US and the UK to maintain their respective trend GDP growth rates. A further acceleration in productivity is required.

The challenge for the Eurozone is greater still. In order for the Eurozone to achieve trend GDP growth of 2% in the next decade, underlying productivity growth would have to rise from 1.5% to 2% as the demographic contribution is on average zero and trending lower. Productivity growth which merely matches the last twenty years would mean trend GDP growth of just 1.5% in the next 10 years.

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The plasticity of ageing: the implications of ageing for growth

An ageing population is set to reduce trend growth significantly in the euro area after 2010. Between 2020 and 2030, the OECD expects trend GDP growth to be less than 1%. Questions remain about whether official estimates of life expectancy will once again prove too conservative, putting further upward pressure on domestic saving and the currency, but reducing interest rates.

- ▶ The European Commission (EC) estimates that the working age population is set to decline by over 15% in the euro area by 2050. Between 2010 and 2020 the working age population declines by only 1.5% in total, but the rate of decline then increases to an average of almost 0.5% a year between 2020 and 2030 and almost 0.7% a year between 2030 and 2040. Even assuming some improvement in trend productivity, it is easy to paint a picture by then of the euro area as a very slow growth region.
- ▶ One of the biggest uncertainties is life expectancy itself. The history of the last few decades has been a steady rise in life expectancy in Europe. Official projections assume that this continues in the near term, but then tails off significantly (see chart 1). All such official estimates are based on the premise that mortality rates at younger ages are already very low and future gains in life expectancy would require on-going improvements at older ages that are far from certain. However, there is a body of opinion that such official projections are, as ever, being far too conservative about what may happen to life expectancy in the future.
- ▶ Households are likely to make increasing use of both sides of their balance sheets to fund their retirement years. Recent empirical evidence suggest that in a period of rising life expectancy savings are likely to continue increasing for longer than had been assumed. Moreover, a decline in the labour supply is likely to reduce the demand for domestic investment putting downward pressure on interest rates. Capital may well leave the euro area in search of higher returns elsewhere.

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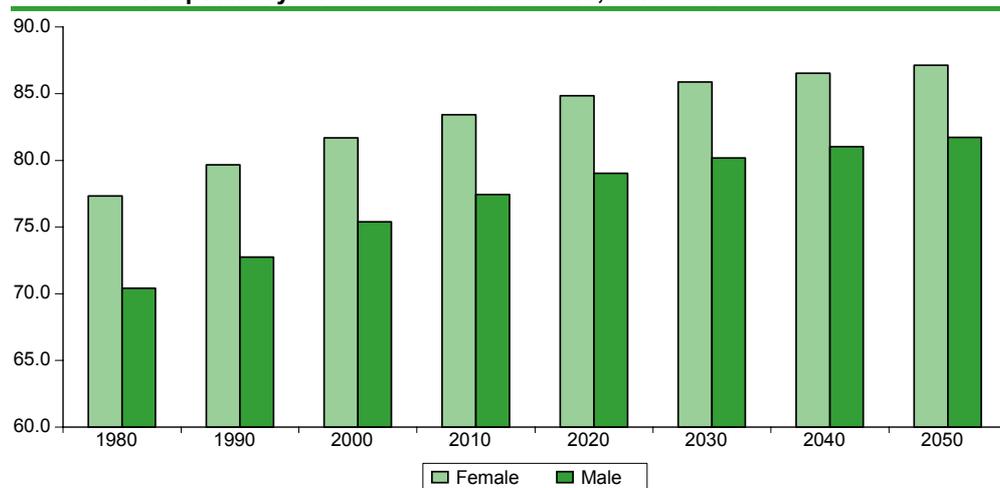
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Chart 1: Life expectancy from birth in the euro area, 1980-2050



Source: European Commission and DrKW Macro research

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The plasticity of ageing

One thing is clear. **Everything being equal, an ageing population is set to significantly reduce trend growth in the euro area in the next fifty years.** To try and offset this, the region will have to raise its productivity game and increase its employment rate (the proportion of the working age population in employment). But even then, trend GDP growth could be a lot lower than is the case today. This point can be illustrated by the example of Italy in the table below. Even under what some might consider a best case scenario of trend productivity growth rising to 2%, the official estimates show potential GDP growth in Italy falling to only 1.3% by 2031-2040.

Working age population set to decline by over 15% between 2004 and 2050 in the euro area

Recent projections from the European Commission (EC) paint an even bleaker picture for the euro area overall¹. **By 2031-50, trend GDP growth is seen as falling from 2.1% YoY between 2004-10 to a mere 1.2% YoY (see first table 2 opposite).** By the end of the period, trend GDP growth in Germany is 1.2%, France 1.6%, Italy 0.9% and Spain, only 0.6%. And this is despite in all cases an improvement in trend productivity. The EC projections are based on the assumption that the working age population is set to decline by over 15% between 2004 and 2050 in the euro area. Of the larger economies, the biggest declines in the working age population are expected in Italy (down 23.9% between 2004 and 2050), Spain (down 21.3%) and Germany (down 18.9%). That of France meanwhile is anticipated to decline by only 4.1% and the UK by 3.6%.

Rate of decline in working age population set to increase significantly after 2020

Initially the working age population in the euro area does not decline by very much, by only 1.5% between 2010 and 2020. But, then the rate of decline in the working age population increases to 4.7% between 2020 and 2030 (an average decline of almost 0.5% a year) and 6.5% between 2030 and 2040. And between 2040 and 2050 the average annual decline is still put at 0.5%. **Labour participation is expected to rise and unemployment to fall, but even combined they cannot offset the substantial headwind for growth from a decline in the working age population.** The EC's central case is that labour participation in the euro area rises from 69.3% in 2003 to 75.4% in 2050. However, most of the rise (5 percentage points) occurs before 2025, between 2025 and 2050 when the working age population is falling at its fastest rate, participation rises by just over 1 percentage point. The long-term rate of unemployment is anticipated to fall from 8.4% to 6.4%, but the entire decline is expected by 2025².

In their latest economic survey of the euro area, the OECD also carried some projections for long-term growth. In particular, they compared the outlook for the euro area with that of the US and a so-called comparator group (Australia, Canada, Denmark, New Zealand, Sweden and the UK) – see table 3 opposite.

Table 1: Official long-run GDP projections for Italy

	Working age population	Participation rate	Unemployment rate	Employment growth	Productivity growth	Real GDP growth
2004-2010	-0.2	67.7	7.2	0.5	1.3	1.8
2011-2020	-0.4	68.3	6.9	-0.3	1.6	1.4
2021-2030	-0.6	68.3	6.1	-0.6	1.9	1.4
2031-2040	-1.2	70.9	5	-0.7	2	1.3
2041-2050	-0.8	72.1	4.3	-0.6	2	1.4

Source: Ministry of Economy and Finance, Department of General Accounts (2004)/OECD Economic Survey for Italy (November 2005)

¹ See European Economy Special Reports, No 4, "The 2005 EPC age-related expenditure projections: agreed underlying assumptions and projection methodologies"
http://europa.eu.int/comm/economy_finance/publications/european_economy/2005/eespecialreport0405_en.htm

² For comparison purposes, the UK's participation rate was put by the EC at 75.3% in 2003, the UK's long-term rate of unemployment in 2005 was estimated at 4.8%

According to the OECD, trend GDP growth in the euro area will be only 0.9% by 2020-30, compared to 2.6% in the US and 1.9% in the comparator group. Part of the difference is due to an inferior productivity performance in the euro area. But, even if E12 productivity growth was on a twenty year view able to match that of the US, trend GDP growth in the euro area would still be one percentage point below that of the US, all because of the substantial differences projected for the working age population.

Such analysis shows how much the outlook for growth deteriorates the further ahead one looks and how important it will be for the euro area to raise trend productivity growth and employment rates in coming years to soften some of the blow. But, it is worth noting that employment rates in the Scandinavian countries are significantly higher than those projected by the EC for the euro area.

Table 2: Projected potential growth rates in the euro area and EU overall

	Potential growth			Productivity			Employment		
	2004-10	2011-30	2031-50	2004-10	2011-30	2031-50	2004-10	2011-30	2031-50
Germany	1.7	1.4	1.2	0.9	1.6	1.7	0.8	-0.3	-0.5
France	2.2	1.8	1.6	1.4	1.7	1.7	0.8	0.1	-0.1
Italy	1.9	1.5	0.9	0.7	1.7	1.7	1.1	-0.2	-0.8
Spain	3	2	0.6	1.1	1.9	1.7	1.9	0.1	-1.1
Netherlands	1.7	1.6	1.7	1.1	1.7	1.7	0.6	-0.1	0
Belgium	2.4	1.7	1.5	1.5	1.8	1.7	0.9	-0.1	-0.2
Austria	2.2	1.6	1.2	1.5	1.8	1.7	0.7	-0.2	-0.5
Greece	2.9	1.6	0.8	2.1	1.8	1.7	0.9	-0.2	-0.9
Finland	2.7	1.7	1.5	2.1	2	1.7	0.6	-0.3	-0.2
Ireland	5.5	3.3	1.6	3.4	2.5	1.7	2.1	0.8	-0.1
Portugal	1.9	2.1	0.8	1.2	2.4	1.7	0.7	-0.3	-0.9
Luxembourg	4	3	3	1.8	1.9	1.7	2.2	1	1.3
Euro area	2.1	1.7	1.2	1.1	1.8	1.7	1	-0.1	-0.5
EU-15	2.2	1.8	1.3	1.3	1.8	1.7	0.9	-0.1	-0.4
EU-25	2.4	1.9	1.2	1.5	2	0.7	0.9	-0.1	-0.5

Source: European Commission, Quarterly Report on the euro area, December 2005

Table 3: OECD long-term projections for growth

Annual rates of change	1995-2000	2000-05	2005-10	2010-20	2020-30
Euro area					
Potential labour productivity	1.2	1.2	1.6	1.6	1.6
Potential employment	0.8	0.8	0.3	-0.3	-0.7
<i>Contribution from</i>					
Working-age population	0.2	0.2	0.1	-0.2	-0.6
Trend labour force participation	0.6	0.6	0.3	-0.1	-0.1
Structural unemployment	-0.1	0	0	0	0
Potential GDP	2	2	1.9	1.3	0.9
US					
Potential labour productivity	2	2.1	2.3	2.3	2.3
Potential employment	1.4	0.8	0.9	0.3	0.4
<i>Contribution from</i>					
Working-age population	1.4	1.2	1.1	0.3	0.3
Trend labour force participation	-0.2	-0.2	-0.1	0	0
Structural unemployment	0.2	-0.2	-0.1	0	0
Potential GDP	3.5	3	3.2	2.6	2.6
Comparator group					
Potential labour productivity	1.9	1.7	2	2	2
Potential employment	1.1	1.1	0.7	0.1	-0.1
<i>Contribution from</i>					
Working-age population	0.7	0.9	0.6	0.1	-0.1
Trend labour force participation	0.1	0.1	0	0	0
Structural unemployment	0.3	0	0	0	0
Potential GDP	3	2.8	2.7	2.2	1.9

Note: Comparator group includes Australia, Canada, Denmark, New Zealand, Sweden and the UK
Source: OECD Economic Survey of the euro area, September 2005

Life expectancy: the big uncertainty itself

The EC's central case is that fertility rates (average number of child births per woman) will remain persistently below the natural replacement rate in the euro area, rising only modestly from 1.5 in 2004 to still less than 1.6 by 2010 (see table 4). Net inward migration, currently estimated at 1.2 million people (0.4% of the population), is projected to fall to 700,000 persons by 2010 (0.2% of the population) and to remain at that level thereafter.

Much debate about what will happen to life expectancy on a fifty year view

But arguably the far bigger complication of assessing the macroeconomic implications of ageing is life expectancy itself. This is a subject that generates fierce debate, between those who think that there is effectively no natural limit to life expectancy and officials, including the EC, OECD and the Government Actuary Department (GAD) in the UK, who prefer to assume a much slower rate of increase in life expectancy in coming decades.

Three stages have been identified in the decline in mortality rates in Europe, starting in northwest Europe around 1700 to 1800 with reductions in famine related deaths. This was followed in the early ninetieth century in England and Northern Europe, with the introduction of vaccinations and improvements in public health, including hygiene. The third stage occurred in the early part of the last century with significant reductions in infant and child mortality and improvements in the survival rates of young adults.

On one side of the debate, demographers will draw attention to the fact that past population projections have systematically significantly underestimated the gains in life expectancy. This is certainly true. Over the years the ceilings in life expectancy proposed by various authors have on average been exceeded only five years after the date of publication. Indeed given the gains seen in life expectancy and the relatively long delays there can be in publishing peer reviewed work, there have been examples when the estimated ceiling was exceeded prior to actual publication occurring³.

Record female life expectancy from birth has risen at a steady pace of almost three months a years since 1840 (see chart 2). On average, women live longer than men, but record life expectancy from birth has also risen linearly for men by almost 2.5 months a year. Impressive although this is, the problem is that at a country level, gains have not always been so linear in the last 150 years or so. For periods life expectancy would rise more quickly in one country than another, but the situation would then reverse.

Table 4: Projected fertility rates in euro area and UK

	1960	1970	1980	1990	2000	2010	2020	2030	2040	2050
Germany	2.37	2.03	1.56	1.45	1.38	1.41	1.44	1.45	1.45	1.45
France	2.73	2.47	1.95	1.78	1.88	1.87	1.86	1.85	1.85	1.85
Italy	2.41	2.42	1.64	1.33	1.24	1.38	1.4	1.4	1.4	1.4
Spain	2.86	2.9	2.2	1.36	1.24	1.36	1.4	1.4	1.4	1.4
Netherlands	3.12	2.57	1.6	1.62	1.72	1.76	1.75	1.75	1.75	1.75
Belgium	2.56	2.25	1.68	1.62	1.66	1.66	1.69	1.7	1.7	1.7
Austria	2.69	2.29	1.65	1.46	1.36	1.42	1.44	1.45	1.45	1.45
Greece	2.28	2.39	2.21	1.39	1.29	1.41	1.49	1.5	1.5	1.5
Finland	2.72	1.82	1.63	1.78	1.73	1.78	1.79	1.8	1.8	1.8
Ireland	3.76	3.93	3.25	2.11	1.9	1.89	1.81	1.8	1.8	1.8
Portugal	3.1	2.83	2.18	1.57	1.55	1.52	1.59	1.6	1.6	1.6
Luxembourg	2.28	1.98	1.49	1.61	1.76	1.73	1.78	1.79	1.8	1.8
Euro area	2.61	2.39	1.79	1.53	1.50	1.55	1.57	1.57	1.57	1.57
UK	2.72	2.43	1.9	1.83	1.64	1.74	1.75	1.75	1.75	1.75

Source: European Commission and DrKW Macro research

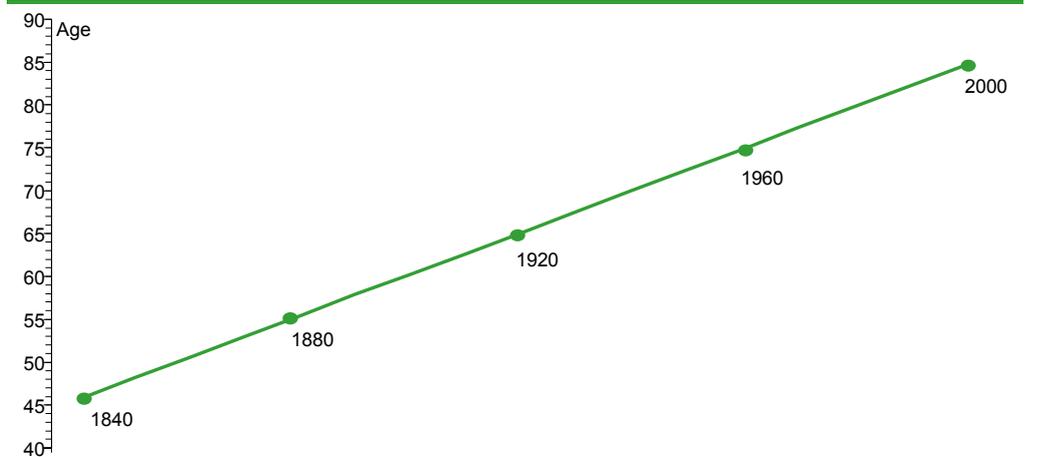
³ See "Broken limits to life expectancy" by James W.Vaupel and Kristin G.v.Kistowski Max Planck Institute for Demographic Research, Rostock, Germany
<http://www.sciencemag.org/cgi/content/full/296/5570/1029?ijkey=otl/7cJky6kA6&keytype=ref&siteid=sci>

Nevertheless, examination of detailed figures provided by the GAD in the UK shows a very linear trend since 1980 (see chart 3). In 1981, the life expectancy at birth of a female in the UK was 76.8 years. This rose by just over 2 months a year, such that by 2005 life expectancy stood at 81.1 years. **The official UK figures show this steady rate of increase in life expectancy continuing until 2019. But, beyond then it slows to not much more than 1 month a year, such that by 2054 female life expectancy in the UK is projected to stand at 87.3 years.**

Beyond 2014 increase in male life expectancy in the UK is expected to slow sharply

It is a similar story for male life expectancy in the UK, except the rate of slowdown is seen as starting earlier, 2015 rather than 2020. By 2054, male life expectancy at birth is put at 83.9, compared with 70.9 in 1981. Between 1981 and 2014, the increase in male life expectancy is estimated as a steady 3 months a year, as male life expectancy catches up somewhat with that of females. But beyond 2014 this is estimated to slow to less than 1.5 months a year.

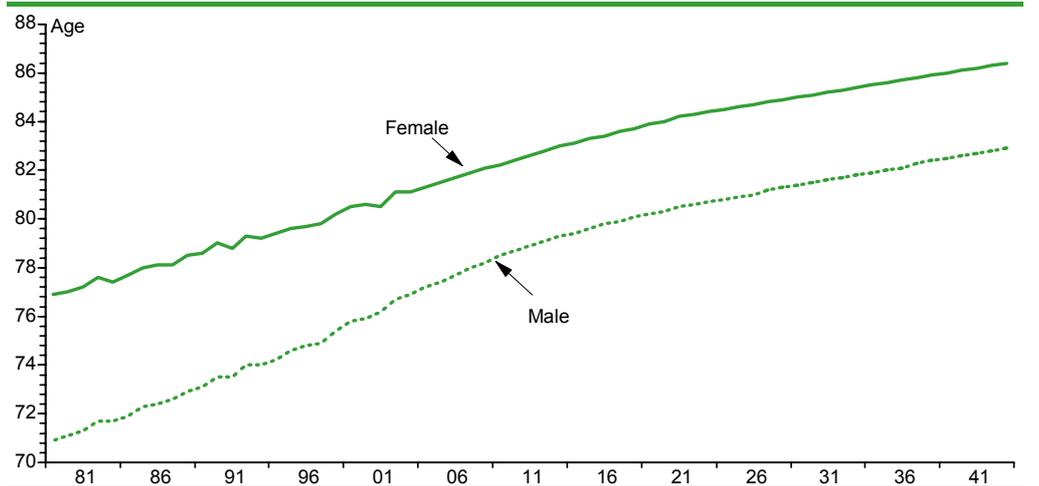
Chart 2: Historical trends in record female life expectancy from birth, 1840-2000*



*Country with highest life expectancy

Source: Oeppen and Vaupel (2002) and DrKW Macro research

Chart 3: UK life expectancy from birth, 1981- 2045



Source: Government Actuary's Department

Estimates of life expectancy compiled by the EC also assume a sharp slowdown in the rate of improvement in mortality. Gains in life expectancy for both males and females from birth in the euro area are seen as slowing from almost 3 months a year on average in the 1990s to not even 1 month a year on average between 2040 and 2050 (see table 5 opposite and chart 1 on the front page).

In recent decades a significant decrease in mortality rates between 60 and 79 have accounted for almost half of all gains in male life expectancy in the EU. The difference in life expectancy of males and females has narrowed significantly, with the current gap owing much to higher infant mortality of males and a greater risk of fatal accidents amongst boys than girls.

Rather than there being evidence of convergence in life expectancy among European countries, there appears to be a more 'loose moving together'. The old age dependency ratio (the ratio of numbers aged over 64 to the working age population) is estimated by the EC to rise from 26.8% in Germany in 2004 to 51.7% by 2050. That of France rises from 25.2% to 46.4%, that of the UK from 24.3% to 45% over the same period. But, of the larger countries, Italy and Spain see the sharpest increases in the old age dependency ratio, from 28.9% to 62.2% and from 24.6% to 65.6%, respectively. **For the euro area overall, the old age dependency ratio is seen by the EC as doubling and reaching 53% by 2050.** That would mean that the euro area will go from the current situation of four people of working age for every elderly citizen to a ratio of 2 to 1. The effective economic old-age dependency ratio of the euro area (the ratio for the number of non-active persons aged over 64 as a percentage of employed persons aged 15 to 64) is seen as rising from 40% in 2004 to 57% in 2025 and 74% in 2050.

All such official projections are based on the premise that mortality rates at younger ages are already very low and future gains in life expectancy in the EU would require on-going improvements in mortality rates at older ages which are far from certain. The growing prevalence of obesity among adults in some countries is also increasingly being cited as reason for caution more generally about life expectancy.

But who is to say that official estimates will prove correct, particularly given the history of them significantly under-estimating changes in life expectancy to date? There are those who argue that the consensus is not taking enough account of continued advances in the prevention, diagnosis and treatment of age-related diseases. They describe ageing as plastic, capable of being moulded and improved by genetic and non-genetic advances. If the recent past was any guide to the future, then by 2050 life expectancy at birth rises to over 90 for females and 85 for males in the euro area.

Life expectancy, ageing and saving

Increasing life expectancy may have little effect on the size of the working age population, but put even greater strains on pension provision in the euro area. **The more life expectancy is seen as rising, the greater the pension provision that workers will have to make, potentially resulting in a much higher saving ratio.** Both microeconomic and macroeconomic studies have found that the observed age profile of saving roughly confirms with the so-called 'life-cycle' model.

Savings rates are seen as rising across a workers' active career, before declining in retirement (see chart 4). The microeconomic evidence may suggest less variation in savings rates over a persons' life than macroeconomic studies, but this is seen as being due to measurement issues (the fact that microeconomic studies fail to include or accurately measure pension fund saving and the highly skewed nature of wealth and saving across households).

Are official estimates of life expectancy likely to prove too cautious once again?

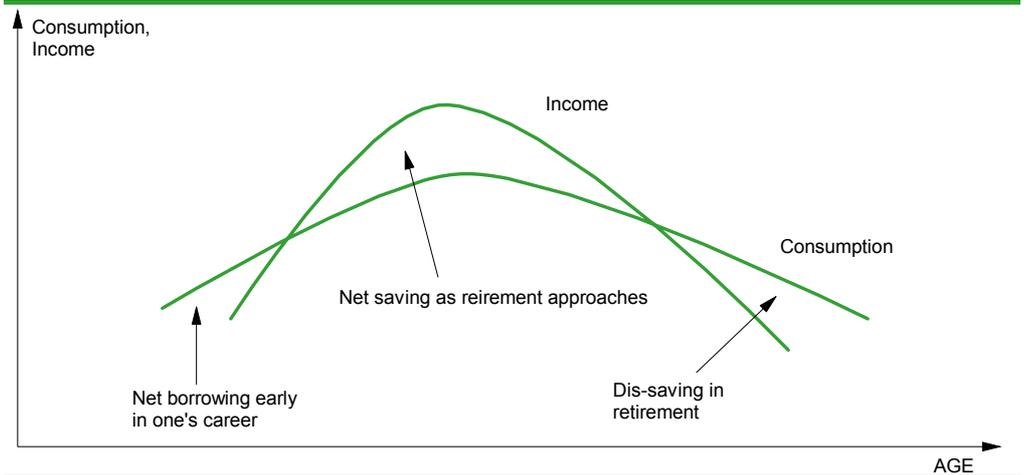
Life-cycle model of household behaviour would suggest a significant rise in the saving ratio in the euro area in coming decades

Table 5: Life expectancy from birth (EC base case)

	1980	1990	2000	2010	2020	2030	2040	2050
Female								
Germany	76.1	78.4	81	82.7	83.9	84.7	85.2	85.7
France	78.4	80.9	82.7	84.5	86.2	87.5	88.4	89.1
Italy	77.4	80.1	82.5	84.1	85.5	86.6	87.3	88
Spain	78.6	80.3	82.5	84.4	85.9	86.9	87.5	87.9
Netherlands	79.3	80.9	80.5	81.4	82.2	82.8	83.2	83.6
Belgium	76.8	79.4	80.8	82.9	85	86.5	87.5	88.3
Austria	76	78.8	81.1	83.2	84.9	86.1	87	87.7
Greece	76.8	79.5	80.6	82.1	83.2	84	84.6	85.1
Finland	77.6	78.9	81	82.8	84.1	84.9	85.5	85.9
Ireland	75.6	77.6	79.1	81.8	83.5	84.9	86	87
Portugal	75.2	77.4	80	82.1	83.9	85.1	86	86.6
Luxembourg	75.9	78.5	81.1	82.4	83.9	85.1	85.9	86.7
Euro area	77.3	79.6	81.7	83.4	84.8	85.9	86.5	87.1
UK	76.2	78.5	80.2	82	83.7	85	85.9	86.6
Male								
Germany	69.6	72	75	77.2	78.5	79.3	79.9	80.5
France	70.2	72.8	75.3	77.5	79.4	80.8	81.9	82.7
Italy	70.6	73.6	76.6	78.4	80.1	81.5	82.4	83.1
Spain	72.5	73.3	75.7	77.6	79.1	80.2	80.9	81.4
Netherlands	72.7	73.8	75.5	77	78.1	79	79.7	80.2
Belgium	70	72.7	74.6	76.9	78.9	80.4	81.5	82.3
Austria	69	72.2	75.1	77.4	79.4	81	82.4	83.6
Greece	72.2	74.6	75.5	77.1	78.1	78.9	79.6	80.3
Finland	69.2	70.9	74.2	76.7	78.4	79.4	80.2	80.7
Ireland	70.1	72.1	73.9	76.8	78.7	80.2	81.4	82.4
Portugal	67.7	70.4	73.2	75.4	77.1	78.5	79.5	80.4
Luxembourg	69.1	72.3	74.8	76.3	78.4	79.9	80.9	81.6
Euro area	70.4	72.7	75.4	77.4	79.0	80.2	81.0	81.7
UK	70.2	72.9	75.5	77.6	79.5	81	82	82.9

Source: European Commission and DrKW Macro research

Chart 4: Consumption smoothing over the life cycle: an illustration



Source: DrKW Macro research

It almost seems inevitable that the growing costs associated with providing pension and welfare provision in later life, along with the increasing realisation that the public sector is unlikely to be able to foot the bill will put upward pressure on household savings.

On the face of it, household savings in the euro area are already very high, given a saving ratio of 14.7% in 2004, compared to that of 5.5% in the UK as of Q3 2005. But, in recent years the net acquisition of financial assets of households in the euro area has actually been lower than that of the UK. The reason for a high saving ratio in the euro area is that household borrowing has been so low⁴. But, potentially this could be changing, with latest monetary data suggesting that lending for house purchase grew by 11.2% and consumer credit rose by 8% in the year to November 2005.

But substantial swing into household debt might swamp what life-cycle model might suggest for saving ratio

A life-cycle model might suggest a significant rise in the saving ratio of the euro area in coming years. But, this could be swamped by a swing into more household debt. In fact, **one could argue that on-going financial innovation and ageing might eventually contribute to a lower saving ratio in the euro area**, as households made increasing use of both sides of their balance sheets to fund their retirement.

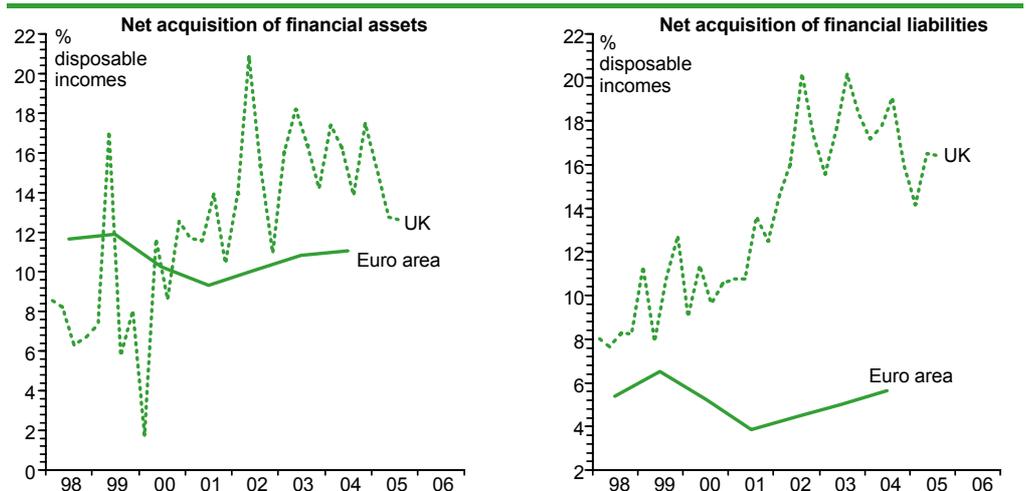
What chance an eventual asset market meltdown?

It has been suggested that the large amount of savings in the euro area generated by ageing populations will drive asset price booms that will eventually collapse as individuals run down their saving to fund their retirements. Put another way, the reduction in aggregate saving as people retire will push up interest rates, depressing asset prices.

Macroeconomic and financial markets implications of ageing are plagued with uncertainty

Any review of the literature suggests that the macroeconomic and financial markets implications of ageing are plagued with uncertainty⁵. For one thing, an increase in life expectancy of around seven years in coming decades would imply that the expected time spent in retirement might be as much as 50% higher by 2050. Conceivably, this could significantly push back the time at which savings are rundown, even as the numbers of individuals supposedly in their prime saving years starts to fall away rapidly. This would particularly be the case if official estimates of life expectancy continue to prove too conservative. With life expectancy continuing to rise, the aggregate demand for financial assets may continue to grow for far longer than predicted by simple life-cycle models.

Chart 5: Household sector: euro area versus UK



Source: Thomson Financial Datastream

⁴ Rather than being the net acquisition of financial assets, household savings are defined as the difference between disposable incomes and consumption. In large part this tends to be determined by household borrowing. Economies with lower saving ratios tend to have higher rates of household borrowing rather than a high net acquisition of financial assets.

⁵ See for example "The impact of ageing on financial markets and the economy: A survey" Barry P. Bosworth, Ralph C. Bryant and Gary Burtless, The Brookings Institution July 2004

Such results are broadly consistent with the empirical evidence provided by so-called “overlapping generations models”, that look in detail at changes in population structure broken down into as much as 79 cohorts (groups of similarly aged people)⁶. But, the results are also sensitive to what happens to such factors as the age at which people retire and public sector pension provision.

Moreover, interest rates are not determined by the level of aggregate saving alone, but the interaction of aggregate saving and aggregate investment. Empirical work suggests that slower labour force growth associated with population ageing can be expected to reduce the demand for domestic investment. Moreover, some work has suggested that the impact of age on investment peaks earlier (between 15 and 24 years) than on saving (between 30 and 45).

An excess of domestic saving likely to put downward pressure on interest rates

Rising domestic saving to fund retirement spending and reduced demand for domestic investment as the labour supply shrinks should in theory put significant downward pressure on interest rates (as much as 150 basis points according to some studies). Even after saving has peaked, investment may remain lower for some time to come, with an excess of saving maintaining downward pressure on real interest rates (see chart 6).

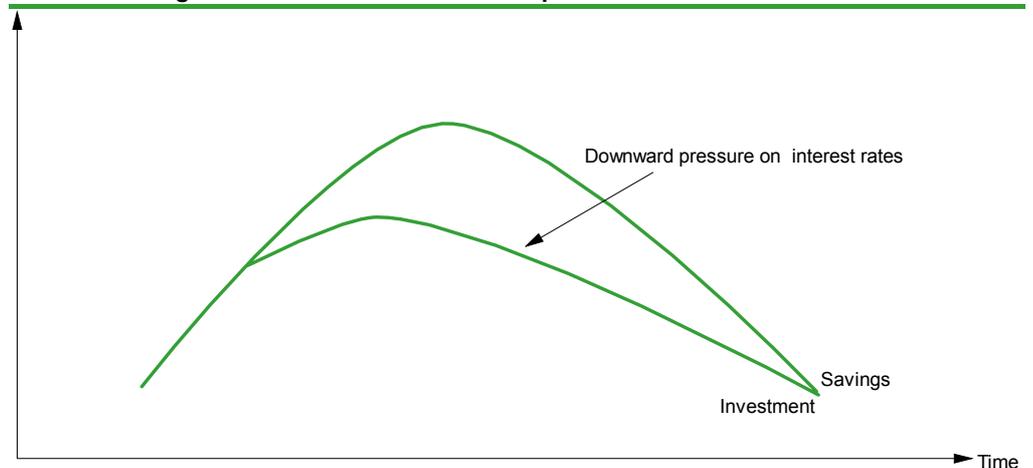
Ageing, capital flows and the exchange rate

The potential effect of population ageing on saving and investment would be uncertain enough for an economy that was completely closed to the rest of the world. Introducing trade and capital flows with other countries and foreign exchange rates further complicates the analysis.

Capital outflows and a stronger euro?

For starters, a significant proportion of the increase in savings to fund spending in retirement in the euro area is likely to be channelled overseas – particularly to countries whose populations are ageing at a slower rate, capital-output ratios are lower, expected rates of return are thought to be greater and investment demand is higher. Along with weak domestic demand in the euro area such capital outflows could result in very large current account surpluses being recorded with many other countries, potentially putting upward pressure on the exchange rate. Eventually the assets built-up in the rest of the world will be sold, to fund retirement spending in the euro area. But, in the interim we can probably expect if not slower productivity growth, slower growth in GDP (particularly after 2010), and an ageing population in the euro area to put downward pressure on interest rates and upward pressure on the exchange rate.

Chart 6: Savings and investment rates in Europe



Source: DrKW Macro research

⁶ See for example “*The impact of ageing on demand, factor markets and growth*” OECD Economics working paper No.420, March 2005

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European Political Economy

Debt sustainability in the Eurozone revisited

We consider the European Commission's latest estimates of the fiscal implications of ageing. Although debt levels in many Eurozone members are still seen as unsustainable, reforms to spending and cutting deficits in those countries currently running large shortfalls can have a major impact over the long term. Whether governments take the necessary measures is, of course, another matter.

- ▶ The latest estimates from the European Commission show that the Eurozone as a whole shouldn't have problems with debt sustainability if members observe the Stability Pact. However, several countries, including **Germany**, **France** and **Italy** could have problems, particularly if they fail to observe the Stability Pact.
- ▶ The good news is that reforms to net government spending can have a significant impact on debt levels over the long term. For example, largely as a result of Agenda 2010, **Germany's** position has improved dramatically. If it observes the Stability Pact, its debt/GDP ratio could fall to very low levels. Keeping health spending under control may be more of a problem, though this may not strictly be an age-related problem.
- ▶ Further, the sooner those countries currently running large budget deficits, primarily the 3 largest members and **Greece**, get their shortfalls under control the better. The difference in debt levels in the long term between observing the Stability Pact (i.e. running balanced budgets) and their current fiscal stances changes the projected debt/GDP ratios by between 100 and 200%pts in the largest 3 members ratios by 2050.
- ▶ In terms of policy prescriptions to ensure individual countries have sustainable debt positions over the long term, **Germany** and **France** should get their current deficits down as soon as possible as their debt/GDP ratios are rising rapidly; **Italy** and **Belgium** should run large primary surpluses given their high debt levels and even total budget surpluses when falling debt service permits. The key for **Spain** and **Greece** is to reform their pension schemes. The latter is particularly vulnerable given its current large deficits, current high debt levels and a projected increase of over 10% of GDP in pension spending by 2050.
- ▶ Whether governments undertake the necessary measures is another matter. Not only is there not a clear unambiguous deadline or target to focus politicians' minds, but debt/GDP levels should improve over the next 15-20 years as the effect of ageing only kicks in in a major way after 2030. Governments may therefore be less keen to follow tight policies in this period – and run budget surpluses in some cases – in order to place them in a stronger position before the effects of ageing take their toll. Moreover, the fact that in the case of the largest members the Stability Pact is seen as voluntary means that this possible discipline won't work in their case.
- ▶ We must conclude by stressing that the EC's purpose is to signal possible imbalances rather than make firm forecasts. Its projections are mechanical and based on a partial equilibrium analysis. They are not firm forecasts but a tool to facilitate debate, as they put it, and give some indication of the likely consequences of various actions – or inaction.

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Debt sustainability in the Eurozone revisited

We initially considered the question of debt sustainability in the Eurozone in the face of ageing populations in September 2005 (*European Political Economy, Are fiscal policies sustainable in the Eurozone? 23 September 2005*). The Eurozone as a whole was seen as being in a reasonably good position to deal with the fiscal implications of an ageing population – provided, crucially, its members complied with the Stability Pact. Several individual members were seen as running up possibly unsustainable debt levels even if they also complied with the Stability Pact, most notably Germany and France. If individual members didn't comply with the Stability Pact, the situation would be correspondingly worse.

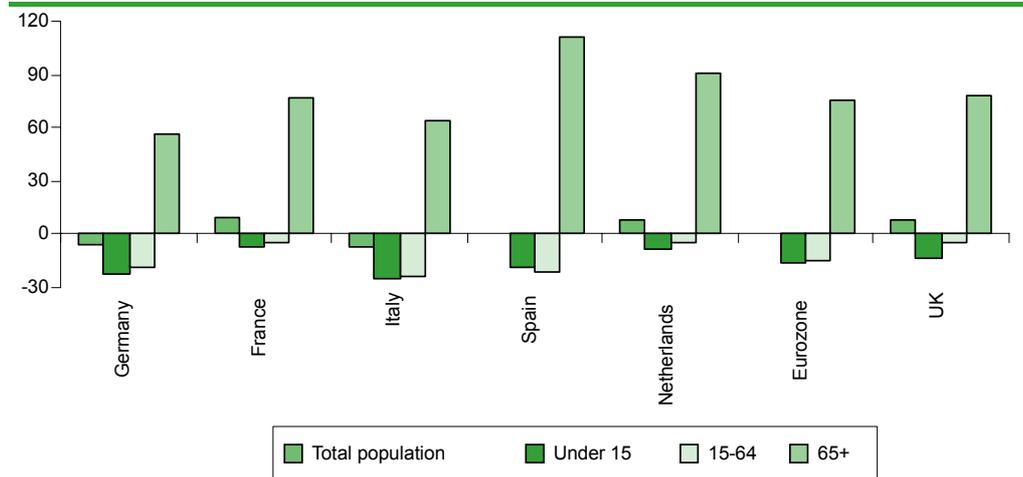
The European Commission has updated its forecasts, including its inputs on ageing-related spending⁷. Let us consider these and how they differ from the previous figures. The conclusion we draw is that although there are still severe problems in several economies, it is possible to change the outlook quite significantly if governments improve their overall budget positions and undertake reforms of their ageing-related net spending.

Population trends and dependency ratios

We start off, first, though with the assumptions used to derive these forecasts, particularly population growth, how the Eurozone will age and what this means for the dependency ratio. The following chart is a familiar one, showing population growth and how Europe will age. In the Eurozone as a whole, the population effectively stagnates, but it does age. Although a few members may see their overall populations rise by 2050, Ireland and Luxembourg are the only ones that won't see their under 15 and working age populations fall by 2050.

The Eurozone population is likely to stagnate and get significantly older by 2050

Changes in the size and age structure of the Eurozone's population (% , 2004-2050)



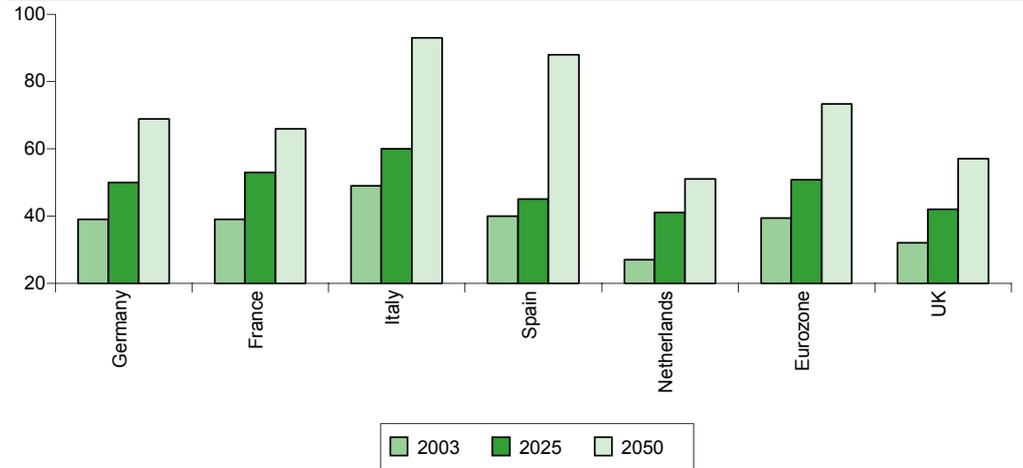
Source: European Commission

It is worth pointing out that these estimates include an increase in the overall fertility rate, a slight overall decrease in net migration and an increase in overall life expectancy in the Eurozone.

⁷ Public finances in EMU, 2005 European Economy no 3; The 2005 EPC projection of age-related expenditure, European Economy Occasional Papers No 19

A smaller, older population will obviously result in an increase in the dependency ratio in the Eurozone.

Effective economic old age dependency ratio (= Non-active population 65+ / employed population 15-64)



Source: European Commission

A number of critical assumptions were used to derive these projections. In particular, despite the fall in the working age population, employment rises until 2025 before declining modestly till 2050 as a result of:

- ▶ An increase in the participation rate, primarily amongst women. Further, recent pension reforms are assumed to boost the participation rate amongst older workers.
- ▶ The unemployment rate is assumed to converge to the 'NAIRU' rate.

As a result, the EC sees:

- ▶ The total employment rate rising from 63% in 2003 to 70% in 2025 and then stabilises.
- ▶ The employment rate for women rising 10% to 65% by 2050.
- ▶ The employment rate of older workers (55-64) rising by 18 points to 60% by 2050.

These are ambitious, but by no means implausible forecasts. If they are not met, though, dependency ratios would be even higher.

Age-related changes to net government spending

The following tables show the EC's latest projections for changes to age-related spending and revenues by governments and the changes since the last exercise.

Latest projected changes in age related government expenditure and revenues, % of GDP, 2009-2050

	Age-related expenditure				Total	Total revenues	Net change
	Pensions	Healthcare	Education	Other age-related expenditure			
Germany	2.9	2.5	-0.3	-1.4	3.7	3.2	0.5
France	1.6	4.5	-0.4	-0.3	5.4	0	5.4
Italy	0.8	1.6	-0.3	-0.1	2	0	2
Spain	5	1.4	-0.2	-0.2	6	0	6
Netherlands	3.1	3.2	-0.1	0.4	6.6	3.4	3.2
Eurozone	2.6	2.6	-0.3	-0.5	4.3	1.1	3.2
UK	1.0	2.1	-0.1	0.0	3.0	0.0	1.2

Source: European Commission

Health spending is difficult to control, but this is largely due to non-ageing factors

As we explained in the September note, the increases in expenditure are self explanatory. Interestingly, health spending is seen as driven by many factors besides demographics. The higher cost of new technologies and medical progress may matter

more than the fact people are getting older, particularly as increased life expectancy seems to be associated with increased years of good health. Years of poor health appear to remain the same. Much of the increase in health spending is due to benchmark revisions rather than purely ageing –related factors.

The implications for revenues are more ambiguous, though, and most countries assume a zero net impact. In short, tax revenues could rise if:

- ▶ Employees become better qualified or more productive as they become older.
- ▶ VAT receipts rise as an older population is likely to have lower savings and higher consumption as retired people run down their savings (according to the life cycle model).

But tax revenues could fall if:

- ▶ Labour productivity fell as older workers prove less adept at adopting new technology.

The bottom line is that ageing is likely to push up net spending by governments by a little over 3% of GDP by 2050 in the Eurozone, though there is a wide dispersion within that average. Besides the variation in the countries in the table, where the range is from 0.5 to 6%, Greece's age related net spending is estimated to increase by a whopping 11.7% of GDP.

This is slightly lower than the EC previously estimated for the Eurozone as a whole, though again, there is a wide dispersion. Broadly speaking, projected pension spending was down in several countries as the impact of various reforms was taken on board whilst health spending was revised up.

Revisions to projected changes in expenditure and revenues; % of GDP, 2009-50

	Age-related expenditure				Total	Total revenues	Net change
	Pensions	Healthcare	Education	Other age-related expenditure			
Germany	-1	1.3	-0.5	-1.2	-1.4	2.3	-3.7
France	-0.2	3.5	0	0	3.3	0	3.3
Italy	0.7	-0.1	0.1	0	0.7	0	0.7
Spain	0	-0.1	0.1	0	0	0	0
Netherlands	-0.4	0.2	0	0.1	-0.1	0.5	-0.6
Eurozone	-0.3	1.2	-0.1	-0.4	0.4	0.7	-0.3
UK	0.8	0.1	-0.1	-0.1	0.7	0.0	0.7

Source: European Commission

Amongst the 5 largest members, the biggest revisions were in Germany and France:

- ▶ In Germany, pension reforms in the Agenda 2010 programme reduced spending estimates and boosted revenues on the back of higher contributions. Revenues estimates were also raised on the back of labour market reforms in the programme which were seen as boosting the employment rate.
- ▶ In France, there were large upward revisions to healthcare spending, despite some reforms to the health scheme.

The conclusion we draw is that reforms can make a significant difference to the impact of ageing on net government spending, but controlling healthcare spending may prove more difficult than other areas.

What impact will ageing have on deficits?

The first point to make, obviously, is that countries will be in a much better position if they follow the policies outlined in their national stability programmes, which set out paths back to balanced budgets over the medium term, than if they were to stick with their current fiscal stances were left unchanged.

Ageing now expected to boost net government spending in the Eurozone as a whole by 3% of GDP by 2050

The impact of ageing on net government spending varies considerably from member to member

The difference between the two scenarios is quite staggering in the case of the 3 largest members, with debt/GDP ratios varying by between 100 and 200% pts

In all probability, these are the extremes. For many countries, particularly the larger ones, the stability programmes are largely works of fiction. Equally, 2004 deficits, particularly in the larger countries, are hopefully at or close to their peaks and will come down in coming years. It would be reasonable to assume the likely debt progression will be somewhere between the two scenarios, particularly for the larger members.

Latest projected evolution of debt levels up to 2050 (% of GDP)

	2004	Latest SGP programme scenario			2004 scenario		
		2010	2030	2050	2010	2030	2050
Germany	66	62	40	23	74	91	139
France	65	59	90	219	70	158	383
Italy	106	91	31	-6	99	120	218
Spain	49	35	4	56	36	6	58
Netherlands	56	56	82	155	56	99	195
Eurozone	69	61	45	78	68	94	194
UK	41	43	53	90	46	71	129

Source: European Commission

The second point the EC makes is that the debt profile is U-shaped:

- ▶ Debt/GDP ratios would tend to fall for the next 15-20 years if countries were to stick to their national stability programmes and run balanced budgets over the medium term.
- ▶ Debt/GDP ratios rise from 2030-50 as effects of the ageing population kick in.

This profile is potentially alarming. Politicians seeing falling debt/GDP ratios over the next 15-20 years if they had balanced budgets might be inclined to ease fiscal policy during that period. This would only make the rise in ratios for 2030 even worse, albeit not as bad as if they were to maintain their current fiscal stances.

Once again, the more interesting part of the analysis is if we compare the latest projections with the previous ones.

Revisions to the projected evolution of debt levels up to 2050 (% of GDP)

	Latest SGP programme scenario			2004 scenario		
	2010	2030	2050	2010	2030	2050
Germany	0	-47	-153	-1	-66	-198
France	3	37	147	-2	16	95
Italy	4	2	22	7	37	110
Spain	-1	6	19	5	27	70
Netherlands	7	14	15	2	10	10
Eurozone	2	-4	-6	2	-4	-5
UK	0.2	-19	-49	1	-18	-49

Source: European Commission

The changes largely tie in with the revisions to the projections for ageing related changes in spending and revenues. The changes in Germany, which has cut its projected ageing related net spending by nearly 4% of GDP, are most marked. The expected debt/GDP ratios are now between 150 and 200% of GDP less than they were. By contrast, France, Italy and Spain have seen substantial upward revisions. In France this reflects primarily upward revisions to projected healthcare spend and a higher starting point, in Italy it reflects higher pension spending (despite a reform package) whilst in Spain it primarily reflects a weaker overall budgetary starting point.

Such revisions - whether up or down - show how much impact changes to the projections on net government spending can have on subsequent debt levels.

Short-term improvements in debt/GDP ratios may make politicians less willing to carry on reforms and fiscal restraint over the medium term

Reforms in Germany have made a major difference to the debt outlook, but less so elsewhere

What would countries have to do to make their debt positions sustainable?

The EC also estimated how much the various countries would have to tighten policy (or loosen it in a few cases) in order to reach 'sustainable' debt positions. The following table summarises how far policy would have to be tightened (or loosened) to reach a debt/GDP target of 60%, in line with the Maastricht criterion, and to respect the 'intertemporal budget constraint'. Once again it presents two scenarios: members implement their 2004 national stability programmes and budget stances are unchanged from 2004 levels.

By way of explanation, the intertemporal budget constraint, besides being a mouthful, is economists' preferred definition of debt sustainability. In short, to respect the intertemporal budget constraint, current debt must be equal to the present value of future primary surpluses. But whatever this rule's theoretical virtues, it is likely to be too complex for practical policy making. Simple rules, even cruder ones, tend to be more effective in the real world.

Results of the sustainability gap indicators

	Latest SGP programme scenario		2004 budget scenario	
	Reach a debt/GDP ratio of 60% by 2050	Respect the 'intertemporal budget constraint'	Reach a debt/GDP ratio of 60% by 2050	Respect the 'intertemporal budget constraint'
Germany	-0.8	-0.1	1.2	1.6
France	2.3	3.2	4.6	5.5
Italy	-0.9	-0.9	0.7	0.8
Spain	-0.1	1.9	0	1.9
Netherlands	1.5	2	2.3	2.8
Eurozone	0.2	1.0	1.7	2.4
UK	0.5	1.3	1.2	2.7

Source: European Commission

Observance of the Stability Pact broadly delivers debt/GDP ratios of 60%

According to the EC, the Eurozone as whole doesn't need to tighten policy particularly to see its debt/GDP ratio fall to 60% if all members were to implement their national stability programmes. But within the total, several countries would need to have tighter policies if they were all to have debt below 60% of GDP, including France, the Netherlands and especially Greece.

To meet the intertemporal budget constraint, the Eurozone as a whole would have to tighten policy by around 1% of GDP, with at least 6 members needing to do so in varying degrees.

Not surprisingly, virtually all Eurozone members would have to tighten policy from their 2004 stances to meet either the 60% rule or intertemporal budget constraint, with particularly sharp tightenings required in France, Greece and to a lesser extent the Netherlands.

How are individual members placed?

Only 4 members of the Eurozone are considered to have limited risks to their debt positions

Finally, and more generally, the EC assessed the outlook for individual members and found only 4 members had only limited risks to their debt positions. Not surprisingly, they were 4 of the smallest members.

The others were seen as having greater risks. The Netherlands was seen as having limited risks as long as it got its current deficit under control and took further measures to keep ageing-related spending under control.

Germany and France were also seen as having to get their current high deficits under control for though their current debt/GDP levels are not particularly high, they are rising rapidly. Italy and Belgium must continue to run large primary surpluses – and eventually

total budget surpluses as debt service falls – if their debt/GDP is to come under control. There are inevitable doubts as to whether this would be possible in Italy.

Spain and especially Greece were seen as having to undertake pension reforms. Greece was seen as particularly vulnerable, not helped by its current high budget deficit and high debt/GDP ratio.

The outlook for individual Eurozone members

Very high debt countries: Italy and Belgium

- Both benefit from high primary balances
- As debt service falls, they need to run continued primary balances and eventually run total budget surpluses if they are to reduce their debt levels. There are doubts whether this is politically sustainable in Italy

High deficit countries: Germany and France

- Both have adopted pension reforms recently
- The danger is that their debt levels are rising rapidly and could be further exacerbated by rising debt service

Countries with risks due to pension spending: Spain and Greece

- Both are facing rapid increase in pension spending (over 10% of GDP in Greece's case), but have yet to introduce pension reforms
- Spain is at least running balanced budget at present and running down its debt/GDP ratio.
- Greece has Stability Pact-busting deficits and a debt/GDP ratio of over 100% at present

Countries with some medium term risks: The Netherlands (and the UK)

- Needs to take measures to reduce ageing related net spending
- Need to reduce current deficit further

Countries with limited risks: Austria, Finland, Ireland and Luxembourg

Source: European Commission and DrKW Macro research

Although debt positions *can* be brought under control, the question of *will* they be brought under control is another matter

To re-iterate, the conclusion we draw is broadly encouraging. Although several countries have debt positions which are clearly unsustainable at present, it won't require major reforms to bring them under control - though the sooner countries with large deficits do so, the better. Whether countries do actually do this is, of course, another matter. The danger is that politicians facing elections in a few years time won't want to take unpopular measures if the benefits won't be felt for several decades.

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European Equity Strategy

Demographics, pensions and equity markets

Populations are ageing and more money is needed for the retirement kitty. But, companies won't pay up. They are working through c. €250bn in pension deficits. And, their contribution rates are collapsing as they move to DC plans. Individuals will have to pick up the tab, which could lead to a boom in mutual fund sales. Lastly, if we are ageing, how does this alter spending patterns?

- ▶ The European population is ageing (low birth rates) *and* people are living longer, so more money needs to be set aside for retirement. **But who is going to foot the pensions' bill?** Governments are stepping back and we argue in this note that companies are still shaking off their pensions' ball & chain and will be unable or unwilling to pick up any funding slack.
- ▶ The Eurofirst 300 pension deficit is still about €250bn. It isn't going away. **Companies estimate it will take 10 to 15 years just to clear the current deficit** (see page 32). Any additional money invested is just going to make up for worsening assumptions (like mortality rates) and an attempt to fill the black hole. If anything, regular contributions are falling.
- ▶ **As companies close DB schemes** to not only new members, but also existing members, contributions will collapse. Currently an employer's contribution into an average DC scheme is a paltry 5.9% of earnings, versus 16.5% for average DB schemes! We show the progression of payments into the various schemes on page 33.
- ▶ **If individuals are forced to look after themselves**, low yielding deposit accounts won't suffice. In Italy and France, only 27% and 30% respectively of a households gross financial assets are invested in mutual funds and insurance corporations. In the UK it is 54%. So, who benefits? Banks with strong product offerings and selling machines such as Unicredito, Credit Agricole and BNP Paribas to name a few.
- ▶ **We also looked into the spending patterns of an ageing population.** As shown below, their spending takes on a defensive slant which should benefit Utilities, Pharmaceuticals, Health, Personal Care and Food & Beverage companies (page 37).

Research Analyst

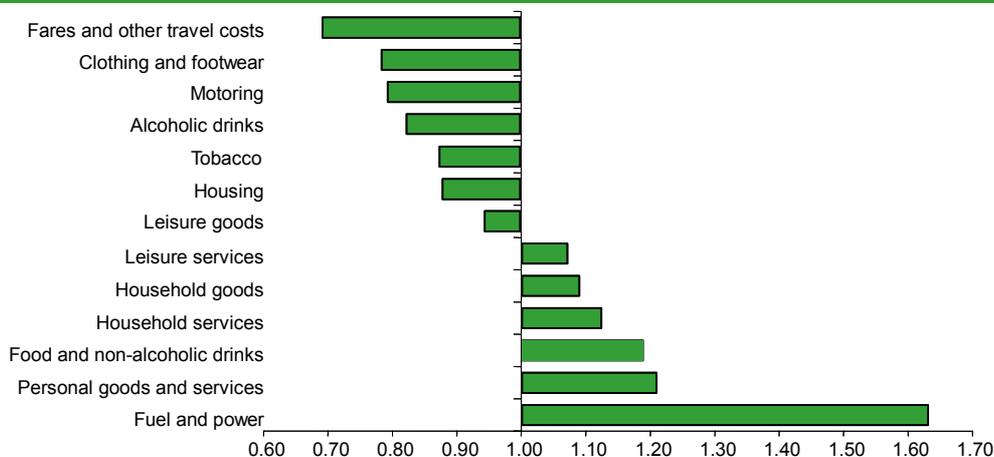
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Relative spending share (average household share=1): Age 65+



Source: ONS Family Expenditure Surveys and DrKW Macro research

Online research:

www.drkwresearch.com

Bloomberg:

DRKW<GO>

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Why Companies Won't Pay Up for Future Benefits

Pension Deficits

Eurofirst 300

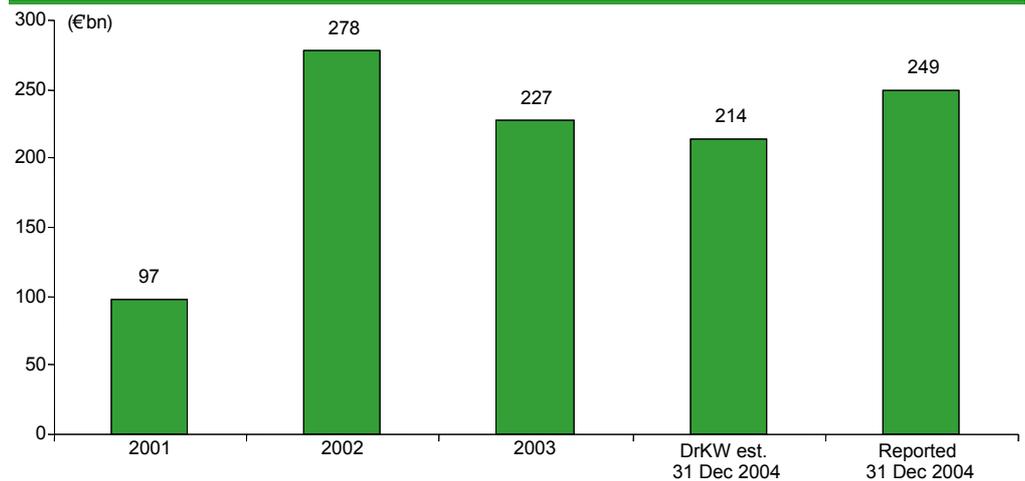
Who is going to foot the bill if more money needs to go into the pension kitty?

At the outset, I would first like to make the point that I do not believe that companies are going to pay-up for additional pension benefits if the government can no longer afford to foot its current, let alone an increased, portion of the pensions' bill. The European population is ageing and we are living a lot longer, so more money needs to be set aside for retirement. I argue below that companies are not in a position to pick up the funding slack, at least not in the next 10 to 15 years. I set out my reasons below.

The Eurofirst 300 companies are still chewing through close to €250bn in pension deficits

Let us first look at the Eurofirst 300 pension deficit. There are about 189 companies within the Eurofirst 300 that have a *defined benefit* plan. I was quite surprised to find when I looked at the reported 31 December 2004 deficit number of €249 billion (which includes March 2005 year ends), that the balance had gone up! Companies just don't seem to be able to shake off the pension ball and chain. If we were to estimate the balance today, (after 2005's equity market rally), it would have probably fallen by about 10%. However, the number would still be very big.

Eurofirst 300: defined benefit plan deficits still a big drag...



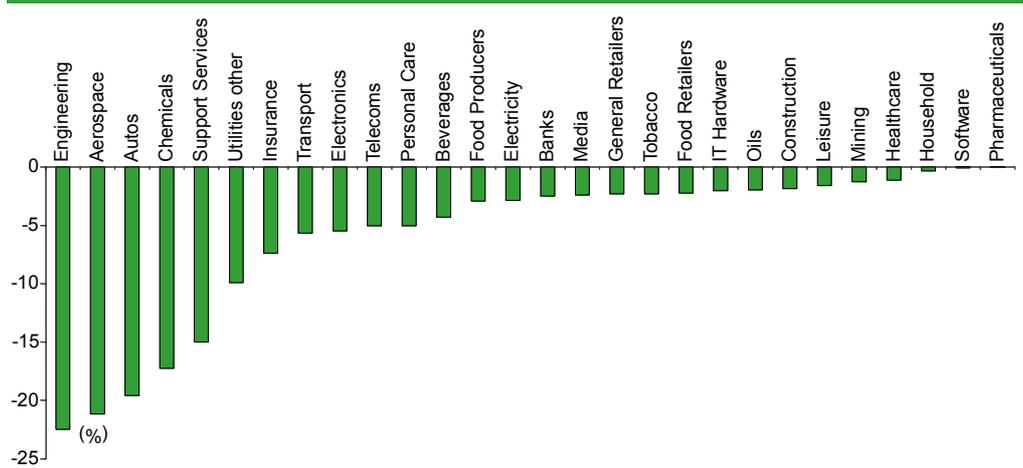
Source: DrKW Macro research

Pension Deficit Over Market Cap

It is the older industrials that might become especially stingy

I have included the next chart just to complete the picture. It is not terribly relevant in terms of the overall argument, but shows the pension deficit over market cap – per sector. It is really making the point that, over the next 10 to 15 years, it is probably the older industrials (such as the Engineering, Autos and Chemical sectors on the left) that are going to be a little more stingy. On the right hand side, we find Mining. While its very labour intensive, these companies rarely offer defined benefit plans because they operate in regions that did not demand them when pensions were all the rage (i.e. in the 1960's to 1990's in the more developed regions). New industries, like software, have not built up big liabilities. And other sectors, like Pharmaceuticals and Oils, have lots of cash so it has not become much of an issue. While still expensive to offer, they are able to fund them.

**Eurofirst 300 sector exposure to deficits.
(Dec 2004/March 2005 pension deficit over market cap, %)**



Source: DrKW Macro research

Mortality Assumptions

Disclosure

Limited disclosure means it is hard to estimate the cost of rising mortality rates.

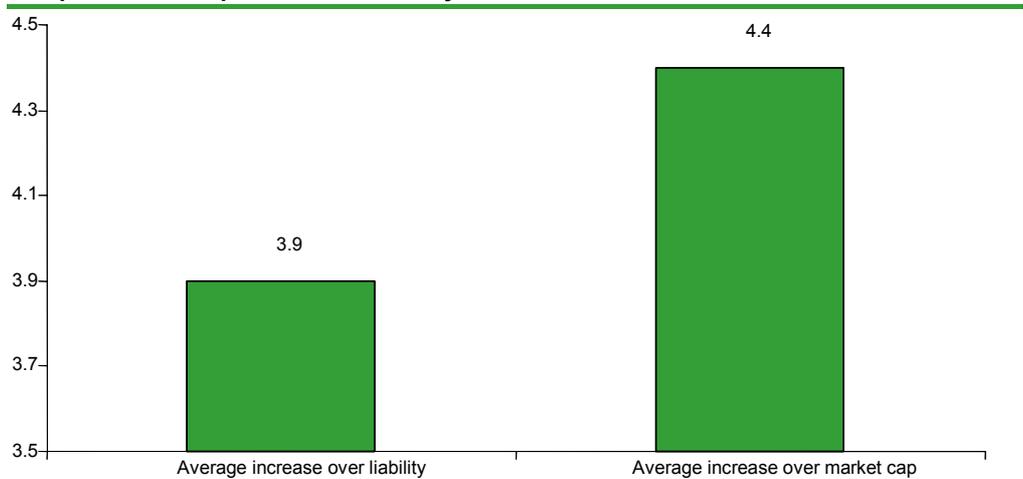
Our discussion on mortality assumptions links into what David Owen was saying earlier. This is one of the biggest areas of uncertainty for companies and it is hurting. It is also almost impossible to estimate the cost on an individual company basis, because until International Financial Reporting Standards (IFRS) are in full swing in year end 2005 reports, disclosure on mortality assumptions is almost non-existent. Only two of the FTSE 100 companies put enough information in their annual report to communicate what round of mortality tables they are currently using.

Resulting liability increase

Companies are having to foot the bill as mortality tables get updated

We spoke to management at 7 UK companies and found that the latest round of mortality adjustments resulted in an increase to their pension liability – total pension liability, not the net deficit – of about 4%. If you look at the Eurofirst 300 population (the 189 companies with plans) they have together about c. €1 trillion in pension liabilities. A loose estimate would mean an extra liability of about €40 billion. The estimate from most actuaries is that close to half of UK companies have brought themselves up to date with the latest tables, but this is a very rough estimate.

Pressures not going away. Recent change in mortality assumptions for small UK sample increased pension liabilities by close to 4%



Source: DrKW Macro research

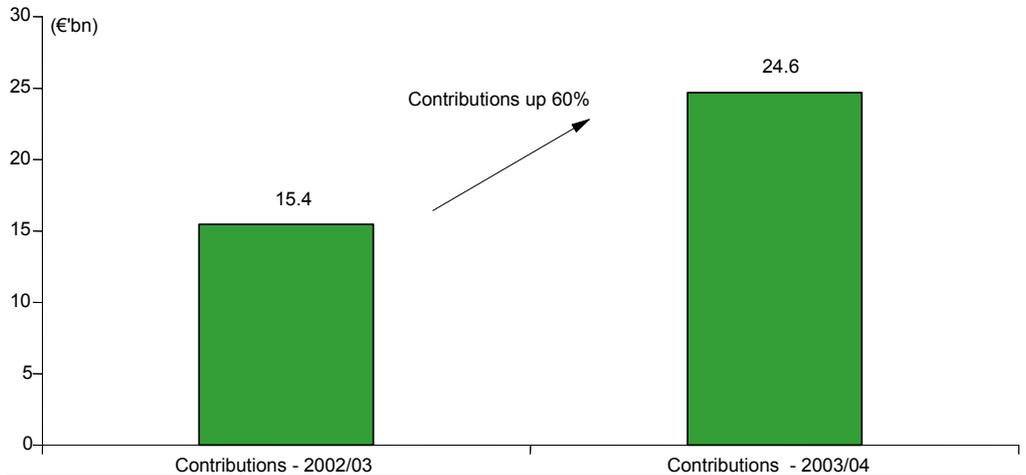
Contributions

Eurofirst 300 companies are paying up for yesterday's generosity

Contributions are going up, but not because companies are becoming more generous

Contributions have been going up. If you look at the Eurofirst 300 population again, contributions in 2003/04 went up by about 60% versus 2002/03. Many of these are one off contributions, but the flat contribution is also going up.

New regulations & accounting standards add pressure to fund. Doesn't hurt so much in a strong profits cycle, but watch out if growth disappoints...



Source: DrKW Macro research

Actuarial survey

The ACA survey also confirms that contributions are going up

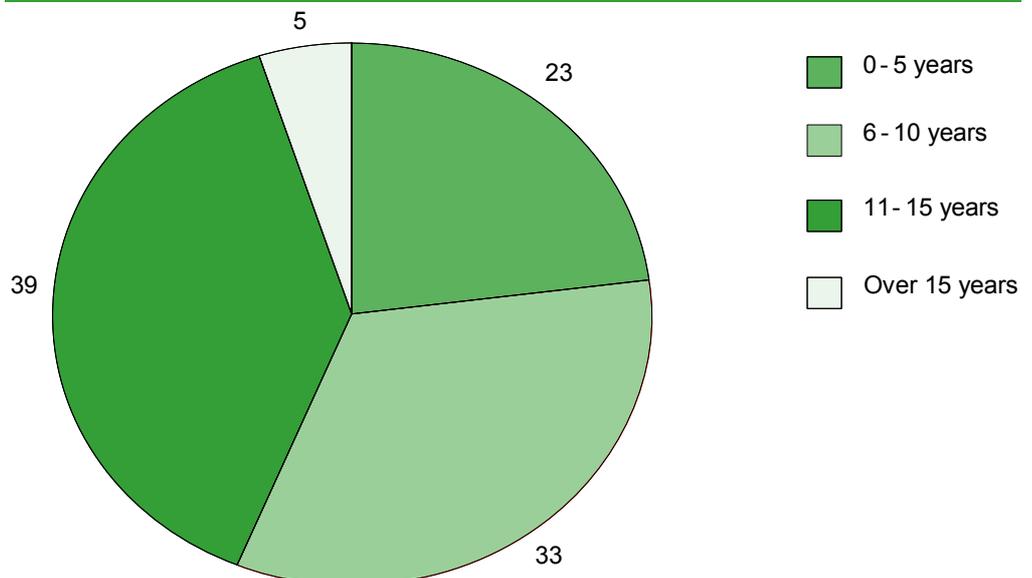
I found a study that was published by the Association of Consulting Actuaries (ACA) in April 2005, which had quite a few startling conclusions. The study looked at 400 companies in the UK. Firstly, in the latest actuarial review it was discovered that 88% of actuaries recommended that companies increase contributions.

Time Required to Close Deficits

Companies could take up to 15 years to make good on yesterday's promise

The second thing that they reviewed was the period it could take to close the current deficit. This is before companies even think of offering *additional* benefits. Close to 50% of companies are going to need between 10 and 15 years or more to close the current deficit! That is without offering any new benefits to compensate for an ageing society. It is a huge drag on cash flow, and reduces (or prevents) companies' willingness to pick up a greater share of the pensions tab over the next 10 to 15 years.

UK ACA Survey: companies' estimate of how long it takes to close the current deficit



Source: Association of consulting actuaries

As shown below, the study offers further conclusions about the average contributions paid into pension schemes. One is that contributions to defined benefit (DB) schemes are rising rapidly. At first sight, this contradicts what I just said, that companies are not going to offer more. The increase in employer contributions in an average DB scheme went from 11.5% in 2002 to 16.5% in 2005, which is a massive increase. And, this does not include any one-off contributions that companies may have made to close the deficit. Further, it does not suggest that any of these plans become more generous. They were basically forced to push up their annual fee or contributions (separate from the one-off contributions) on the back of revised assumptions, largely a change in mortality rates.

For an average fund, employers pay over twice as much into a DB as a DC scheme

Defined Benefit Schemes versus Defined Contribution Schemes

It is also surprising how large the gap is between the contribution levels for the average defined benefit (DB) and defined contribution (DC) scheme. Employers were contributing, on average, 6% into DC schemes in 2005. This is less than half of what employers are contributing into a DB scheme. The other concern is that the ACA suggested to me that the larger, better run and more generous companies that are converting to DC plans are planning to offer around 10% as the contribution rate going forward. This is at the high end of the range. If we add another 3% to 4% for the employees' contribution we would still only get to roughly half of what is currently being contributed on behalf of DB schemes (as shown below).

Companies are clearly fed up with their prior share of the pension pie

Companies are clearly cutting back on their retirement hand outs. In this survey, 70% of the firms questioned said they have closed their DB schemes to new entrants. A new event emerging is that over 10% are now closing the schemes to new accruals. That means that as of today, what you have been promised only rises by inflation. I think that is quite shocking, especially if we consider that currently DC plans only offer 10% (combined employer and employee contributions) versus 22% for DB plans, as shown in the table below. Going forward, we are going to see a lot less being paid out for employees as the closure of these plans really starts to feed through.

Many companies simply do not have the capacity to offer more

Conclusion

The conclusion for the first half of the presentation is that companies will not have the capacity to offer more, until they clear through the pension mess (deficits). In addition, the experience of the past few years will make them much more hesitant about committing to generous/long term pension promises. On the flip side, this will save companies money.

Average contributions paid into different pension schemes (as a percentage of earnings)

	2002	2003	2004	2005	Long-term expectation
Average employer contributions into: (%)					
Defined benefit schemes	11.5	13.1	15.1	16.5	14.8
Defined contribution schemes	5.1	5.2	5.8	5.9	
Group personal pension	5.6	5.6	5.8	6.1	
Stakeholder (where contribution made)	5	5.2	4.3	4.5	
Average combined employer and employee contributions into: (%)					
Defined benefit schemes	15.8	17.6	20	22	20.8
Defined contribution schemes	8.5	8.7	9.8	10	
Group Personal Pension	9.2	9.4	9.4	9.9	
Stakeholder (where contribution made)	8.3	8.7	8	8.3	

Source: Association of consulting actuaries

Market Impact: Changes in Consumer Behaviour

The impact of ageing on the markets is difficult to pin down, but we offer a few ideas

The second subject I am going to comment on is the market impact of an ageing population. Although ageing is a long run issue, I attempted to add some market-relevant colour to the topic. If you have an investment horizon of three months, the below charts may not be of interest, but from a longer term perspective they act as a useful guide about individuals' investment and spending habits.

Household Portfolio Composition Changes to wealth management

A boom for the mutual fund and insurance companies?

The chart below looks at wealth management and the composition of household portfolios in each country. If the governments do not have ability (or desire) to pick up their share of a growing pensions tab, individuals are going to have to put more into their retirement kitty.

Individual investors are moving away from deposit accounts and need to earn more

There has been a trend taking place in Europe since 1980, which will probably pick up pace as investment returns become even more important. Back in 1980, the bulk of an individual's portfolio was sitting on deposit. **In Italy this share was a massive 64%, as shown below. However, the figure has fallen significantly to only 27%.** The share of money that was invested in institutions has risen from 6% to 28% (a 366% increase!), but it is still the lowest in the below list of countries. In Belgium, money on deposit moved from 41% to 33% from 1980 to 2003. And, the institutional share of invested money increased from 8% to 35%. Compare that to the UK, where about 54% of money is sitting in institutions. Clearly, individuals who are tired of earning a paltry 3% on a deposit account are seeking higher yields and better overall returns. They realise there is a problem out there. They are tired of getting 3% on their deposit account and they want more.

The table below shows a clear move from old, risk averse deposit accounts into institutions. Institutions include pension funds, insurance corporations and mutual funds.

Composition of household portfolio - % of gross financial assets

Country	Category	1980	2000	2003	Rise in institutions
Belgium	Deposits	41	25	33	
	Bonds	33	22	18	
	Equities	18	22	14	
	Institutions	8	29	35	Up 340%
France	Deposits	59	27	30	
	Bonds	9	2	2	
	Equities	12	34	25	
	Institutions	9	34	39	Up 333%
Germany	Deposits	60	34	36	
	Bonds	12	10	11	
	Equities	5	16	10	
	Institutions	17	39	41	Up 140%
Italy	Deposits	64	25	27	
	Bonds	17	18	22	
	Equities	10	28	22	
	Institutions	6	28	28	Up 366%
UK	Institutions	30	53	54	Up 80%

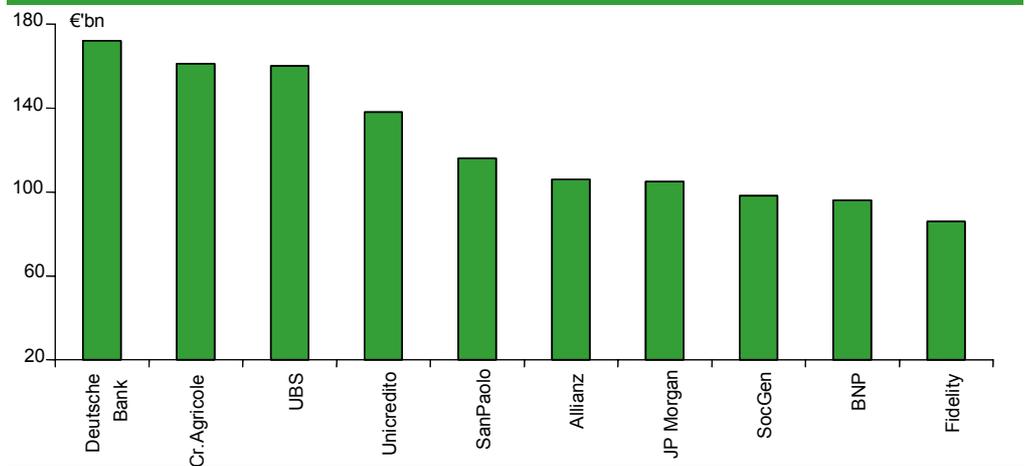
Source: OECD 2005. Institutions refer to pension funds, insurance corporations and mutual funds.

Look for companies with dynamic product offerings and selling machines tapped into the consumer

Winners – who benefits most from the ongoing shift?

If we look at European mutual funds under management we can gauge who is more exposed to the above growth. I should note that UniCredito has now leapt up to first place, since it acquired HypoVereinsbank (HVB) and a few other acquisitions. I think the key point is that it is those companies that have strong product factories and selling machines that are going to benefit from this drive. And, it is not just the demand for high yield products that matters, but a banks' willingness to be creative and supply more dynamic product offerings. One of the mission statements in Credit Agricole at the moment is to offer more structured products and exchange traded funds through a retail network. Most of the firms I see as winners are those pushing the retail side of the business. Individuals are tired of the plain vanilla deposit accounts. Some of the losers could be firms like Postbank. The bulk of their money is sitting in standard deposit accounts at the moment. However, having just seen company management, one of their strategies is to increase their mutual fund activities so this might change too!

European mutual funds under management. Winners are banks with strong product factories and selling machines



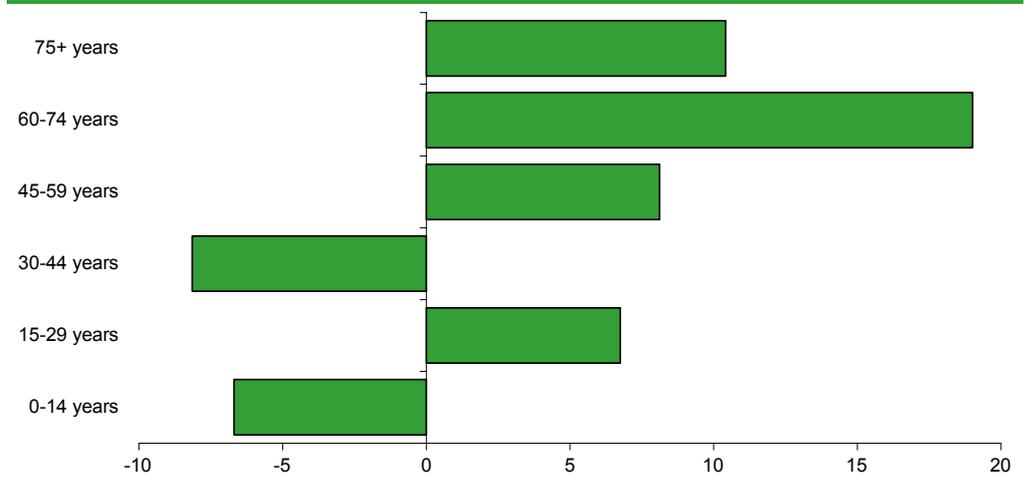
Source: FERI

How will spending patterns change as we get older

Household Spending Patterns

Next we take a look at how individual spending patterns change as we get older. **The 60 plus age group is growing the fastest.** While Anthony Thomas talked about government spending and age groups, I will focus on consumer spending. Note: the charts on the following pages are produced using five years of UK data. We don't expect the conclusions to be that different for Europe.

Population projections: growth by age group 2002-2011 (%)



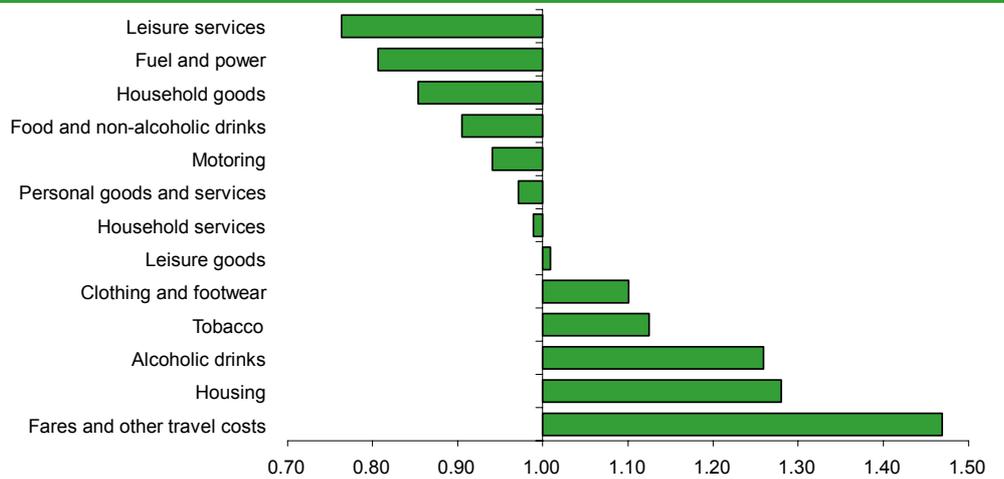
Source: Government Actuary's Department

Suggests the young like to drink, smoke and wear fancy footwear

Age 30 and under

Let me start with the young – what do they get up to? They don't spend a lot on theatre & gambling and are not at home much, so fuel and power costs are kept to a minimum. They don't eat a lot (it might be that they are too busy socialising and looking after their figure) and don't have the money to afford fancy cars. Household goods include appliances and expensive beds, which are *not yet* a must-have.

Relative spending share (average household share=1): Age 30 and under



Source: ONS Family Expenditure Surveys and DrKW Macro research

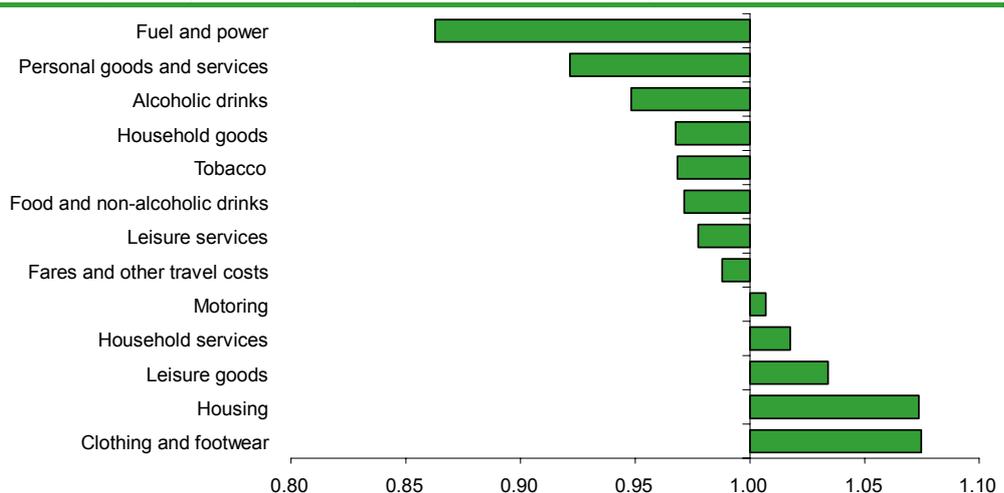
Where are they spending? Cool and hip footwear and clothing seems to be more important to the young and active. They are smoking and drinking more and tend to be out and about riding the tubes and trains. In addition, many may be buying their first home, which represents a large percentage of their income.

30-49

Similar to the young, but a big move into housing

The next group, which is the 30 to 49 year olds, is not that dissimilar to the young. However, they seem to have cut back on alcohol. Maybe they are in their peak years of work, so are required to be slightly more responsible and/or have less time to drink heavily?

Relative spending share (average household share=1): Age 30-49



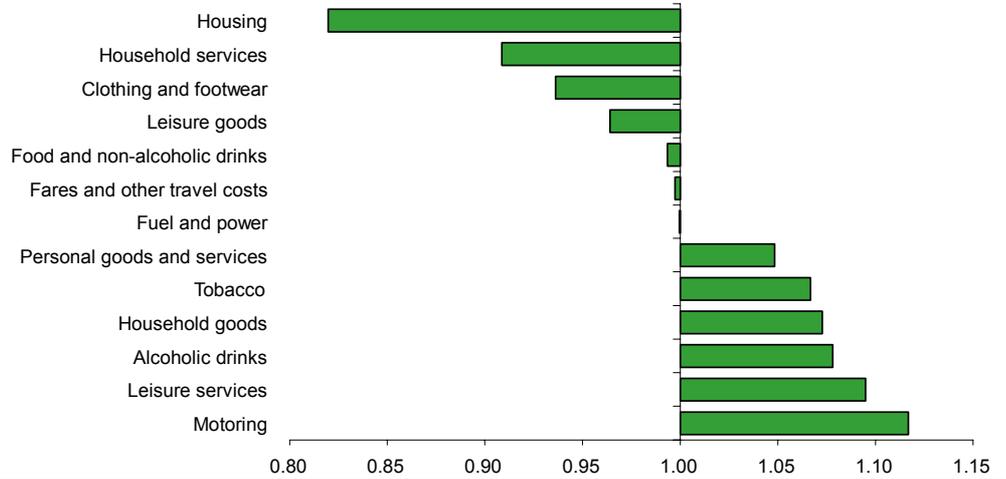
Source: ONS Family Expenditure Surveys and DrKW Macro research

50-64

Middle aged to retirement. The biggest difference here is that they are now downsizing their housing, and spending about 20% less than the population average. Where they are spending more is on personal goods and services, which fall under the Personal Care and Healthcare sectors. It could be that they are suddenly becoming a bit more interested in L'Oreal's (€64.6) anti ageing creams and hair colouring products.

Household goods make up a higher percentage now. The more mature person may prefer shopping at the higher priced Peter Jones rather than an IKEA. They are back to drinking and smoking more (perhaps the long days in the office are winding down). Motoring also becomes more important (perhaps there is something to the mid life crisis theory).

Relative spending share (average household share=1): Age 50-64



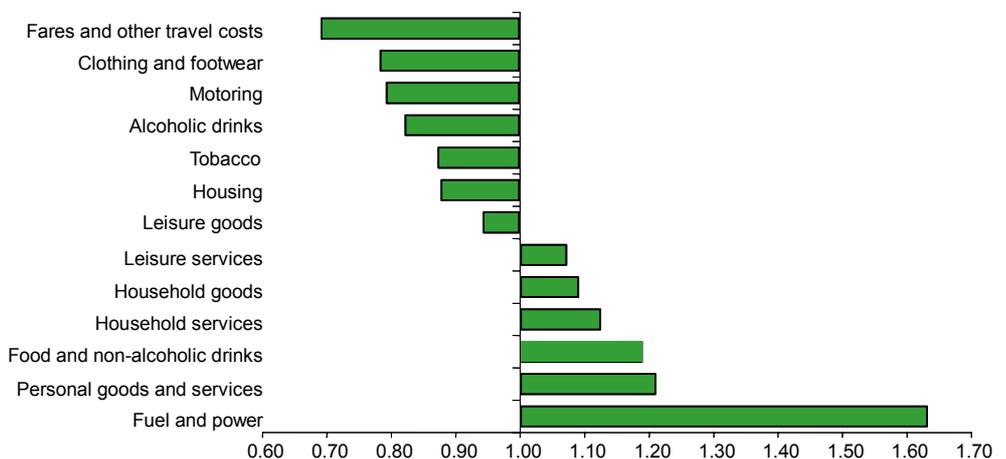
Source: ONS Family Expenditure Surveys and DrKW Macro research

Older people's spending patterns benefit the more defensive sectors

65 plus – fastest growing group

The last group, 65 plus, is where we are seeing the most growth. Again, you see quite a difference in spending patterns. Fares and travel costs have collapsed. Maybe because older people potter around the house or in the garden more often? Clothes and footwear has fallen, as they probably buy a comfy pair of slippers at K Mart rather than requiring that more expensive business shirt from Thomas Pink. It may also be that comfort (rather than flashy style) becomes more important the more settled one gets. Motoring is lower as they are not driving as much and Alcoholic drink and the amount spend on smoking has fallen. One of my colleagues suggested that at this stage, for some, the liver may have finally packed it in. Housing takes up a much smaller part of the spending pie as most households downsize to free up money for retirement. **If you look at where they are spending the money, it is very defensive in nature.** They are at home more (and must feel the cold given the jump in fuel and power costs) and are relaxing/eating/drinking. Again, personal and healthcare products are on the rise. Expect companies within the Utilities, Food Producers, Beverages, Health, Pharmaceuticals and Personal Care sectors to pick up a larger share of an older population's spending budget.

Relative spending share (average household share=1): Age 65+



Source: ONS Family Expenditure Surveys and DrKW Macro research

Share price chart

Company name	Share price (local)
Deutsche Bank	86.7
Credit Agricole	28.3
UBS	135.0
L'Oreal	64.6
Unicredito	5.9
SanPaolo	13.6
Allianz	132.6
JP Morgan	40.7
Postbank	55.2
Societe Generale	108.0
BNP Paribas	73.1

Source: Bloomberg

European Economics for Investors

Demographics, work and the pensions crisis

The main demographic problem is that baby boomers are starting to retire. Working longer is at best a partial solution as companies use early retirement to rejuvenate workforces. It is also unlikely that companies can meet their existing pension promises. The US government is likely to take over US companies' pension liabilities, but it is not clear how UK companies can escape theirs.

David Willetts MP
Shadow Secretary of State for
Education
Advisor to DrKW

- ▶ There are three strands to the so-called demographics crisis, which need to be disentangled. The first is that life expectancy is increasing as premature deaths are reduced, though more recently we have seen an increase in life expectancy amongst old people themselves. The second is that birth rates are falling, which appears to have nothing to do with the role women play in society. It is possible for women to have children and a career as both American and Scandinavian women have proved, albeit through different routes. Most importantly, the post-war baby boomers are working their way through the labour force age and will start to retire very shortly.
- ▶ Europe has had exceptionally favourable demographics over the past 20 years or so as the baby boomers have swelled the labour force and boosted growth. This is now coming to an end. The EC has estimated Europe's underlying growth rate will fall from 2.1% to 1.3% over the next 50 years as a result of demographic change alone.
- ▶ The conventional answer to the pensions' crisis is that we should all work longer. This makes sense at the macro level, but not at the micro level as companies use early retirement to rejuvenate their workforce. Further, research from the University of Chicago shows that excellence in various spheres (including art and economics) can either be achieved by innovative approaches, usually by people in their 20s, or incremental improvements in performance, usually achieved by people in their 50s. Picasso and theoretical economists are examples of the former, Cezanne and empirical economists are examples of the latter. An older society is likely to be a less innovative one.
- ▶ Finally, there is the question of legacy costs, namely the costs of pension promises companies have already made. In the UK, these used to be contingent liabilities, but the government made them obligatory in 2003. The question is whether they are sustainable and, if not, whether there are escape mechanisms. In the US, for example, the escape mechanism is the Pension Benefit Guaranty Corporation (PBGC), which is easy to get into and undersupervised. It is also heading for a deficit of \$100bn, which ultimately the federal government will have to honour thereby allowing companies to walk away from their obligations.
- ▶ In the UK, the Pension Protection Fund (PPF) is based on the PBGC, but is much more demanding. The very high levels of benefits to be paid into the PPF means it is probably unsustainable. And in a low inflation environment, the UK won't have the traditional route by which companies have escaped their obligations, namely a dose of inflation that erodes their obligations in real terms.

This page is a summary of David Willetts' presentation, put together by DrKW

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Demographics, work and the pensions' crisis

The following is a transcript of David Willetts' presentation at the seminar on 8 December

Intentions

It is a great pleasure to be here. I have just been reshuffled. When my leader sent for me, I felt obliged to go along. I am no longer shadowing Trade and Industry. I am now shadowing Education. There is a great story about the Duke of Wellington, when he had been moved into politics, having been, of course, our great general at Waterloo. When asked what it was like being Prime Minister compared to being a general, he made two comments. First of all, after his first Cabinet meeting, he said, 'It is very odd. I gave the gentlemen their orders and they stayed around to discuss them.' Then, when asked about the difference between military life and politics, he said, 'In politics, you have to spend all your time caring about gentlemen's feelings.'

Anyway, I have now been reshuffled. I am delighted with my new responsibilities. It is a great pleasure to be back here at Dresdner Kleinwort Wasserstein talking about demographic trends. I am sorry that, because of the events of today, I missed the earlier presentations. Forgive me if some of what I am going to say has already been said by the excellent contributors you have already heard. I would like to talk a bit about demographics and then follow through the implications of that in two areas: in patterns of work and in the pensions crisis.

Demographics

Life Expectancy

Historical development

On demographics, there are three different trends that need to be disentangled and that are often confused when people talk about a so called demographic crisis. The first thing that is happening is that we are living longer. It is not the case that we are living longer more than we used to. If you draw a line through best case life expectancy around the world since 1840, it is a straight line. The world is like a straight production possibility frontier in economics. Life expectancy seems to be steadily improving.

Nature of improvements

It is true that the nature of the improvements in life expectancy has changed. We used to achieve improved life expectancy because we tackled the guy who died at the age of 25 of tuberculosis (TB) or the person who died at the age of 50 in an industrial accident. If you have five people, one of whom dies at 25, one at 50 and the other three at 75, you have an average life expectancy of 62.5. If you tackle TB and you make industry safer, so that they all live to 75, then that is an improvement in average life expectancy to 75. However, it is not the case, as people seem to imagine, that lots of people used to die at 62.5 and are now living through until 75. Even 300 or 400 years ago, the British population had 10% of people aged over 60. We have always had people living way into their 60s and 70s, but first of all we got rid of the accidents that killed people before then.

What has been happening more recently is that we seem to have significantly extended life expectancy amongst old people themselves. By and large, the good news is that we are dying fitter. If anything, we are even better at tackling mobility than mortality. As a politician, I can aspire to the famous ending of Palmerston, the Liberal Prime Minister in the 19th century who died aged 82 *in flagrante* with the maid on the billiard table. We die fitter.

Life expectancy is improving. It is on a steadily upward trend. It is not some sudden thing that is happening. There is a learned debate about whether there is a super cohort of people who were teenagers during World War II who benefited from the very heavy diet, very limited diet, which seems to have made them very healthy. Basically, this is a steady trend.

Birth Rates

Role of women

The second thing that is happening is that birth rates are falling. There is a debate about how low they will go, but we clearly do have a falling birth rate. In many western European countries, we have had quite low birth rates, historically, for most of the 20th century. There are lots of factors affecting birth rates. It is not the case that traditional societies with traditional roles for women, which keep women in the home, have high birth rates as a result of that. It is exactly the opposite. If you want to find within Europe the countries that have low birth rates, it is the Mediterranean south that is particularly low. Those are the countries that are still trying to have relatively traditional roles for women. When women are forced into traditional roles, they go on strike.

The success is if you can make it possible for women to combine having kids and also having a career. There are different ways of doing that. In America, they have achieved it through flexible labour markets. In Scandinavia, they have achieved it through incredibly generous and expensive childcare. The knack is to make it possible to combine having kids and working.

Household formation

It is also important to tackle the problem of delaying household formation. If there is one thing that drives down the birth rate, it is delaying the time at which the household is formed. The most powerful contraceptive in Britain today is high house prices. The average age of a first time buyer has now gone through 30. This delays household formation. There are lots of people who talk about tackling the problem through tax and benefits systems rewarding families. However, if there were one single thing that the Italians could do to raise their catastrophically low birth rates, it would be to open up access to domestic retail banking in Italy. This is why they need to liberalise retail banking.

If they liberalise retail banking, they will open up the mortgage market. People will be able to borrow money to buy a flat or a house earlier and they will bring down the average age of household formation in Italy. The median Italian male is still living with his parents when he is aged 30. That is why they have a low birth rate. That is a consequence of over protected domestic financial markets. The links between birth rates and financial structures go way beyond 'I will give you £1000 and you will have more kids'. It goes deeply into financial structures. That is the second thing, therefore, falling birth rates.

Population Surge

Timing

The third thing, which is the most important of the lot, is the temporary effect of the baby boomers working their way through the system. The classic image that demographers use is the python swallowing the rabbit, which is working its way through the system. What we have had, superimposed on those two quite long term trends, has been the effect of the surge in population after the war.

It is interesting that the surge in population after the war took slightly different forms in different countries. In America, it happened earlier. In Britain, it happened a bit later. There was a tiny blip in 1946 or 1947, but the real baby boom did not get going until the late 1950s and early 1960s. Often, the date of the baby boom depended on the level of austerity and destruction immediately after the war.

It is the baby boomers going through the population and beginning to reach pension age that is by far the most dramatic single demographic event. It will eventually unravel. Next year is a very important year. Next year is the first year in Britain that the baby boomers will become pensioners. Women born in 1946 will be pensioners next year.

Recent effects

What we have had in Europe for the past 20 years or so is unusually favourable demographics, exceptionally favourable demographics, because we have had a bulge of the working age population. We have had no increase in the number of pensioners in the last 25 years. As birth rates have been falling, we have not had many kids. There have not been many dependents, either youthful or elderly. We have had a population bunched around working age.

This is incredibly good for growth rates. If you want to find when economies grow fast, it is when they have their populations bunched in the middle. That is the demographic transition that helps drive a surge in growth. Europe has had that, but it is now coming to an end. It is the moving of the baby boomers into pension age and retirement that is this absolutely dramatic event superimposed on those two long term trends.

Future effects

The figures may vary a bit, but the EU Commission's recent estimate was that, over the next 50 years, up to 2050, the EU will have an extra 40 million people aged over 60 and a reduction of 40 million in the number of people aged 15 to 60. Because of that demographic change alone, they estimate that Europe's underlying growth rate falls from 2.1% to 1.3%, just as a result of this change in European demographics. I am sure people have given this figure before, but I think it is a powerful one.

International Comparisons

America

America's demographics are very different. Because of a combination of higher birth rates and large scale migration, America does not face such a demographic challenge. If anything, whilst demography pulls down Europe's economy as a share of world GDP, it has the opposite effect on America. It is one EU Commission estimate that, whilst Europe's share of world GDP will fall from 18% to 10% by 2050, America's will actually grow from 23% to 26%. The demographic background is relatively unfavourable for Europe compared with America.

Asia

In Asia, they have an even more dramatic version of a baby boom generation coming through, followed by very dramatic population ageing. In China, the 'one child' policy is causing quite extraordinary demographics, because they are going to have shrinkage in the working age population. By 2050, the world's second largest population, after India, will be Chinese pensioners. It will be extraordinary to see how a society that does not properly have private property rights will handle this.

Of course, the answer is that, in their traditional culture, you look to your son to maintain his parents. When the daughter marries, she goes and joins the family of her husband and ceases to have financial responsibility for her parents. The son has financial responsibility for his parents. In the absence of property rights and private funding, and when the 'one child' policy is imposed on you, it becomes very important that one child is a son.

This has resulted in a gender ratio in China of 1.25 boys for every girl, which is as bad as it was when I was an undergraduate at Oxford 25 years ago. It is an extraordinary gender imbalance that is going to be one of the most massive and fascinating social experiments the world has ever seen. Incidentally, they are getting so worried about it that, last year, they banned ultrasound in China, because they were worried that ultrasound scans were being used in order to abort female fetuses. They are beginning to worry about it themselves.

Working Longer

Macro versus Micro

Macro implications

Let me just talk about two sets of implications of this. First of all, the conventional answer is that we should all work longer. It is one response to these changes in Britain and around the world, and we have heard it from Adair Turner in his excellent report. 'If we all work longer, this would be okay.' Let me just make three quick points about this. First of all, this is an area where the macroeconomics is very different from the microeconomics. At the macro level, it is clear that if you can keep people in work for longer, raise employment rates from 65% or 70% – in Britain, they are over 75% and we have a target of raising adult employment rates to 80% – and have people staying on in work in their 60s, that must be a good thing.

Micro implications

The missing chapter in Adair Turner's report is that, although that makes sense for the economy as a whole, it is not necessarily attractive for any individual organisation. For any individual organisation, one of the ways in which you can turn over your staff, shed staff, recruit new people and keep the company young is to remove staff. What more painless way could there be than their reaching the company retirement age?

If you get rid of the obligatory retirement age, then no longer can the Personnel Director say, 'I am terribly sorry, Smith. You have done a great job. It is appalling that we have these stupid company policies on retirement age, but you have reached the age of 62. There is no way I can get round it. Sadly, you have to go.' If you get rid of retirement ages, that conversation instead becomes, 'Smith, we have been monitoring your performance over the past 10 years. We have now established that your performance is 25% worse than it was 10 years ago. I am afraid, therefore, that you will have to leave the company. This is the evidence we have in case you challenge our decision.' It is a much more painful way of sacking staff.

Retirement ages help companies move staff out in a painless way and enable them to bring in younger staff. Therefore, every individual company wishes to keep low retirement ages. Retirement ages rejuvenate organisations. In Italy, the way they are reforming their universities is by introducing low retirement ages, so that they do not have lots of elderly professors. Sorry to go back to Italy again, but I love the place.

At the micro level, retirement ages are an important part of corporate management, hence an unholy alliance of the Confederation of British Industry (CBI) and the Trades Union Congress (TUC) to stop any increase in company retirement ages in Britain as anti age discrimination legislation is introduced. Nobody has cracked the challenge of balancing something that makes sense at the macro level with the right of individual organisations to remove staff when they are in their 60s. That is the first point.

Savings and Investment

Secondly, of course, is an economic point. People working longer and higher total employment is presented sometimes as an alternative to saving more for your pension. However, a nation that has higher employment also requires higher levels of national savings and investment so that these extra employees can work productively. It actually complements a higher saving policy. It is not an alternative to a higher saving policy. It is a society that also requires higher levels of savings and investment.

Productivity Improvement Models

Research findings

The third observation is about productivity improvement. I do not know if you have talked about Galenson, the Chicago economist who has done fascinating research on the different ways in which productivity is improved. His first piece of work was on Cezanne and Picasso. He did a second piece of work on Nobel Prize winners. He was a Chicago economist, so he thought you could measure everything, even quality of art.

With Cezanne and Picasso, he looked at the ages at which they painted the paintings that commanded the highest prices in the showroom and had the most frequent references in the art historical literature. The Cezannes of the highest value were painted when Cezanne was in his 60s. That was incremental improvements in your performance as, throughout your life, you wrestle with a certain set of views of Mont Sainte Victoire and try to get closer to the truth. The Picassos that commanded the highest price in the showroom were painted when Picasso was in his 20s. That was a new entrant coming in and doing things differently than they had ever been done before.

Galenson then applied the same technique to Nobel Prize winners, and he found that Nobel Prize winners break down into two groups. You get your Nobel Prize in Economics for two kinds of things. The first is the rigorous empirical analysis of difficult problems, where, by and large, your best work is done when you are older. The second is path breaking theoretical innovations, where, by and large, your best work is done when you are in your 20s.

Economic application

The economists say that perhaps 60% of improvements in productivity come from new entrants. If we are going to have more work from the 50 year olds and the 60 year olds, we are going to have Cezanne type improvements in performance. We are going to carry on having incremental improvements in performance, but are we going to have Picasso type changes in performance? Are we going to have new entrant, new model type improvements in performance? Those are the sorts of changes that will get harder. We will be an 'incrementalist' economy, not a 'change the paradigm' sort of economy. It is young people who change the paradigm.

If I may say so in an organisation with German roots, one of the things they are trying to do as part of the reform in Germany is to lower the age at which people leave university. Germany has the youngest pensioners and the oldest students, and they are going to try to change that. One of the things that happens if you stay at university all the way through your 20s is that, when you emerge from university aged 28, you have a quite excessive reverence for the wisdom of Herr Professor. You have been educated into exactly what the previous generation already thinks. If you leave at 21, you are much more likely to be a free thinker. These are some of the issues about working longer.

Pension Legacy Costs

Legislative Framework

Finally, I will talk briefly about pensions. There is a very lively debate going on here. There are so many different aspects of the pension crisis, but perhaps I can just talk about one or two aspects that have not been covered in Adair Turner's report. Despite having, in general, interpreted his terms of reference very widely, which is a good thing, he explicitly rules out addressing the question of the legacy costs, namely the costs to companies of the pension promises that have already been made. Those promises were thought of by Finance Directors as contingent, best effort, 'do our best', 'obliged to meet the minimum funding requirements' sorts of promises.

It was only in June 2003 that the government announced it was passing legislation to make the company pension promise an inescapable obligation of the company. I was then my Party Spokesman on pensions. We get government announcements an hour or two in advance. When I read the announcement, I thought that share prices would fall by 5% that day. They actually rose 0.6% that day and 1.6% the following day, so the analysts were doing their job. When the government made that announcement, they, at that point, transformed the finances of large numbers of British businesses, because they finally made the pension promise inescapable.

The question is whether this is sustainable. My fear is that the skin is very tight on the top of the drum. If you look at other advanced Western economies with significant funded pensions, they have mechanisms whereby companies can ultimately escape the burden of pension promises that they have already made.

International Mechanisms

America and the PBGC

In America, there is the Pension Benefit Guaranty Corporation (PBGC). You have this interaction between ease of access to Chapter 11 bankruptcy and being able to hand your pension assets and liabilities over to the PBGC. Often, you hand them assets that are tiny compared to the liabilities, but the politicians just look at the cash flow. If there is enough cash flow to pay the pensions out for a year or two, then they think everything is all right, really.

You hand your pension over to the PBGC and emerge from Chapter 11 bankruptcy as 'NewCo'. That is what happened in the steel industry and the airline industry and it is about to happen in the auto components and auto industry. Once one or two companies go through that process, everyone else has to as well, because the 'NewCo's have a 20% cost advantage over everyone else, because they have shed the pension promise.

Meanwhile, the PBGC, which already has a deficit of \$23 billion, is heading towards \$100 billion. When the motor industry goes through it, it will go towards \$100 billion. The PBGC is relatively easy to get into and is undersupervised. The premia are well below the actual costs that are borne by the PBGC. It is America's next savings and loan crisis, if you like. It is, ultimately, a contingent liability of the federal government. Larry Summers wished to make it explicit on the balance sheet and it was only when he saw how big the figures were that he decided not to after all. It is, in reality, a big fiscal issue for the federal government. It is also America's big state aid for the manufacturing industry. In reality, ultimately, the federal government stands behind these promises and companies can walk away. That is one model.

The Japanese mechanism and its application in Britain

In Britain, we have taken the PBGC model and imposed it on the Pension Protection Fund (PPF), but the PPF is much more demanding than the PBGC. In Japan, what companies can do is pay the government to take off them some of the pension promises that they have already made. Indeed, when the Japanese government introduced that in 2002-03, it was the beginning of the recovery of the Japanese corporate sector. Oddly enough, Japan and Britain have rather similar pension structures. We both have this model of a second state pension as something like contracting out.

It would be possible for the British government to tell British companies that they can, if they like, pay the government to take the second state pension promise off them, at rates that have been defined to be actuarially fair. But actually I think they are rather favourable to the companies if they were to pay the government to take them off them. They are low rates, there would be a one off transfer of money from the corporate sector to the government sector, but the government would have an extra liability on its balance sheet, with the obligation to pay these pensions in the future, and the companies would shed them from their balance sheet.

There are other things you could do as well, but you need some mechanism. My view is that the inescapable obligation of companies to pay these pension promises that we now have in UK law – we have only had it for two years – plus the very demanding levels of benefits to be paid by the PPF into them is probably going to be unsustainable. Something is going to have to give, and I do not believe that British business can take the level of the legacy costs that they now face. As I say, in other countries, there is some escape mechanism.

Inflation

My final comment is that we used to have a very good escape mechanism. It was called inflation. Most of these problems are solved by a good, healthy dose of inflation. Inflation is what we use to wipe out these rather embarrassing promises that we have made and discovered that we cannot pay for. That is why people are worried about life expectancy, now. It is not, as I said earlier, because there is a sudden transformation in life expectancy. It is that, suddenly, promises you made with money when you are 85 might actually mean something, so you are much more interested when you get to 85. In the old days, it was academic, because in high inflation it was not going to be worth much anyway. In a low inflation environment, all these promises have become much more significant and expensive.

That is really the biggest single thing that has changed, even more important than the demographics. This is just another way in which we are adjusting to a world of low inflation, where promises that we made many years ago come back to haunt us, because they still mean something.

Keynote Address

The euro area's demographic challenge

Paul van den Noord of the OECD argued growth in the euro area is set to slow sharply as a result of demographic trends in coming decades. It could slow to less than 1% p.a. in the 2020s, even with some pick-up in productivity. He also argued that age-related spending could lead to national debt levels spiralling out of control unless member countries reduced their deficits sharply.

Paul van den Noord
Senior Economist OECD

- ▶ Paul van den Noord began by pointing out that there was a 30% gap in GDP per head between the US and the euro area, which had been relatively stable over the past 35 years. In terms of total GDP, the US currently has a growth rate of around 3% p.a. and the euro area one of 2%. Faster population growth is the main reason for the difference in growth rates. But he also noted that productivity growth has picked up in the US in recent years, on the back of the Information and Communications Technology (ICT) revolution, but has slowed in the euro area as the new economy has failed to take hold on the other side of the Atlantic as yet. This suggests the gap in GDP per capita could widen.
- ▶ Putting the outlook for productivity to one side, overall GDP growth in the euro area is set to slow as the working age population growth slows and starts to decline. It is projected to grow by only 0.1% p.a. in the second half of this decade, and then decline by 0.2% in the 2010s and 0.6% in the 2020s. Even with some pickup in productivity growth, overall trend GDP growth is set to slow from 2% currently to less than 1% in the 2020s. If governments want to prevent such a sharp slowdown they will have to undertake further product and labour market reforms.
- ▶ Paul van den Noord also considered the fiscal implications of an ageing population. It was generally considered to boost government expenditure by around 2-3% of GDP, largely due to higher spending on pensions and health care. However, assuming unchanged tax rates, this would be consistent with debt levels spiralling out of control, with debt/GDP levels rising to over 200% in Germany and France to name but two.
- ▶ He argued that most members debt positions would become sustainable if they were to adopt balanced budgets in line with the Stability Pact, though this was a 'bonus' in that it was not one of the objectives of the Pact's designers in setting the rule. He pointed out, though, that sharp reductions in fiscal deficits from current levels would be required in the euro area as a whole to ensure debt levels were sustainable. In the larger members these tightenings were of the order of 4-5% of GDP.

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This page is a summary of Paul van den Noord's presentation, put together by DrKW

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The euro area's demographic challenge

The following is a transcript of Paul van den Noord's presentation at the seminar on 8 December

The work I will be presenting is something our team did in the preparation of two economic surveys of the euro area, which is the annual report of the euro area that we publish. Many of the things I will be saying have already, in some form, been put forward by previous speakers. Perhaps my main contribution is to pull all of these things together in one big overview, with some OECD numbers.

I first want to look at the history, the last 20 or 25 years. How has economic growth in the euro area developed? How has it developed in comparison with the US? How do demographics come in? Then, I would like to take a look at the future, the next 20 or 30 years or so. What is the outlook for long term economic growth and how is that underpinned by demographic developments? Finally, perhaps, I will say a word about the policy requirements.

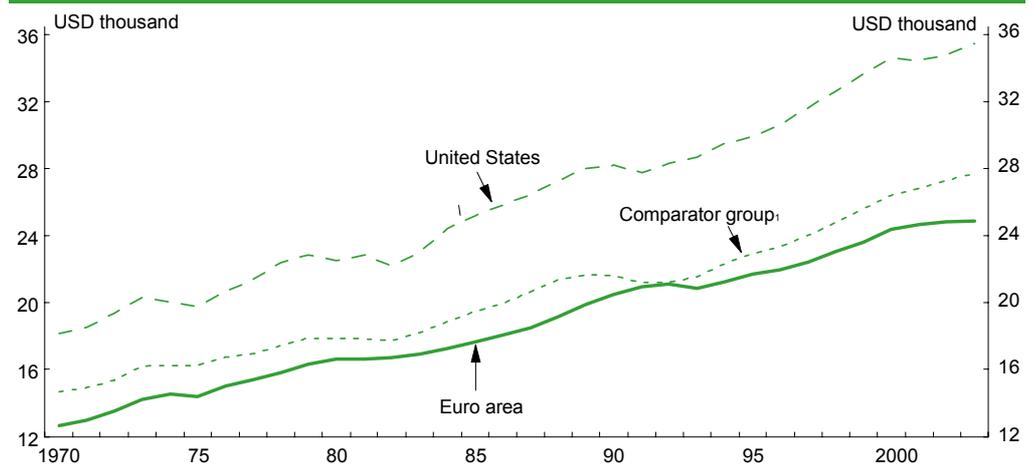
Historical Income Gap

Size of the income gap

The first observation to make is that, as you are probably all aware, the euro area economy has, over the last 20 or 25 years, been growing at a rate that is considerably slower than that of the US. It has been about 2% per year, as opposed to 3% per year in the US. In per capita terms, the differential is a bit smaller, because the US population is growing faster. It still means that there is a persistent GDP gap between the US and the euro area. There is also a third group of countries, which are basically what we call the English speaking countries of the OECD, excluding the US. This includes the UK and some other countries. What we see is that this gap amounts to about 30% and has been gradually widening. This is quite contrary to what you would expect on the basis of the well known catch up hypothesis, which would predict that countries that have a lower level of GDP per capita will eventually catch up with the best performer.

The income gap

GDP per capita at constant prices and in 2000 PPPs



1. Includes Australia, Canada, Denmark, New Zealand, Sweden and United Kingdom

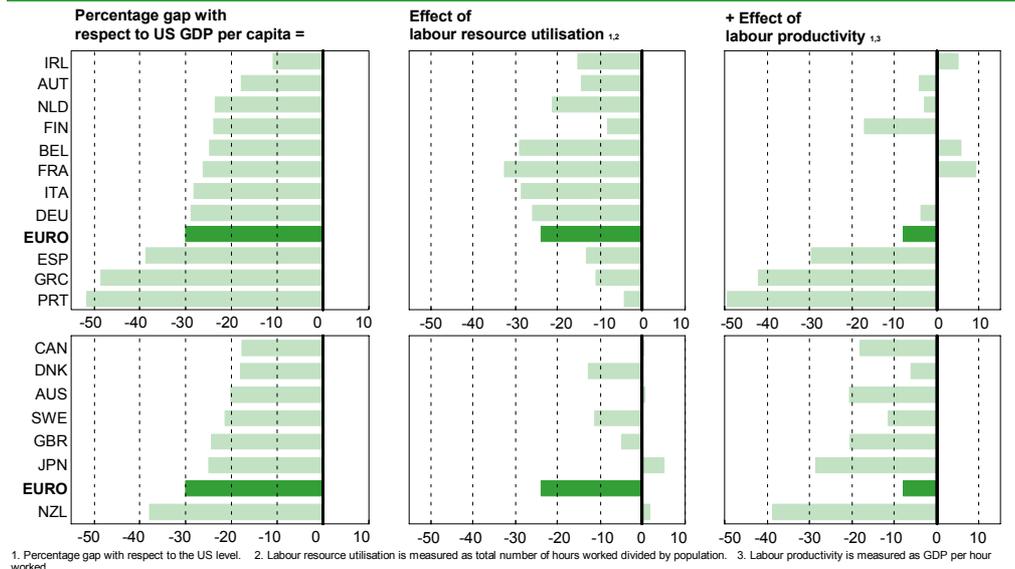
Source: OECD, National Accounts

Causes of the Income Gap

Labour utilisation rates

Why is this happening and what is behind this gap? Let us break down this income gap in terms of per capita GDP and its constituents. I am looking at 2002 numbers, but the numbers at the moment would not look much different. We have a gap of about 30% between the US and the euro area. In terms of the gaps for the individual countries, there are a few poor performers. Spain, Greece and Portugal are still lagging behind, in terms of GDP per capita in the euro area. There are also a few star performers. Of course, the real star performer is Ireland, where the per capita GDP gap with the US has virtually disappeared.

The income gap 2002, in 2000 PPP terms



Source: OECD, National Accounts, Labour Force Statistics and Economic Outlook 77 database

About two thirds of the gap is explained by the difference in labour utilisation rates. In the euro area, in comparison with the US, we see a lower level of labour market participation for those of working age. At the same time, we see that the number of hours worked per person per year is lower than in the US. There is a broad consensus about why this gap exists. Part of it is because of a higher preference for leisure as opposed to the US. In addition, of course, there are incentives built into tax and benefits systems, which is why labour participation is lower than the US. About two thirds of the 30% gap is related to that.

Labour productivity

The remainder, one third, is related to labour productivity. Labour productivity in the euro area is somewhat lower than in the US. In fact, the number I have given of approximately minus 8% is probably a bit too optimistic. The underlying differential on productivity is probably bigger. Why does it appear smaller? It is basically because, in the euro area, many low productive workers are in fact not absorbed by the labour market. They are prevented from doing so, for example, because of minimum wage requirements and incentives built into tax and benefits systems. In the US, many low productive workers are in fact employed. As a result, the measured labour productivity level in the euro area is biased up while the US is biased down.

Production efficiency

The conclusion must be that, in the US, production reaches a higher level of efficiency than it does in the euro area. There are many explanations for why that is the case. One is that the rate of diffusion of new technology in the US is higher than in the euro area. This may have something to do with segmentation of product and services markets. It may have something to do with how research and development (R&D) systems work. It may have something to do with the possibility for new entrants into product markets to flourish – business start ups and what have you. In other words, it is in this whole area of innovation, business start ups etc. where the euro area seems to be lacking.

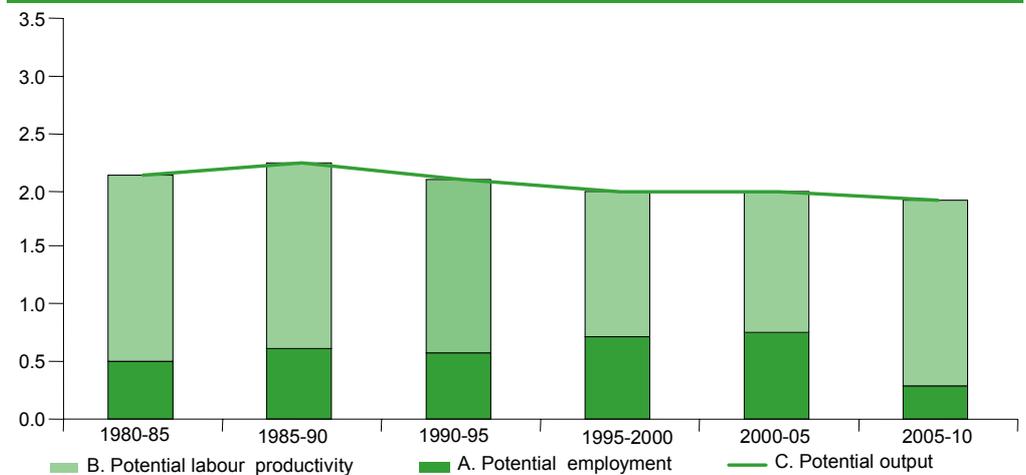
Historical Growth Rates

Potential Labour Productivity

So far, we have looked at levels of productivity and output. Now, I would like to take a look at the growth rates in each of these variables over the past, since the 1980s, in order to see what the main determinants of economic growth in those areas were and how demographics come in.

Potential growth in the euro area has been hovering around 2%, although it has been on a slightly declining trend. Why is it on a slightly declining trend? It is basically because potential productivity growth has been slowing down. This, in a way, is surprising, given the fact that we had the information technology revolution in the second half of the 1990s, yet productivity growth in the euro area has been slowing down rather than speeding up. We expect that, in the next five years or so, there will be some catch up, with productivity growth probably picking up. Of course, that is highly speculative. So far, we have not seen that.

Growth is weak ...



Source: OECD

Potential Employment

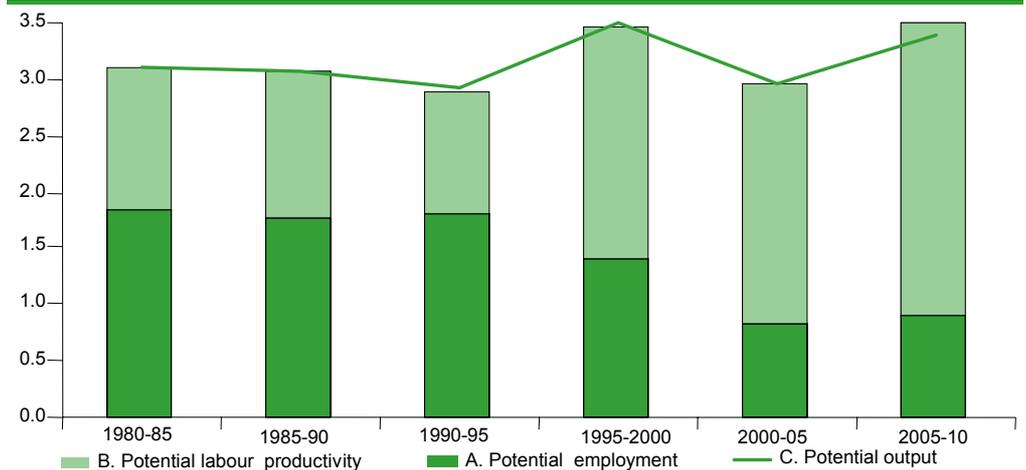
Euro area

This trend is somewhat offset by some acceleration in potential employment. This may be surprising and contrary to the general perception that labour markets do not perform very well in the euro area. However, in fact, potential employment growth has been speeding up. Part of that is related to wage moderation in response to labour market slack. Part of it must also be related to structural reform in labour markets, which is playing a part, to some extent.

US

If you compare that to the US, the first thing that strikes you is that the numbers are much bigger. There is potential output growth of around 2% in the euro area, versus over 3% in the US. It is a bit more volatile, but it is around about 3%. What explains it? First of all, potential labour productivity in the US has been accelerating a lot. Apparently, unlike the euro area, the US has drawn a lot of benefit from the Information & Communication Technology (ICT) revolution, in terms of productivity. There are other factors as well, which I will turn to later, but this is certainly a major factor. A partial offset has been a decline in the growth rate of potential employment. This, again, may be a little surprising, given the fact that the general perception is that the labour supply in the US is growing, with stronger demographic trends etc. I will turn to that later as well.

... compared with the US



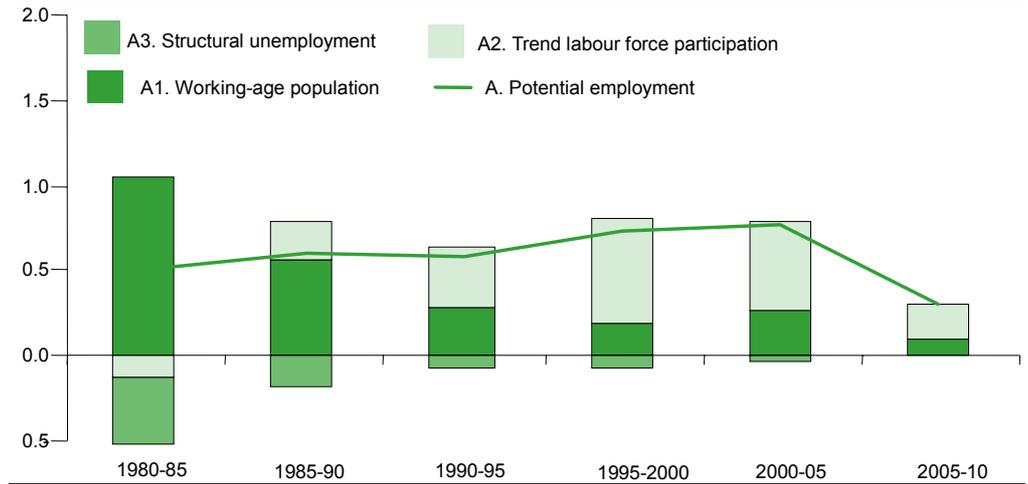
Source: OECD

Components of Potential Employment Growth in the Euro Area

Labour force participation

Let us look at potential employment growth for the euro area broken down further into components. As I just mentioned, potential employment growth has become a bit faster over time. Why? It is basically because labour force participation has been increasing. I think this has been mentioned before, but the rate of labour force participation in the euro area for any given age group has increased, especially for older workers but also for prime age workers.

Demographics are one factor ...



Source: OECD

As concerns prime age workers, this is basically because of a higher rate of female participation. This is something that is a very distinct trend, especially in some countries. Generally speaking, this has been increasing. We expect this factor to taper off going forward, as female participation rates reach their long term equilibrium levels.

Working age population

At the same time, of course, growth in working age population has been slowing down quite a lot. This is obviously the impact of ageing. We see an older population and a smaller working age population, yet we see labour force participation rates for those of working age people have been increasing.

Structural unemployment

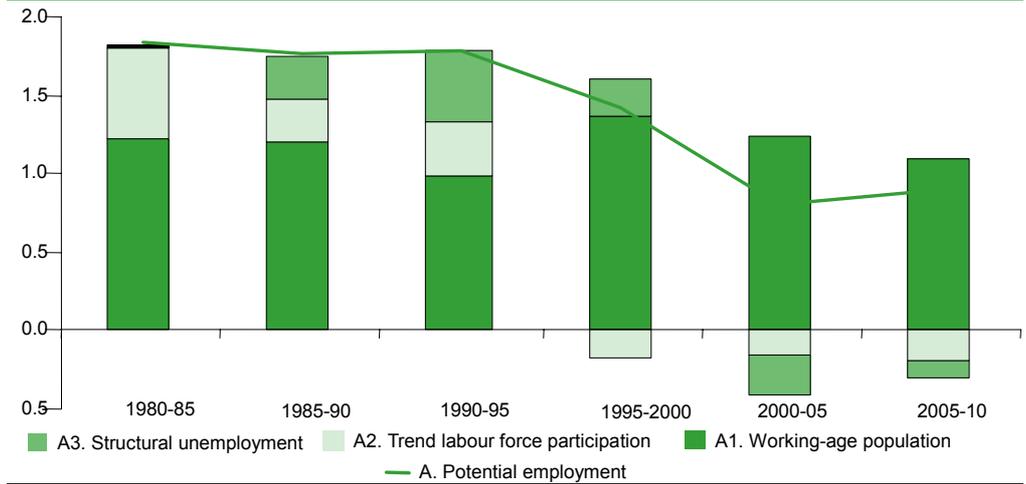
Structural unemployment, of course, rose a lot in the wake of the oil shocks at the end of the 1970s. That provided a negative impetus to potential employment growth. This factor has been gradually tapering off and we have now reached the point where structural unemployment is not deteriorating or improving anymore. It is basically stable at around 8%. We seem to be stuck with that.

Components of Potential Employment Growth in the US

Labour force participation

Comparing again with the US, as I have already indicated, we see potential employment growth slowing down quite a lot, despite the fact that the working age population is growing at more than 1% most of the time. This, again, is related to the much more favourable demographics in the US compared to the euro area, but there are other factors. There are offsetting factors.

...which looks more favourable in the US



Source: OECD

One offsetting factor is labour force participation, which was providing a positive contribution to US employment growth until the mid 1990s. This has now become a negative factor. This is a striking development. Unlike the situation in the euro area and perhaps unlike the general perception, labour force participation in the US is in fact falling for any given age group.

Structural unemployment

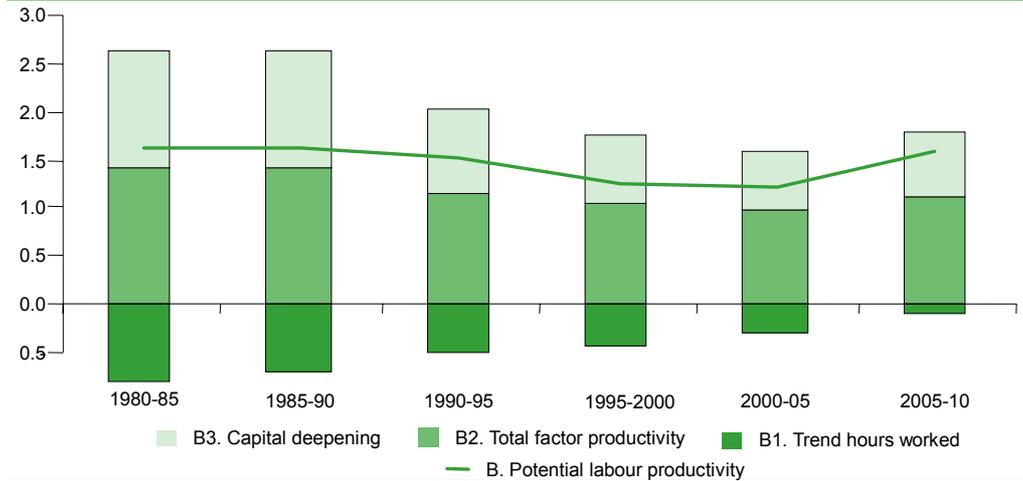
Structural unemployment in the US had been falling quite a lot in the period from 1985 to 1995, but has now reached a level where it probably cannot fall much further. In fact, there has been a slight increase in the current period and we project a further slight increase in the five years ahead. Nothing dramatic, but still providing some offset for these favourable demographics that are resulting in somewhat slower potential employment growth in the US than has been the case in the past. It is still, of course, much better than in the euro area.

Labour Productivity in the Euro Area

Capital deepening

Turning to productivity, I have already mentioned that labour productivity in the euro area has decelerated over time. Not by much, but still by a significant amount, from about 1.7% to slightly over 1%. Why is this happening? One factor that has been contributing to this trend is that the contribution to labour productivity growth of what we call capital deepening has been declining over time. Capital deepening is simply the fact that, per worker, the amount of capital that is being used tends to grow over time, but at a lower pace, a regrettably lower pace in the case of the euro area.

Euro area productivity slowed down ...



Source: OECD

Why is this happening? One reason is that, as I also already indicated, we have gone through a period of wage moderation in the euro area. As a result, the relative price of labour is falling, or is not increasing as much as it used to. As a result, we have less capital deepening.

In terms of capital costs, unlike the situation in the US, the euro area's usual cost of capital has not fallen that much. Why is that the case? It is very interesting, because we have gone through this huge ICT revolution, yet it is not really showing up in the euro area in capital costs. The main reason for that, probably, is that the origin of the ICT revolution was really in the US. This means that, whereas in the US all this high tech investment led to rapid labour productivity growth, we have not seen something similar going on in the euro area.

One reason is that the diffusion of new technology is apparently slower than in the US. The other reason is that, because this new technology was largely developed in the US, it had to be imported from the US to a large extent. Just when the ICT shock hit the world economy in the second half of the 1990s, the euro exchange rate went down. As a result, these imported capital goods became more expensive. The euro area never benefited as much as the US from the fall in the price of ICT capital goods.

Total factor productivity

Capital deepening is one factor. The other factor is total factor productivity. This measures, basically, the rate of technological progress. That is also declining, despite the ICT revolution. Again, this is related to slower diffusion and less progress in terms of organising production in a better way, with more separate product and labour markets in the euro area, country by country. This means that there is less division of labour than there otherwise could have been or than there is in the US.

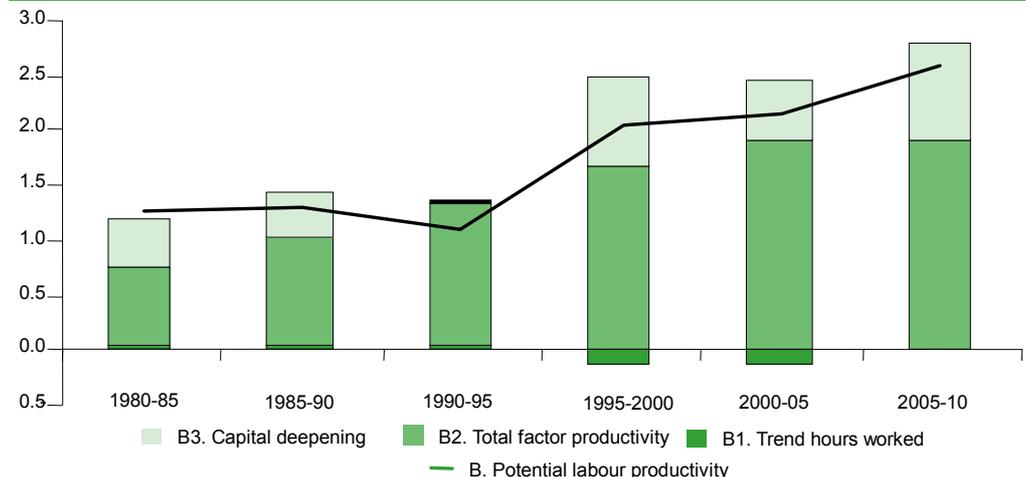
Hours worked

A partial offset has been the trend in hours worked. It is true that it is still the case that, on a trend basis in the euro area, people work less and less and less every year, but the pace at which they work less is diminishing. The negative contribution to labour productivity growth has been diminishing as well. We do project some pick up in labour productivity growth in the years ahead, basically because we expect that, eventually, the delayed effect of the ICT revolution will show up in the numbers in the euro area. This is also rather speculative, however.

Labour Productivity in the US

This contrasts very sharply with the situation in the US, where potential productivity growth has been accelerating a lot. It is really spectacular. It went from 1% per annum in the period 1990-95 to over 2% in 2000-05 and is expected to accelerate to 2.5% in the period 2005-10. The bulk of this acceleration is explained by faster innovation built into production methods, as well as a sharp acceleration in capital deepening, which is again unlike the situation in the euro area.

...whereas it accelerated in the US



Source: OECD

Why is capital deepening accelerating? It is because, in the US, unlike the situation in the euro area, they are not going through a period of wage moderation. They are, on the contrary, going through a period where real wages have been accelerating, reflecting in part the stronger growth in labour productivity. These things are, of course, strongly intertwined. At the same time, as I just mentioned, the cost of capital in the US has been falling much more rapidly than in the euro area. This also explains why there is more capital deepening. There is not much of an issue of labour time (hours worked) in the US. It has been virtually unchanged since 1980, although there has been some minor decline.

Long Term Growth Rates

Potential Employment Growth Components

Looking to the future, several scenarios have already been put forward by previous speakers, which will either be confirmed or not by what I am saying. Based on rather benign, conservative, middle of the road assumptions, this is the picture you will have. In terms of potential employment growth, first you have the demographics. We project that working age population in the euro area will decline by about 0.2% in the next decade (2010-20) and 0.6% in the decade after. We also see trend labour force participation declining a little bit. This is also because of the ageing phenomenon, the fact that the age structure of the working age population has changed, with a bigger rate of older workers, who tend to have a lower participation rate. Those are all the negative factors. In this baseline scenario, we do not project a change in the rate of structural unemployment. It is an unchanged policy scenario, so structural unemployment is stable.

Long term scenarios

	Annual average rates of change				
	1995-2000	2000-05	2005-10	2010-20	2020-30
Euro area¹					
A. Potential employment	0.8	0.8	0.3	-0.3	-0.7
<i>Contribution from:</i>					
A1. Working-age population	0.2	0.2	0.1	-0.2	-0.6
A2. Trend labour force participation	0.6	0.6	0.3	-0.1	-0.1
A3. Structural unemployment	-0.1	0.0	0.0	0.0	0.0
B. Potential labour productivity	1.2	1.2	1.6	1.6	1.6
C. Potential GDP	2.0	2.0	1.9	1.3	0.9
D. Population	0.3	0.0	0.2	0.1	0.0
E. Potential GDP per capita	1.8	1.6	1.7	1.2	0.9
United States					
A. Potential employment	1.4	0.8	0.9	0.3	0.4
<i>Contribution from:</i>					
A1. Working-age population	1.4	1.2	1.1	0.3	0.3
A2. Trend labour force participation	-0.2	-0.2	-0.1	0.0	0.0
A3. Structural unemployment	0.2	-0.2	-0.1	0.0	0.0
B. Potential labour productivity	2.0	2.1	2.3	2.3	2.3
C. Potential GDP	3.5	3.0	3.2	2.6	2.6
D. Population	1.2	1.0	0.9	0.8	0.8
E. Potential GDP per capita	2.7	2.0	2.0	1.7	1.8
Comparator group²					
A. Potential employment	1.1	1.1	0.7	0.1	-0.1
<i>Contribution from:</i>					
A1. Working-age population	0.7	0.9	0.6	0.1	-0.1
A2. Trend labour force participation	0.1	0.1	0.0	0.0	0.0
A3. Structural unemployment	0.3	0.0	0.0	0.0	0.0
B. Potential labour productivity	1.9	1.7	2.0	2.0	2.0
C. Potential GDP	3.0	2.8	2.7	2.2	1.9
D. Population	0.6	0.6	0.5	0.5	0.4
E. Potential GDP per capita	2.4	2.1	2.2	1.7	1.5

¹ Excluding Luxembourg

² Includes Australia, Canada, Denmark, New Zealand, Sweden and United Kingdom.

Source: OECD, Economic Outlook 77 database and OECD calculations

Projected growth rates

If you add those numbers up, you arrive at a total potential employment growth rate of 0.3% for the five years ahead, which is undone in the decade after that, followed by further deterioration in the period 2020-30. For potential labour productivity growth, the factor we put into our domestic models, we assume that none of the factors like capital deepening will provide further negative contributions. We assume that labour time stays fixed. What is then left is technological change. On that basis, we expect a slight acceleration in labour productivity, which would then be maintained at a rate of 1.6%.

Potential GDP Growth

If you add those numbers up, you arrive at potential GDP growth numbers of 1.9% in the period 2005-10, slowing down to 1.3% in the next decade and to 0.9% in the decade after. In other words, based on these rather conservative numbers, but assuming unchanged economic policies and unchanged parameters like labour participation in your age cohort, you quickly arrive at growth numbers that are below 1% as standard. In per capita terms, if population is basically stagnant, per capita growth rates are in roughly the same ballpark of just below 1%. Comparing that to the US, making the same sorts of assumptions, potential growth would slow down from over 3% now to 2.5% going forward to 2030.

Long Term Implications

Ageing Related Public Expenditure

You could say, 'Is that a problem?' It is a problem in many respects, but I think the most challenging implication of this sort of outcome is that the fiscal situation would become very unsustainable, as has already been alluded to by previous speakers. I have put in some numbers for what we call ageing related public expenditure as a percentage of GDP. These expenditure projections are based on the 2004 stability programme. These are the projections by the countries themselves, which are unlikely to be overly pessimistic.

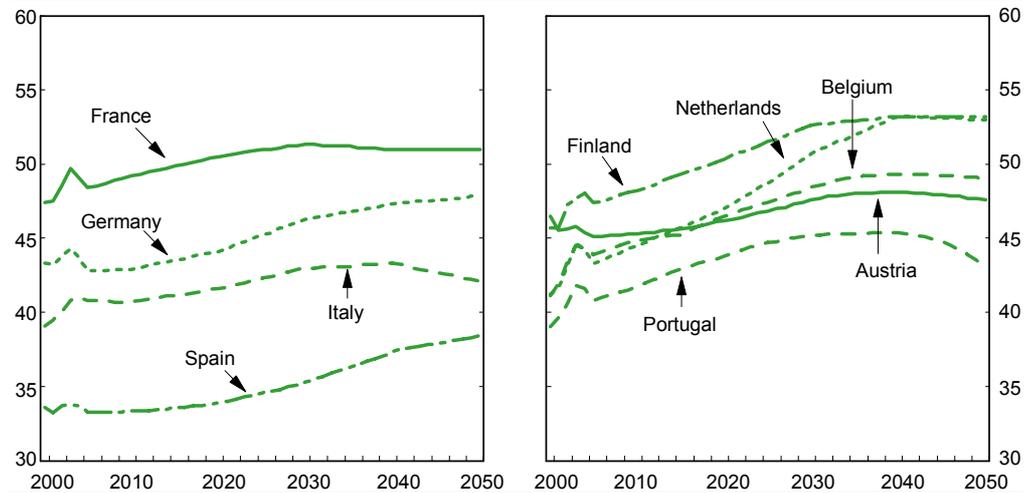
Ageing-related spending (% of GDP)

	2005	2010	2020	2030	2040	2050
Austria	20.4	20.6	21.5	22.9	23.4	22.9
Belgium	21.5	22.4	24.1	26.0	26.9	26.6
Finland	17.1	18.6	20.7	23.0	23.6	23.6
France	12.2	13.0	14.3	15.1	14.8	14.8
Germany	23.1	23.3	24.5	26.7	27.7	28.2
Italy	25.5	25.4	26.3	27.7	28.0	26.8
Netherlands	19.3	20.5	23.0	26.7	29.2	29.0
Portugal	16.6	17.8	20.4	22.1	22.2	20.0
Spain	7.9	8.0	8.5	9.9	12.0	13.0

Source: OECD

These expenditure ratios will increase, by and large, by the order of two or three percentage points of GDP, which, by itself, does not look dramatic. However, if you put them together with the other forms of non age related expenditure, you do see sharply increasing trends in expenditure ratios, with several countries seeing their expenditure ratio exceeding 50% of GDP quite easily.

Baseline projection: primary current expenditure(% of GDP)



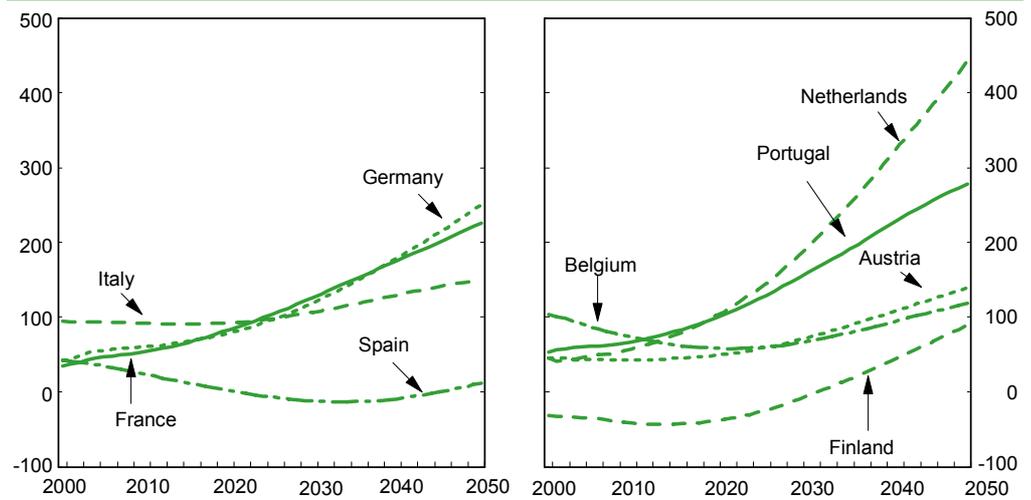
Source: OECD

Debt Profiles

Debt levels

That in itself would still not be much of a problem if it were not for the implications for debt sustainability. If I assume tax rates remain constant at their current levels, the sort of debt profile you would end up with is of the order of several hundred percent of GDP. I think these numbers have been mentioned before, so you should not be shocked by them by now. You end up with numbers like 200% or 300%, over 200% in the case of Germany. There are somewhat lower numbers for Italy, but this is maybe because Italy has gone through major pension reform and the government thinks this will do the trick of broadly stabilising debt. I do not know. The jury is out, as far as I am concerned. The only countries that look relatively okay are Spain, Finland and maybe Austria.

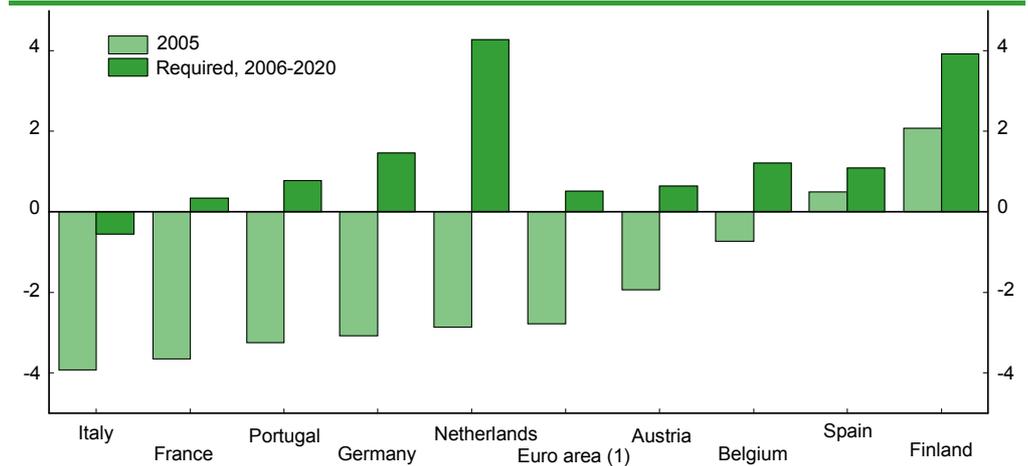
Baseline projection: net debt (% of GDP)



Source: OECD

Required fiscal adjustments

We also tried to find out the fiscal adjustment required to ensure that these debt levels will not be reached, in other words to ensure that we reach debt levels that are acceptable, in the range of 60% of GDP, by the year 2030. Let us look at the fiscal position in 2005, as it is currently. For Italy, the numbers are slightly out of date, but the deficit is around about 4%. For France, it is clearly over 3%. In order to achieve sustainable fiscal positions, governments would need to achieve fiscal positions of around balance or in surplus. Finland would have to have a higher number, but Finland, on the other hand, already has a surplus on its account.

Actual and required fiscal position(% of GDP)

1. Average of countries shown

Source: OECD

For the others, budgets need to be close to balance or in surplus. I would ignore the Netherlands, because the number does not take into account the fact that the Dutch government has a lot of pension assets outside the general government accounts. In fact, the Dutch case is, in reality, a lot more favourable than this suggests.

This happens to be one of the two main fiscal rules in the EU, according to the Stability and Growth Pact, which says that governments should aim for close to balance or surplus on their accounts. I think that this is an accident. I do not think that the designers of the Pact ever imagined that that number would be consistent with long term sustainability. That was not how it was designed, but it happens to be the case, at least on the basis of the sorts of numbers we are able to produce from our relatively conservative assumptions.

Assumptions

These assumptions really are conservative, because one thing we have assumed is that the difference between the real interest rate and the real growth rate of the economy is between 0.5% and 1.5%. That is the relevant discount rate, if you want to do these sorts of long term exercises. At current interest rates, that looks very feasible. However, if you look at it from a much longer term perspective, we have seen much higher discount rates. If you had higher discount rates, the debt explosion would in fact be much greater and the required fiscal adjustment would also be larger.

Policy Implications**Expenditure and growth**

In terms of the policy implications, I think governments will have to work on both sides of the equation. On the one hand, they need to rein in public expenditure, to either change parameters in their public pension schemes, for example, or rein in non-age related expenditure. Probably even more importantly, they will need to boost economic growth and make sure that policies are in place to avoid economic growth sliding below 1% on a long term basis. They need to get growth higher, not necessarily to US levels, which is probably not realistic, but something like half or one point higher than what we have here would help tremendously. Then, the implicit discount rate would be quite a lot lower and debt explosions would probably not happen.

Structural reform

This calls for structural reforms of labour markets and product markets. It means that the EU should move ahead with achieving internal markets, not only for goods but also for services. It means that policies should be in place to reduce structural unemployment. We have made calculations that suggest that, if governments managed to reduce the structural unemployment rate from the current 8% to about 6% or 7%, it would also achieve a boost to labour productivity of about 2%, not in terms of growth rates, but just in levels. That would do much of the trick of avoiding these sorts of ageing related debt explosions. The ball is in the court of the EU authorities and the governments of the EU, in order to put those policies in place.

Questions and Answers

Anthony Thomas

Thank you very much for coming across and giving what I think we would all agree was a very interesting and insightful analysis. I would now like to open the seminar to questions.

Question

You mentioned Italy quite vaguely and said that government assumptions were not necessarily trustworthy. Could you go a bit deeper into the detail of that? As a second, maybe related question, what do you think is the productivity medicine, so to speak, that should be applied to the Italian economy going forward, knowing that Italy has an industry that is not necessarily prone to getting on the productivity bandwagon, so to speak? There are a lot of small companies and so on, so how might they tackle this?

Paul van den Noord

I am not necessarily the expert on Italy. The three questions are clearly related. As my simulation suggests, labour productivity is a key parameter in the whole projection. The higher labour productivity growth is, everything else being equal, the less risk there is that you run into debt explosion problems. Specifically in Italy, one of the concerns I have is about labour productivity growth. Labour productivity is not growing at all, it is falling, at least as we measure it.

Admittedly, to some extent, this is statistical, in the sense that, because of government efforts to transform the grey and black market for labour into official or measured labour, measured employment is increasing. All of that is also reflected in extra GDP growth. Apparently, according to them, this is because GDP and employment numbers come from different sources and are not necessarily collated in the same manner or internationally comparable.

However, labour productivity in Italy is still a concern. One of the reasons that I personally have some difficulty in accepting the official view that Italy is one of the star performers when it comes to having a sustainable debt path is precisely related to this. I want to see more proof before I believe that Italy will actually be moving towards a sustainable path.

On the pension reform itself, I do not know. As I said, I am not necessarily an Italian expert. Let me put it this way. I never believe the authorities at face value. This is not necessarily true just for Italy, it is also true for other governments. Some of the changes I have seen in certain projections for Italy look a bit too good to be true.

Question

When you present the kind of data you have presented to us to European governments, what do they say? From their actions, it seems that they do not believe you or that they just have a belief that, since they are only in office for five years, it is not their problem. Are there any governments out there who seem to believe the numbers that you are presenting?

Paul van den Noord

I now have to say something that sounds inconsistent with what I was just saying about Italy. In fact, some countries have been listening to the early warnings we have been giving in the last 10 or 15 years about sustainability and requirements related to ageing. In fact, a number of countries have taken action, and Italy is an example of this. There are other countries as well. France had a pension reform a couple of years ago.

I think all these messages do trickle through and do prompt action by governments. It may not be fast enough, so we need to keep them under pressure. However, I think they are listening, albeit selectively, admittedly. Of course, governments have to strike a balance between many other interests, including the interests of being re-elected. I think, broadly speaking, these messages do trickle through.

Question

I have two questions, which are related. Firstly, you showed some numbers relating to long term scenarios of potential employment and potential GDP, which you said were on a conservative basis. Then, you were speaking about 'if governments do this...' and 'if governments do that...'. If we were not to do it on a conservative basis, how low would potential labour productivity and potential GDP go, in your eyes?

Paul van den Noord

In terms of labour productivity, I put in a number of 1.6%. I could easily defend a lower number, of the order of 1.1% or 1.2%, say. In terms of the interest rate growth differential, we actually presented three scenarios in the survey. What I have shown is an average of the three. We put in a number for the interest rate growth differential of between 0.5% and 1.5%, which, at the moment, looks feasible. If the economy is growing at, say, 1.5% in real terms, and you make an assumption about a real interest rate of between 2% and 3%, it does not sound outlandish. However, on the other hand, we have seen episodes in more distant history where the interest rate growth differential was a lot higher than between 0.5% and 1.5%. My main concern is, indeed, about labour productivity growth. My other concern is about the interest rate growth differential. I think that is where most of the risks are.

Question

My question is on capital markets. What will happen to capital markets with an ageing population? Will we see more fixed income being bought and less equity? How will it affect the funding structure of corporates? What do you think?

Paul van den Noord

I have already mentioned interest rate risk, and this is precisely related to this. There are several reasons why long term interest rates are as low as they are, but we think that one of the factors is a portfolio shift in pension schemes towards more fixed income. As a result of this, there is a huge amount of bonds out there. Of course, once these bonds are being sold again, in order to meet pension payments, without necessarily ending up with a crash in bond markets, this sort of benign impact will still diminish, if not disappear. This is precisely why I explained that there is a risk that the interest growth differential may in fact be higher than I put in my scenarios.

Anthony Thomas

I would just like to add that I think it is really an impossible question to answer at this stage. I think that we can all agree that people will have to make more provision for their retirement and it will have to be outside the state systems. We have seen Germany, France and Italy trying to establish private funded schemes to supplement state pensions.

The question is in what will that money be invested? At the moment, it appears that German savers, for example, prefer to put their money into life assurance schemes, rather than necessarily into the pension funds that the government is promoting. Given the culture in Germany, that money will probably go primarily into bonds. Perhaps in France and Italy, though, the money will go more into equities, rather than bonds. I think what we will see is more money going into the capital markets generally.

At that point, let me draw the seminar to a conclusion. Thank you once again, Paul van den Noord, for coming across and speaking to us. Thank you all for coming. Obviously, demographics is a subject that is not going to go away. It is going to age along with us. I hope you found this a useful introduction to the issues.

Notes

Notes

Disclosure appendix

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