

## EUROPE AND THE DEMOGRAPHIC CHALLENGE

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Hans-Werner Sinn

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Documentation of the  
MUNICH ECONOMIC SUMMIT   
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# 6th Munich Economic Summit

INTERNATIONAL POLICY FORUM

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## ORGANISED BY

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Welcome Speech by

**HEP MONATZEDER**

Deputy Lord Mayor, City of Munich

Ladies and Gentlemen,

I feel very honoured to be able to welcome you today – also on behalf of Lord Mayor Christian Ude – to the Reception of the City of Munich on the occasion of this top-level Economic Summit. And I can assure you at the beginning I could not think of a better venue than the Bavarian capital city to discuss economic issues of Europe’s future with high-ranking representatives of the international economy. This year, the summit is entitled “Europe and the Demographic Challenge”. This subject is of greatest significance even for the City of Munich because the cities, as the focal points of growth, are especially affected by this development. We have to respond to the challenges of the demographic change – in particular – to solidify and further improve the competitiveness of Munich.

The forecast for Germany of the Institut für Entwicklungsplanung und Strukturforschung (IES) expects a loss of population of 2.6 percent between 2004 and 2020. However, the loss is not evenly distributed all over Germany. Leaving alone the booming economic core areas of East Germany, the forecast drop in population will be felt strongest there with a loss of 5.9 percent. There will be no uniform development in Europe in this respect – the more as a full reproduction rate is not reached by any of the European states.

The situation for Munich is completely different, fortunately. In fact, the Bavarian capital city is the metropolis in Germany which can distance itself to some degree from the federal tendency with an expected population growth of 6.3 percent between 2004 and 2020. In recent years, a growth of birth rates was registered in Munich which is meanwhile exceeding the number of deaths.

We maintain that various municipal initiatives launched by the city government to make the city

more family-friendly. It is true, however, that the forecast growth in population is mainly due to a continuing positive balance of in-migration. It can be said that local governments can only be competitive and fit for the future, if they succeed in keeping and attracting young people and families on the spot. This fact tends to move “family-friendliness” as locational factor into focus. Therefore, the City Council recently passed a new Directive for a Children and Family Policy within the framework of the “Perspective Munich” – the strategic urban development concept of the City of Munich. Suitable and attractive frame conditions for young families require, apart from the classical provision of day-care facilities for children, also initiatives in the fields of housing, health and education. Very important in this context is also a political discussion with local firms in order to assure family-friendly frame conditions at the workplace. With the help of the new Directive the future tasks in the field of municipal childcare and family policy will be put in focus. And the Munich City Council will provide funds amounting to 1.2 Million € to provide for this task.

For many years, the City of Munich has paid attention to the extension of childcare facilities. However, to enable all children to have access to day-care facilities, from year one to school age, local governments alone would be over-burdened. We are happy to say that recent discussions have provided this political task with a higher level of priority. However, talk is not enough, actions are needed now. The federal and state government are called upon to make contributions – together with local governments towards a solution – and to reach an agreement on an acceptable model of finance. Furthermore, all local actors and firms need to be involved in the implementation as well.

The demographic change will also lead to growing competition of businesses and firms for qualified staff. This means that only such economic locations will reap the benefits of a positive economic development who succeed in attracting “talents” from elsewhere. To ensure that Munich will remain a



young, dynamic city, a selective immigration program for young people will be required.

For this purpose we initiated a number of activities which I would like to present with two examples. To strengthen the competitiveness of the conurbation Munich we stepped up international marketing-efforts. Even with regard to next year's forthcoming 850th Anniversary of the Foundation of Munich, we will set priorities to present and advertise Munich as an open and tolerant city. In addition, within the framework of the City-promoted Environmental Consultation Project "ÖKO-PROFIT" Munich firms are motivated to act with social responsibility.

The demographic change also signifies that the share of persons over 65 of the total population will be increasing. In recent years the City has therefore continually developed its offerings for this target group.

Let me now come to the end of my remarks:

I tried to explain how Munich is getting ready for the demographic change and what measures the city will undertake to buffer it. Munich's birth rate, which has been positive for years, goes to prove, that we are on the right path, when we promote the speedy extension of day-care facilities for children and youths. However, we can be meeting the challenges of the demographic change of Europe's societies only by working together, and this applies to all social forces as well as to all political levels.

Thank you for your attention.



Welcome Address by

## JÜRGEN CHROBOG

Former State Secretary,  
Chairman of the Board of Directors of the BMW  
Foundation Herbert Quandt,

Dear Commissioner Špidla,  
Excellencies,  
Ladies and Gentlemen,

on behalf of the BMW Foundation Herbert Quandt, I welcome you most cordially to the sixth Munich Economic Summit in the Bavarian state capital. In the past five years, the Summit has continually gained in importance as a much-noticed international expert forum, and today it is hard to imagine the European conference calendar without it. Its attractiveness and media effectiveness can be attributed to two essential elements: On the one hand, it is the fruitful synthesis of three very different perspectives – those of academia, business and politics. On the other hand, it is the topics themselves which have a practical relevance for political and economic action. The combination of both guarantees the lasting success of the Summit. This year's number of participants is again evidence of the fact that we are on the right way: 150 personalities from 21 countries, mostly from the European Union, have accepted our invitation. With their varied backgrounds, they once again cover a wide range of fields in European business, academia, media and politics.

This time, your interest is directed at a topic that in recent years has increasingly become the focus of public attention: the demographic changes in Europe. I am convinced that this topic will be of concern to us for a long time to come because of the far-reaching and noticeable consequences these changes are going to have for European social and economic structures.

The demographic changes that Europe experiences today are without precedent in its history. It is not without reason that the term “demographic turning-point“ is brought up in this context: According to

population experts, whose predictions, however, have not always been right in the past, the population of Europe is about to age considerably. This is due, on the one hand, to the ever-increasing life expectancy of its population; it is assumed that by the year 2030 the number of those 65 and older will increase by 40 million. On the other hand, the ageing of society has to do with the declining birth rates. The European average is less than 1.5 children per woman and thus falls far behind the reproduction rate of 2.1 in the United States, for example.

According to the EU Commission, the resulting demographic imbalance will lead to a decline of the labour force by roughly 21 million within the next 25 years. The negative consequences this will have for Europe's economic output and competitiveness as well as its social security systems have been urgently described. Germany can be used as an example to illustrate the Europe-wide demographic changes: Its inverted population pyramid is a symbol for a society with a high average age and a decreasing population. The demographic decline in Europe must not be seen in isolation from global developments, however. When looking at the global picture, one can see a deep demographic rift: A minority of highly developed, prosperous countries with low birth rates – this is also true for newly industrialised countries such as China which faces the problem of an ageing society – is confronted with a majority of poor countries with rapidly rising populations.

The measures which are discussed and already partly implemented to overcome the demographic challenges in Europe are many and varied. By now it is obvious that they can have the desired effect only when combined: The proposals range from the idea of compensatory immigration – although it is illusory to think that we can select immigrants by country of origin – to family-oriented policies geared to working women, to tax incentives to raise the birth rates. Moreover, there are discussions about a reform, maybe even a far-reaching restructuring of the social systems, but also about how to adapt the world of work to the changing realities. A change in knowledge and understanding should take place



regarding older people. Human self-determination also means the freedom to choose whether one wants to work for shorter or longer. Because people in developed countries today not only get older, but are also healthier than in the past, the possibilities for longer employment also contain opportunities for our social system.

German Federal Minister Ursula von der Leyen has made far-reaching proposals on family policy and thus placed the issue on top of the political agenda in Germany. Unfortunately, due to tomorrow's plenary session in the German Bundestag on matters of family policy and child-care, she had to excuse herself at the last minute from attending the Summit, but sends her very best wishes for a fruitful debate.

On all these issues, we will have an intensive and certainly controversial exchange of opinions and ideas during the Summit, as must be the case in a Europe of diversity.

I wish us all a good conference with inspiring talks and productive discussions. Together with Professor Sinn, President of the CESifo Group, I now have the pleasure of officially opening the 6th Munich Economic Summit.



Welcome and introduction to the  
6th Munich Economic Summit 2007 by

## HANS-WERNER SINN

President of the Ifo Institute and CESifo

Ladies and Gentlemen,

I would like to briefly introduce the topic by alluding to the demographic crisis and one of the session topics, "The Road to Gerontocracy", then speak about social security and the policy implications.

Firstly, some remarks on the demographic crisis. Europeans are old, though not the oldest. Expressed in terms of median age, the Japanese are 43 years old. The EU-15 has a median age of 40. The new EU members are a little younger, at an average age of 38 compared to the Americans at 36, the Chinese at 33 and the Indians at 24. Europeans are not only among the oldest, we are also getting older faster than the others. Figure 1 shows the median age of the EU population over one century from 1950 to 2050, as partly predicted by the United Nations. If one compares the EU-15 with the US, at each point of time the European age is higher. At present, the age is about 40 in Europe which is already 4 years older than that of Americans. The age of Americans will increase, of course, but even in 30 years time they

will have a younger population than Europe has now. Furthermore, Europeans will be eight years older than Americans by the mid-2030s. Even though the new EU member countries are now younger, it is anticipated that they will get older more rapidly than the EU-15 countries. Consequently they will have exactly the same median age by the mid-2030s as the western European countries.

Why are we so old? And why are we ageing fast? The truth behind the change in the demographic structure is, as we all know, that too few babies are being born. How many is too few? The OECD comparison of fertility rates is shown in Figure 2. Here the two-coloured columns show the difference between the US and the EU-27. The US is close to 2.08, which is acknowledged to be the number that would keep the population constant, and Europe is considerably below it. None of the European countries, even France which had a fertility rate of 1.92 in 2005, has a comparable number to that of the US. The French fertility rate has improved and was announced to be 2.0 at the beginning of this year. But even this is below the American number.

There are other statistics that I find equally interesting. For example, the number of children relative to the population, i.e. the number of births per 1,000 inhabitants (see Figure 3). In the US there are 14 births per 1,000 people, and in the EU-27 there are 10.4. France is close to the US, and Ireland has even more babies than the Americans. At its present ranking, Germany is the lowest in the entire developed world. There is no country with fewer babies per 1,000 inhabitants than this country has. The fertility diagram on the left shows Germany in the lower part but in the comparison of the number of babies per thousand inhabitants the country ranks at the bottom.



**Figure 1**

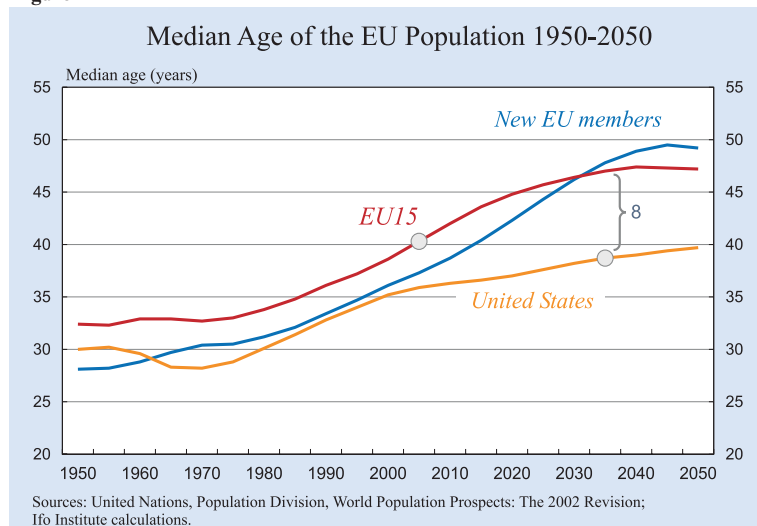
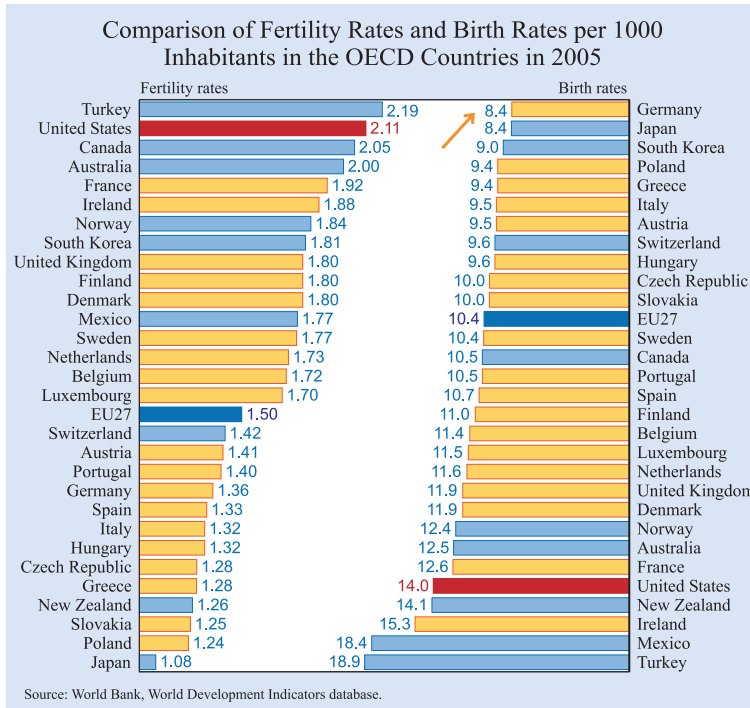
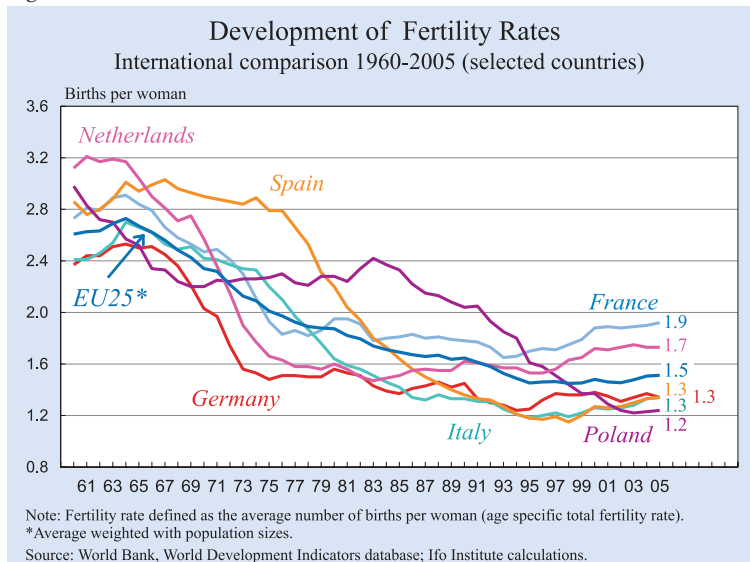


Figure 2



What could be the reason? Well, it has to do with the timing of fertility rates. In the early 1960s the EU-25 had a fertility rate of about 2.5, but that has now declined to 1.5. In all countries, including France and the Netherlands, the fertility rate declined in the 1960s and 1970s. Spain, Italy, Germany and Poland have undergone a more remarkable decline. Germany was the first country to experience a drop in the fertility rate. In Italy, for example, the decline started six years later. In Spain it came five years after Italy, and in Poland ten years after Italy. These

Figure 3



timing differences in the decline of the fertility rate explain the differences in the number of babies per thousand inhabitants. All in all, the relatively small number of women of child-bearing age and the relatively low number of children per woman made Germany the country with the lowest number of births per thousand inhabitants in the entire world.

Ageing will change the political situation in Germany because the elderly will become the majority group of voters. This will have strong implications for political parties and their programs, and eventually for the welfare state. Obviously, one aspect of this is the pension system. Old people, or even those

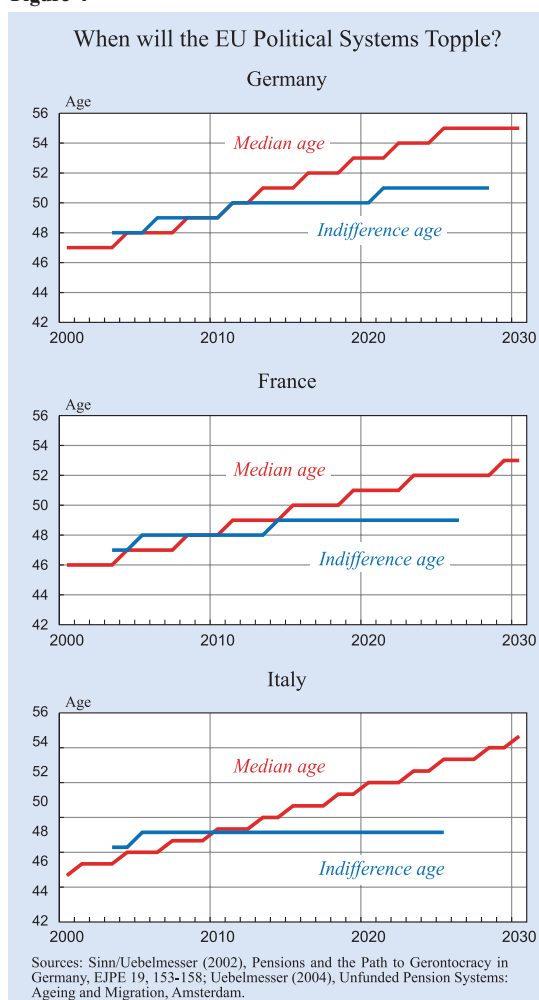
who still work, would favour an expansion of the pension system. Young people, i.e. those who would have to pay for it, are hesitant and will be against it. Where is the border line? At what age are you likely to be for the expansion of the pension system and when would you as a loser be against it? This aspect is shown for three countries (France, Italy and Germany) based on the so-called indifference age (Figure 4).

People are in favor of expanding the pension system when they are above the critical age. On the other hand, people are in favor of curtailing the pension system when their age is below the critical age. It is interesting to see what happens when one compares the indifference age with the median age curves mentioned above. This median age curve cuts the green indifference age curve in the first half of the next decade in these three observed countries, meaning that there will be a strict majority of the old voting population who support the expansion of the pension system. There is, in this sense, a well-defined road to gerontocracy. Social security will be under

strain, as we all know, the pay-as-you-go pension systems will be in trouble, and the difficulties will result from the changing ratio of those who are retired to those of working age. This is shown by the old-age dependency ratio in Figure 5, which depicts a curve covering the hundred years from 1950 to 2050. Today the dependency ratio has already doubled since 1950. And it will almost double again from now until 2050. So there will be a quadrupling of the dependency ratio over one hundred years. This fact implies that, compared with the case in 1950, nearly four times as many old people will have to be financed by a person of working age. In the U.S. this picture is less alarming, but the development is, in principle, similar. The situation appears to be worse in Japan, where the ratio has been increasing even faster than anywhere else. All European countries face similar increases in the old age dependency ratio, with Italy being in a similar situation to that of Japan (Figure 6). Roughly speaking, these countries will experience a doubling in the number of elderly relative to the young within the next thirty years. Consequently, the implication for the pay-as-you-go system is straightforward. Either we double the contribution rate if we want to keep the pensions in line with wages, or we halve the pensions relative to wages. Or we might choose a mixture of these policies. But whatever linear combination we choose, it will be equally problematic. Resources will dwindle as the number of young people dwindles, and the conflict about the distribution between the young and old is pre-programmed.

What are the policy implications required to overcome these problems? Well, if a country does not have enough own people, the country can import people from elsewhere: immigration. Obviously, this is a solution if the immigrants are young. How many would a country need? The numbers are alarming. If we assume that immigrants were to stay young forever and never retire, the old EU would need an additional 194 million people up to 2035 in order to keep the dependency ratio constant. Hence, this number of people is required in order to keep the contribution rate and the relative pension level constant. But, of course, this is only an artificial calculation because immigrants also age. How many people would have to immigrate to Western Europe to keep the dependency ratio or the pension system unchanged if you take into account that immigrants will also retire. The United Nations made this calculation in its study on replacement migration suggesting a number of 701 million. Of course, that is not a recommenda-

Figure 4



tion; it is just a forecast. Western Europe has presently 390 million people. Another 701 million people would be needed to really solve the problem so that the contribution rates, tax rates and the pension levels relative to the then prevailing wages would remain constant in this part of the world. These numbers are so astronomical, making it clear that immigration is nothing more than a drop in the ocean in this context.

Working longer is, of course, another option. In Germany, the Social Democratic Party was in an uproar because the party leader Mr Münterfering proposed extending the retirement age to 67 years. How long would we have to work to keep the contribution and the replacement rates constant? According to the UN study it would be 77 years!

The so-called partial funding is another possibility. Partial funding is based on the following philosophy: In order to financially manage in old age, people either have to raise children so that their children

Figure 5

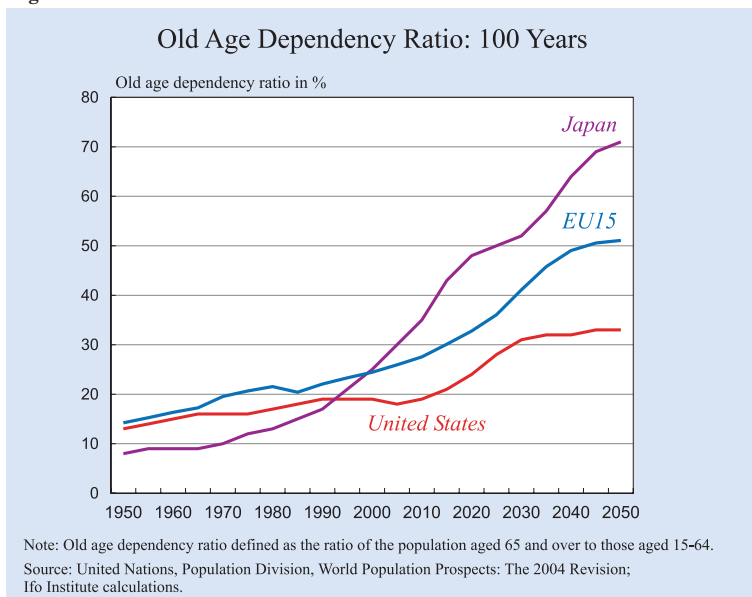
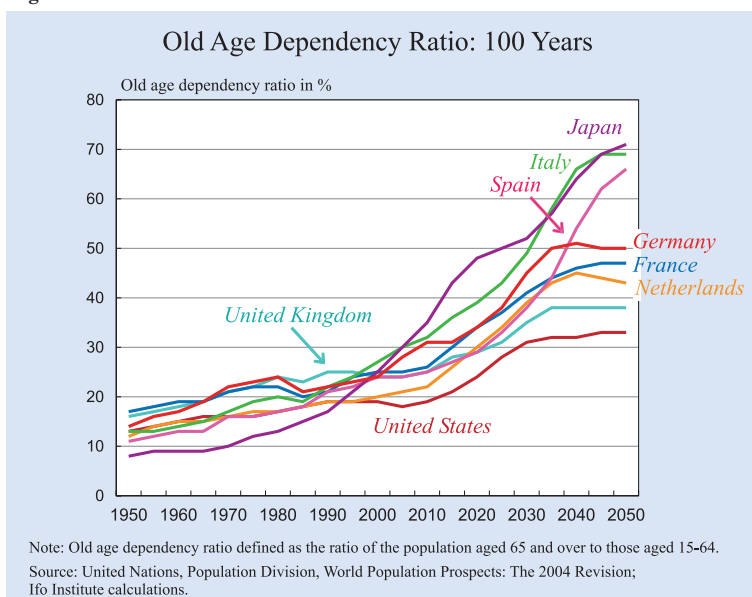


Figure 6



can finance them, or they have to save and live off their savings. There is no third possibility unless resources were to come from abroad. If that is excluded, there are only two alternatives. Europeans have decided not to have as many children as their ancestors had. They do not invest in human capital formation either, as economists would say, as the earlier generations did. So the logical consequence is that the amount they did not invest in human capital has to be invested in real capital to fill the gap. This is the philosophy behind the German Riester reform, as it was formulated by the Council of Economic Advisors to the Ministry of Economics some ten years ago.

Another possibility is to have more support for families – family policies. What can we do in this context? Needed are educational policies that help women overcome the conflict between having children and working. For instance, Germany could imitate the French system by introducing an *école maternelle* allowing all young kids as of age three to go to school, so women would be free to work. We could have all-day schools in Germany. Most countries in Europe have them, but not Germany. And Germany could have more generous family allowances, similar to the *quotient familial* (child-splitting) in France.

In addition, instead of giving resources to families, we should stop exploiting them. A family that raises a child provides a precious asset to society. The child pays taxes and contributions to the fiscal system, and there is a huge fiscal externality for the benefit of the society if a child is born. Regarding this aspect, Martin Werding of the Ifo Institute has done some calculations for the Bosch Foundation. And he came up with the number of nearly 140,000 euros, which is the net present value of the fiscal advantage for the pension system if a child is born. Of course, the child gets old and

benefits from the system, but it also produces offspring that cover these costs. The child pays into the system and the net effect of this stream of payments from zero, when the child was born, until infinity, taking all the offspring of that child into consideration, is 140,000 euros. It is as if the government placed a debt certificate, an IOU, into the cradle worth 140,000 euros, giving the mother and child the option of drawing on this debt later but with interest. We do not have to help the families. I think we just have to stop discriminating against them.

The pension system in Germany provides some relief for mothers who raise an additional child and

work ten years after the birth. They receive, in terms of current value, 11,000 euros as an additional pension. This is close to nothing. What we should do in my opinion is reduce the degree of socialisation of the fruits of human capital investment, which would possibly lead to an increase in human capital investment. We know that if we socialize the fruits of investment there will be less investment. Why do we believe that this does not apply to child-raising relative to other types of investment? If parents knew that whatever they invested in their children would help them in old age, they would have more children. It used to be like that before Bismarck started socialising young people's earning capacities in the pension system. Prior to Bismarck's reform, all people knew that they ought to have children to have a decent life in old age. But after Bismarck everything changed. People learned that it was possible to lead a decent life in old age, even without having children of their own. An alternative way of living, which was simply impossible before Bismarck, became possible and was copied by more and more people over time. As a result, people's attitudes changed. Child-based pension systems would be the solution. In Germany in 1957, when reforms were being implemented, this discussion came up, but the then Chancellor Adenauer listened to the argument that people would have children anyway, which, as it turns out, was wrong.

These are just some of my introductory thoughts on the subject.

I look forward to a stimulating conference.





Keynote Address by

**VLADIMÍR ŠPIDLA**

EU Commissioner for Employment, Social Affairs and Equal Opportunities

Mr. Chrobog,  
Professor Sinn,  
Ladies and Gentlemen,

Many thanks for the invitation and the opportunity right at the start of your conference to spread what I hope is a positive mood regarding demographic change.

Nowadays when people think about the demographic future it is usually a gloomy prospect involving topics such as crisis, a superannuated population and a demographic time bomb. Anyone reading the headings in our conference programme is even at risk – and you will permit me this little joke – of falling into a deep depression. We read there “Europe heading for a gerontocracy”, “Difficulties for the social insurance systems” and “Europe’s childless societies”. It seems to me as if the organisers want these headings to cause both alarm and provocation.

My colleagues and I in the European Commission have a somewhat different approach, and I hope that by the end of my speech this approach will allow us all to take a slightly more positive view of the demographic future.

Ladies and Gentlemen,

All the rhetoric of catastrophe often obscures the fact that demographic ageing is actually a success story. For our grandparents, reaching the grand old age of 80 usually remained but a dream, but for those of us gathered in this hall it almost goes without saying. The forecasts up to 2050 anticipate a further increase in life expectancy of five years. Never before have Europeans been able to get as old as they do now! As a result European society as a whole is ageing.

Even an explosive increase in birth rate coupled with large-scale immigration would scarcely achieve a constant ratio between people of a working age and the over-65s. But a population explosion like this is just as unrealistic as the often feared migration flows.

As I said before, the ageing of the population – and I find “ageing” a more appropriate word than “superannuation” – is primarily the result of a constant increase in life expectancy. And then there are the baby-boom years of the 60s and 70s. As from 2020 the baby-boomers will be “reaching a certain age” and increasing the percentage of old people in the population.

The ageing of the population is at the same time linked to the low birth rate in the EU. Statistically, each woman in the European Union brings 1.5 children into the world – far below the sustainability figure of 2.1. This figure furthermore conceals enormous differences between the member states. Whilst in my home country, the Czech Republic, there is currently a ratio of 1.2 children to each woman, the ratio for Germany is 1.4, whilst for the frontrunners France and Ireland it is about 2.

Currently 16 percent of the European population is over the age of 65. Assuming there are no changes in birth rate and immigration, by 2050 the proportion of old people will have almost doubled. But it is also to be expected that by 2050 people will be far healthier at the age of 65 or 80 than is now the case. The ‘perceived ageing’ of society might thus turn out far less marked than the statistical predictions might suggest. Judging by a glance around the hall, we doubtless all look far younger than our grandparents did at our age!

Demographic ageing naturally displays major differences in scope and speed between the individual member states and regions. It has nevertheless now become a Europe-wide phenomenon, and all the member states rightly see it as a major challenge. One thing is clear. Because of this major change in social reality our states will have to change. For a

long time the member states were on their own with their strategies for demographic change. It was important to me to encourage a European debate, thus immediately after taking up my post at the Commission in March 2005 I published the Commission's Green Paper on demographic change. The results of this public exchange were compiled in the October 2006 communiqué "The demographic future – from challenge to opportunity".

If we are to meet the demographic challenge we need a broad approach that allows people to remain active in their work and in society – a kind of "mainstreaming" of the demographic factor. This ranges from infrastructure, compatibility of family and career, crèches and re-entry into the labour market through to an active labour market policy. If we want a stable social system we need people who are paying in. Not only is the group of people of a working age shrinking, but in many member states there is also an increase in jobs that do not create any social-insurance contributions. If less and less money is being paid in, there has at some stage to be a transition to financing of social insurance through taxation, and more incentives have to be created for jobs that are subject to social-insurance deductions. The service sector will greatly change and will adjust to the Silver Economy. Millions of jobs will be created in this field over the coming years.

So what do we think has to happen to bring all these factors together, enable the member states to deal with the demographic challenge and ensure financing of social security systems permanently and in a person oriented fashion? If sustainability were the sole criterion payments could simply be halved and financing would then be guaranteed. In Europe, however, we require social systems to be humane – the focus must be on people and not just finances. That sounds a little simple, but it constitutes the core of our system. This is why the reforms currently taking place in many member states are so important!

Allow me to briefly describe the results of the October 2006 communiqué and our May 2007 report:

- Firstly: a Europe that favours demographic renewal.
- Secondly: a Europe that raises the value of work.
- Thirdly: a more productive and more efficient Europe.
- Fourthly: a Europe that is prepared to take in and integrate immigrants.
- Fifthly: a Europe whose public finances have a viable future.

But what do these recommendations mean in detail?

Well, *firstly* a Europe that favours demographic renewal is a Europe in which Europeans can implement their ideas of family. Please do not misunderstand me. The decision to have children is a private matter and must remain so, but surveys show that many women and men want more children than they actually bring into the world. This is often because of unfavourable social and economic conditions. Potential parents are afraid that looking after children would be a problem, or that they would have to decide between career and time with their children, or that it would be too expensive. All of these are factors that frequently lead to women and men not realising their actual wish to have children.

It is thus imperative that we improve the social and economic conditions for families and children – not only to strengthen our social insurance but also so that people who want children can also realise this wish! It just will not do that after devoting 30 years to her career a woman still receives inferior pay because she was at home with her children for two eight-month periods 25 years ago!

The compatibility of career, family and private life is crucial in this context. People should not have to choose between children and career! Encouraging experiences have already been made in this area. Germany has made impressive use of its EU presidency to demonstrate what is possible in countries such as France and Sweden, and it is now in the process of doing an about-turn. That is very positive. The "European Alliance for Families", which the Council recently brought into being, was also a very welcome initiative on the part of the German Families Minister Ms. von der Leyen.

The Alliance will be a platform for an EU wide exchange of thoughts and experiences regarding family-friendly policies. The Commission supports the "Alliance for Families", and in May it made concrete proposals regarding organisation of the exchange of information and experiences in a communiqué. Under the heading "Promote solidarity between the generations", in this communiqué we



are also addressing the issue of how demographic renewal of Europe could be furthered.

We are emphasising three areas which jointly play an important role, in order to facilitate the compatibility of professional and family life:

- Financial support for family-related costs,
- High-quality care services for children and dependent elderly people, and
- Flexible working hours with appropriate timetables and regulated holidays.

In this context, might I remind you that as many as five years ago the member states undertook improvement of child care services at the European summit in Barcelona. The EU-wide target is availability of places in child-care facilities for a third of children under the age of three by 2010. Next year I will be presenting a communiqué in order to take stock of the situation.

*Secondly*, we want a Europe that raises the value of work. We will no longer be able to afford to simply leave our talents and potential unexploited. By integrating more women and more young and elderly people into the work process we will be able compensate for the drop in the number of people of a working age for about 10 years. Already, the increased jobs development in Europe is mainly thanks to the growing number of women and the elderly taking on work. For example, of around 8 million newly created jobs in the EU since 2000, around 6 million were filled by women.

We must support “active ageing” and make sure that in companies employees are no longer pushed off into early retirement as from their late 50s. They should instead remain integrated into operations through constant further training, a flexible work organisation and work conditions that are beneficial to health. Since the 90s Finland has been demonstrating to us how far more elderly people can thus be kept in the working process. Equivalent projects can incidentally also be supported in Germany through the European Social Fund.

This brings me to my *third* point, because our future also depends on a more productive and more efficient Europe. Europe’s economic growth is becoming more and more dependent on its increasing productivity and its innovative capacity, and thus on its investments in training, research and development.

However, much remains to be done with regard to promoting our human capital. For example, the European Union has set itself the target for 12.5 percent of all people of a working age to be participating in measures for life-long learning – above all continuing and further education – by the year 2010. The current figure is about 10 percent, and progress towards the target figure is so slow that we are at risk of not achieving it.

The situation is similar with regard to higher education and success at school. We have too few young people gaining qualifications at Secondary Level 2, i.e. Abitur in Germany (and A-level GCE in the UK) or apprenticeship, and too many leaving school without any qualifications. In this context a joint effort on the part of all interested parties from the fields of politics, commerce and society is required.

A more productive and efficient Europe will ultimately depend on companies’ ability to open up markets that meet the needs of the ageing population. Companies are thus being encouraged to develop the desired services and products for the “silver economy”. A DIW study in April, for example, shows that the over-60s already account for a third of consumption in Germany, and by 2050 this proportion could rise to 40 percent. In Bavaria, with its huge automobile industry, the findings of the Dublin based European Foundation for the Improvement of Living and Work Conditions will doubtless be of interest. The foundation estimates that car sales could increase by about five to eight percent if they better targeted the needs of pensioners!

At the same time we, of course, have to be prepared for growing demand for social care and for health-care provision. It is thus important to invest in training people who offer these services and to improve the reputation of these professions and the quality of these services. Anyone wanting a secure livelihood in 2030 should concentrate on services for the elderly.

*Fourthly*, we need a Europe that is prepared to take in and integrate immigrants. Immigration is of course neither a patent solution nor the main way of resolving demographic problems. However, excepting the dark years of the past century – the period of the Iron Curtain – there has always been migration in Europe. And immigration is already helping to bridge bottlenecks on the European labour market.

What is more, these bottlenecks will in future tend to increase rather than decrease. It is thus not a matter of choosing between a Europe with immigrants and one without. It is far more a question of whether Europe regulates immigration well or poorly. Neither is it a matter of either immigration or getting people already living in Europe qualified. As I have said before, we should resolutely develop our human capital and simultaneously facilitate immigration.

Permit me a somewhat daring hypothesis. Perhaps there will soon be a lack of immigration in Europe. We should ask ourselves when immigration has existed over the past century. There have usually been two reasons. Firstly, immigration from previous colonies or historically linked countries – Pakistanis went to Great Britain, North Africans to France and Indonesians to the Netherlands. Secondly, immigrants came – often as refugees – following catastrophes: after WW1 and WW2 from West to East, after 1956 from Hungary, after 1968 from Czechoslovakia and in the 90s from the former Yugoslavia. Africans are fleeing to Italy, Spain and Malta, etc. The only exception seems to me to be the Turks, who came to Germany in the 50s and 60s. The colonial era is past, and we will hopefully be spared catastrophes such as the above. We will thus rather have to create incentives to pave the way for well-trained immigrants and legal, regulated immigration in line with the needs of the European labour market. This is to be accompanied by an efficient integration process. As part of the integration we must above all make sure that immigrants and their children get the appropriate training and labour-market opportunities, so they can realise their potential once they are here. Migration will thus increasingly become the remit of the Labour Minister and less that of the Justice Minister – not that I would wish to question the competence of anyone in this context!

*Finally* we must develop a Europe whose public finances have a viable future and that can guarantee adequate social welfare and a balance between the generations. Demographic ageing will entail higher expenditure for care for the elderly, health and long-term care. Long-term financing of adequate social welfare for the elderly is in many member states not yet assured. The first four recommendations will already contribute towards increasing revenue for social security systems. But modernisation of the actual social security systems is also necessary in

order to attain the goals of growth, employment and social cohesion in Europe. The efficiency and sustainability of the organisation of these systems can often be further improved.

Rational use of resources is a crucial factor for a sustainable health service and can simultaneously serve to guarantee high standards. Better coordination, promotion of a healthy way of life and prevention are sensible strategies for everyone. They improve people's state of health and furthermore prevent costs for welfare systems from rising. The recent pension reforms in several countries will reduce the imbalance in the pensions systems. Nevertheless, further reforms will probably be unavoidable in many countries. They would primarily have to aim at raising the effective retirement age.

The European Union can support the national reform processes, above all by promoting mutual learning with the aid of the so-called open method of coordination. As part of this coordination mechanism the member states set themselves joint goals, report on their realisation and present to each other examples of tried-and-tested practices.

We at the European Commission offer the member states our support in coping with demographic change. As previously explained, we are initially promoting the exchange of experiences between the member states as part of the open method of coordination. Every two years we will also be holding a demography forum at which member states will be able to exchange successful strategies and set their own targets, which will then be analysed every year. Last October's forum constituted a highly successful start. The Commission has also deployed a high-powered group of government experts who are in future to advise us on demographic matters.

Ladies and Gentlemen,

Even though the pressure to change is considerable and we must not let time pass unused, I am firmly convinced that we can meet the challenges of demographic change and that it does not represent a threat to our European social model. Above all, we must give people confidence in the future. We have to grasp the demographic challenges as a task for the whole of society, realise the opportunities of this development and renew the solidarity pact between the generations.

Therein, in my opinion – in the renewal and stability of the contract between the generations – lie the real opportunities of the demographic challenge. Over the centuries the middle generation has brought up young people and cared for the elderly. This situation will basically remain unchanged, but new opportunities are opening up through the presence of a new generation of active old people.

One field for renewal of the contract between the generations might, for example, comprise the commitment and work of the older generation contributing towards all children and young people getting the best possible education. This means creating equal opportunities in the field of school and post school education. But it equally means greater efforts in the field of early education, above all by creating crèches and kindergarten places of a high educational level. This would then also bring about improved compatibility of career and family for women and men of the middle generation. And ultimately it would also readjust the distorted picture of old age as a fallow and static period – because old people are actually very active.

If we achieve a new pact between the generations based on full utilisation of the potential of the elderly and massive investment in the future of young people, our societies can continue to age with confidence. If we now approach the challenge of demographic change resolutely we will also benefit from its opportunities – regardless of our actual age. Our European society is strong enough for this.

Thank you for your attention.

Panel 1

## GREY NEW WORLD: EUROPE ON THE ROAD TO GERONTOCRACY?

Introduction

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Aging of the population demands major adjustments in the way society organizes work and public support over the life course. These reforms may be difficult to implement in a democracy, however, because also voters age. After documenting aging and its causes in the first section and discussing the required institutional reforms in the second section, this paper describes the challenges to the political system raised by aging in the third section. The fourth section focuses on how to address increased longevity while the fifth section explores how reasonably high fertility rates may be maintained. The final section concludes.

**Aging: its causes**

The median age in the EU has increased from 31 in 1950 to 39 now, and is projected to rise further to 48 by 2050 (Figure 1). In Germany, the median age of potential voters will increase from 47 now to 53 in 2030. The median age of actual voters will rise to even higher levels as older voters tend to actually use their voting power more. In many countries, the old-age dependency ratio (i.e. the ratio

\* The author would like to thank Gerardo Soto y Koelemeijer for research assistance.

of people older than 65 to those between ages of 15 and 65) is projected to double by 2050 to around 0.5, which implies that about a third of the potential voters is older than 65 (Figure 2). The two main causes of aging are increased longevity and lower fertility, which we examine below.

*Higher life expectancy raises return on human capital*

Average life expectancy at birth has increased by more than two years per decennium since 1950 in the G-7 countries and the EU (Figure 3). Life expectancy at age 65, which is more relevant for the costs of pensions, rose by about one year per decennium (Figure 4). From an economic perspective, increased longevity is in fact good news since morbidity appears to decline in line with mortality. Increased longevity thus implies that many more people can enjoy healthy and productive lives up to old age. They can accumulate experience and exploit their abilities longer. In other words, the return on investing in people rises.

*Feminization of work implies better use of female human capital*

As regards the second fundamental demographic trend behind aging, fertility rates have fallen below replacement levels in all developed countries since the 1960s (Figure 5). Moreover, women bear chil-



Figure 1

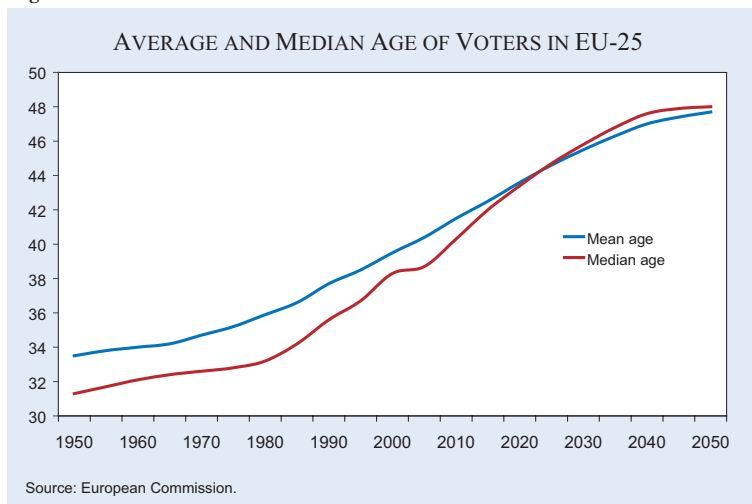
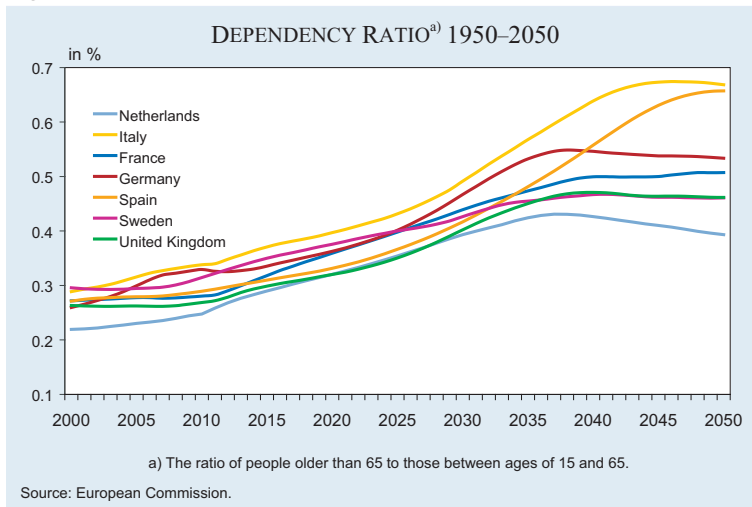


Figure 2



dren later in life (Figure 6). Lower and delayed fertility is the result of better schooling of women and the feminization of work. The latter development is due mainly to technological changes raising the demand for communication and creative skills in growing service sectors at the expense of raw muscle power in the industrial sector. The increased value of female human capital has raised the opportunity costs that women face when bearing children. Just as increased longevity, the increased use of female human capital on the labor market is good news. Moreover, whereas it may erode the

premium base for financing pay-as-you-go (PAYG) pensions, lower fertility initially frees time and resources for working-age adults by reducing the burden of supporting young dependents (see Weil 2006).

*Moderate seasons in the modern life course*

Increased longevity and the feminization of work are changing the life course. In the modern longer life course, adults spend considerable time in households without young

children as a result of lower fertility and delays in both parenthood and morbidity (and mortality). Indeed, in the “spring” of the modern life course (alternatively termed “early adulthood phase” or “playtime of life”), young adults first invest in their own human capital through extensive education. In this period of extended social adolescence, they also experiment with relationships and jobs before they take on the responsibility for raising children during the “summer:” the family season when parents bear the responsibility for bringing up children.

Figure 3

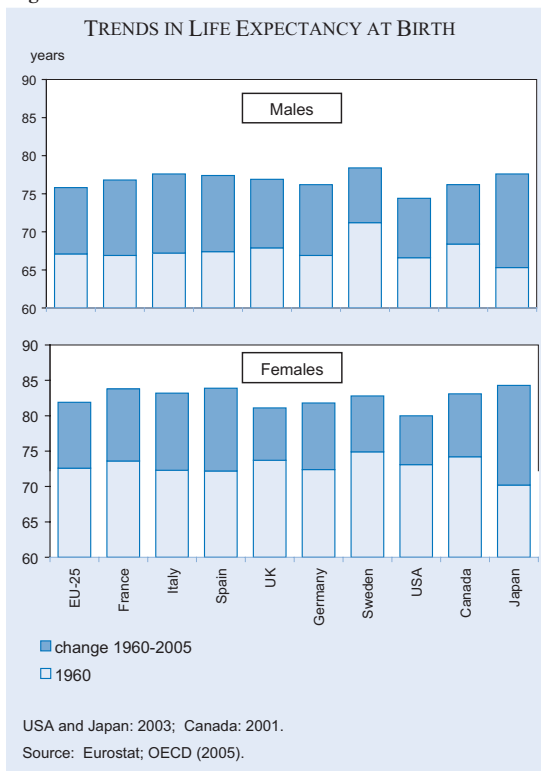


Figure 4

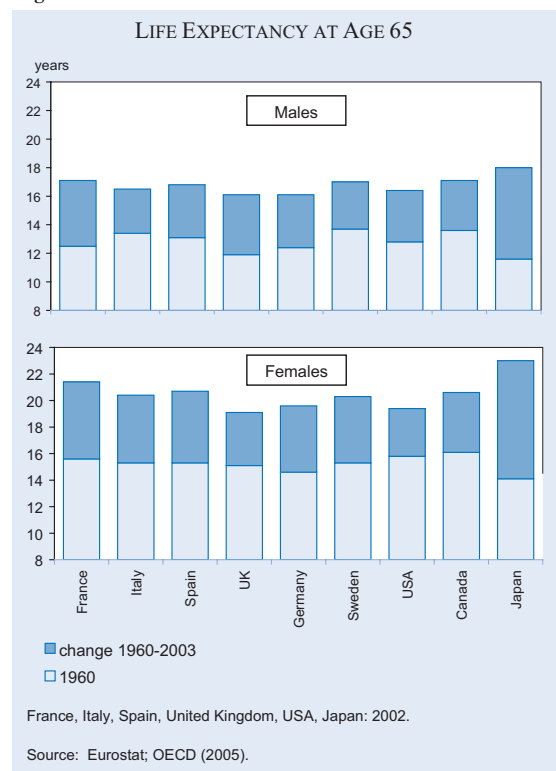
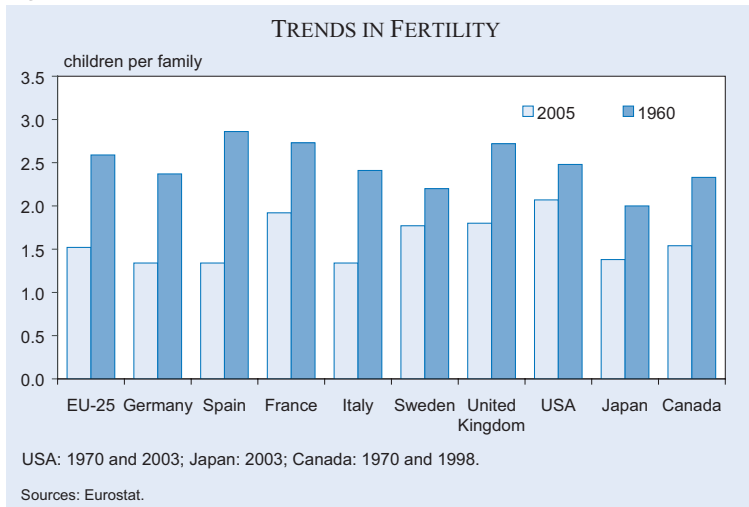


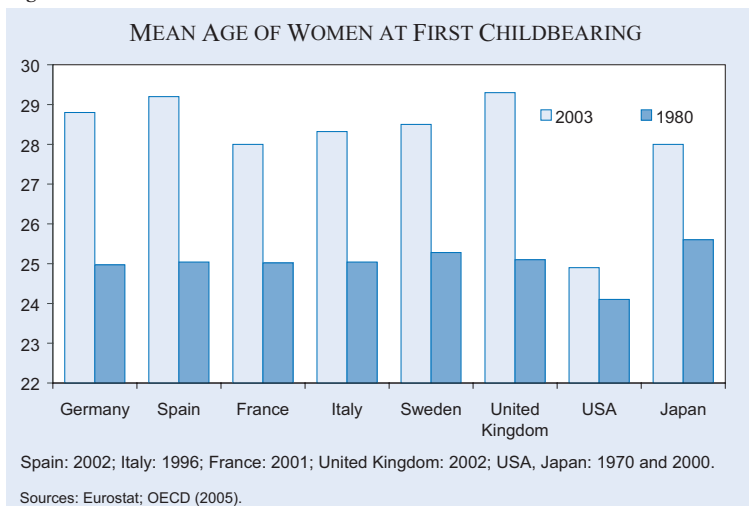
Figure 5



After their children have grown up, parents typically spend considerable time in good health in the “autumn” season of their life course (or alternatively “the active senior phase”). Tomorrow’s elderly can be expected to be healthier, wealthier and better educated than ever before. They thus enter later into the “winter season:” the last phase of life in which people suffer from serious health problems and require care.

The summer season in the modern life course is quite hot. During this so-called “rush-hour of life,” people may experience “combination stress.” The costs of living are high while time is scarce, as parents invest not only in their children but also in their careers. Compared to other European household types, families with co-residing children are least satisfied with living conditions, including their work or other main activity, income, housing, and leisure

Figure 6



time (see Avramov 2002). In the spring and especially the autumn, in contrast, the climate is more moderate. Adults thus do not have to care for young children and enjoy relatively high purchasing power.

**Institutional innovation**

Both a longer life and the feminization of work require changes in the way society organizes work and maintains the talents of people over the life course.

*Treasure human capital*

The first priority for institutional innovation is safeguarding the production and maintenance of human capital. In a modern knowledge-intensive society, human capital is the key to personal fulfillment and social inclusion. At the same time, knowledge and specific skills age faster on account of creative destruction associated with fierce competition and rapid innovation. The combination of a longer life and faster obsolescence of skills demands maintenance of human capital through continuous learning. Adaptability, the ability to learn and key non-cognitive skills (such as social and communication skills, self-discipline, emotional resilience, self-control) is shaped early in life during early childhood. These personal traits undergird the social legitimacy of a competitive, innovative economy associated with creative destruction. Moreover, an adaptable labor force can embrace risk, thereby raising the supply of risk-taking capital and entrepreneurship.

Human capital is produced not only in schools but also in families and firms. Reconciliation of work (including workplace learning in firms) and family (including informal care for young children) is therefore essential. It allows parents to form and maintain a supportive family relationship in which they build the future workforce’s capacity to learn, adapt



and relate, while cherishing their own human capital by remaining durably attached to the labor force. Through better maintenance of their human capital, people can exploit their longer life to combine the pursuit of a fulfilling career in paid work with the vital task of raising the next generation of workers. By adjusting the allocation of work over the life cycle to the biological clock of women (so that leisure is not concentrated only at the end of life), the reconciliation of work and family thus involves the way the entire life course is organized.

#### *More flexibility in work and careers*

More flexibility in how various activities are combined over the life course is the second priority for institutional innovation in order to contain the main opportunity costs of becoming a parent, namely foregone career possibilities. The feminization of work is thus reconciled with fertility rates that are large enough to sustain the population. More flexibility in allocating working time can prevent stress and excessive time squeeze when workers bear substantial family responsibilities in the summer season of the life course. Moreover, it helps women, who still carry most of the family obligations, to remain attached to the labor force. Their human capital is thus maintained better so that their working lives can be extended and become more fulfilling. More flexibility can also allow older workers with changing private needs to keep working.

The challenge for institutional innovation is to create more flexible workplace cultures that reconcile the needs of employees who balance work with family and other obligations with the needs of employers to flexibly respond to fluctuations in demand in increasingly competitive markets. By finding new ways to attune work conditions and career paths to the needs of employees who want to remain employable despite substantial family obligations, changes in their personal lives, and creative destruction associated with rapid innovation, firms can promote themselves as good places to work. In this way, they can remain competitive on an aging labor market in which labor is becoming increasingly scarce.

#### *Support parents in the summer season*

The key institutional challenge is to exploit the spring and especially the autumn of the life course

to support young parents who are in the summer season of their lives. In addition to more flexible career paths that decompress the working life, public support should thus be gradually shifted away from the fall and winter seasons of life towards the spring and summer seasons when human capital is produced. In this way, proactive social policies that help people to build up and manage human talents replace reactive social policies that provide passive income support to those who have depreciated their human capital. Among other things, facilities that allow parents to raise young children while maintaining their own employability, should substitute for privileges for full-time male breadwinners (who do not necessarily have young children in their households). In order words, public support should be tied to children rather than breadwinners.

Especially countries with extensive PAYG pension and PAYG health insurance systems should support households with young children. In these PAYG systems, children who have been reared by others support the elderly without children. By bearing children, parents thus generate positive external effects for the childless. Public support for parents of young children should increase with the opportunity costs of raising children (due to, e.g., loss of career opportunities and higher costs of raising children in a complex society), the social benefits of investing in the non-cognitive skills of young children, and the PAYG benefits provided to the elderly.

#### *More inclusive labor and housing markets*

Rather than shielding insiders through employment protection, labor-market institutions should enable parents of young children, secondary workers and young adults to easily enter and remain in the labor market and adjust their working conditions to changes in family conditions. Condensing the period of full-time education, combining learning with work at an earlier stage, and spreading learning more evenly over the life cycle by integrating it better with work could also be helpful in shortening the period of social adolescence, decompressing the working life, and bringing forward parenthood. Also a well-functioning housing market can reduce the stress that young adults experience in the early reproductive stage of their lives. Among other things, tax facilities for home ownership may have to be targeted better at new entrants into the housing market.

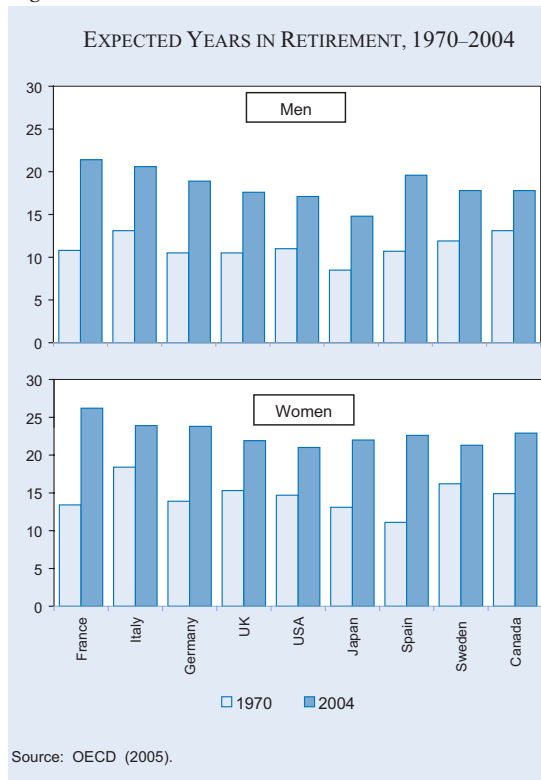


**Political challenges**

As noted above, longevity and feminization of work are good news from an economic point of view. The required adjustments in the way society organizes work and public support over the life course, however, constitute a major challenge to the political system. The danger facing aging societies is that older voters block the needed reforms. In that case, a conflict arises between the political power of older generations (who depend on public transfers and are risk averse) and the economic power of the younger, working generations (who control the major scarce resource that fuels the modern knowledge-intensive economy, namely human capital and entrepreneurship). In other words, politics collides with economics. With politically strong older generations favoring generous passive spending on pensions and health care at the expense of investments in the human capital of younger generations, aging societies risk becoming entangled in a vicious circle of early retirement, rapid depreciation of human capital, low fertility, slow innovation, and political instability (see Boeri et al. 2006).

In such self-sustaining equilibrium, workers retire early because their skills are obsolete, while human capital is not maintained because people retire early and thus feature only a short time horizon. As working lives are being compressed (see Figure 7), careers must be made during the reproductive stage of the life cycle. This raises the opportunity costs of bearing children – especially for highly educated women. Low fertility rates of these high-skilled women damage the quality of human capital, because the skill level of children is closely related

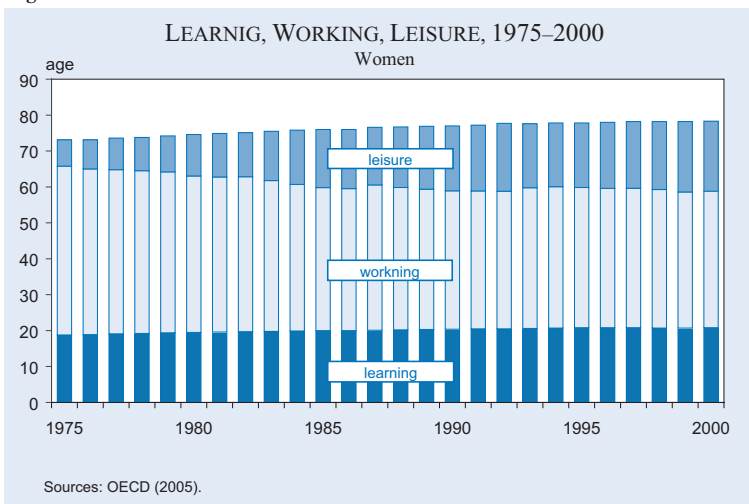
**Figure 8**



to that of their parents. As a result of a less employable and adaptable labor force, open competitive markets and the associated creative destruction lose their social legitimacy. Moreover, as workers lack the resilience to embrace risk, pension funds shed risk and prefer to invest mainly in low-risk assets and government bonds. This weakens fiscal discipline, crowds out productive investments and harms long-term growth.

The presence of only a small middle-aged generation in the summer of their life course caring for the old and the young constitutes a threat to the intergenerational contract according to which each generation invests in the human capital of the next and is taken care of at the end of its life by the generations in which it has invested. Indeed, with retirement becoming a lengthy period of state-supported leisure for a surging able-bodied population of retirees (see Figure 8), the elderly are increasingly viewed as a liability rather than a vital resource. A heavy tax burden on a small

**Figure 7**



active labor force puts at serious risk solidarity with vulnerable elderly, children and disadvantaged adults of working age. Last but not least, civic trust in a stable social order in which the government upholds its promises is shattered, thereby risking political upheaval.

### Linking retirement ages to longevity

#### *Measuring older age appropriately*

In order to prevent the emergence of a large inactive class of older politically powerful citizens depending on public transfers, the age at which public retirement benefits are first paid should be linked to life expectancy.<sup>1</sup> One sensible rule, which prevents contribution rates for PAYG<sup>2</sup> retirement systems from increasing in the face of higher life expectancy,<sup>3</sup> keeps constant the proportions of adult life spent working and in retirement (Turner 2006).<sup>4</sup> By encouraging young agents to maintain their human capital better, such a rule capitalizes the benefits of increased longevity in terms of more durable human capital and the associated ability to absorb aggregate risks so that pension funds can continue to invest in risk-bearing assets, thereby fostering entrepreneurship, innovation and growth. In this way, increased longevity is turned into an economic opportunity rather than a financial threat. In fact, one can argue that all ages that are used to measure old age should be linked to longevity so that one actually computes old age from the end of life rather than from the beginning. In this way, societies ensure that social and biological aging do not diverge further. Most importantly, the emergence of a large class of inactive older able-bodied people is thus prevented.

#### *Intergenerational sharing of longevity risk*

Normal retirement ages should be based on the life expectancy of a cohort as measured at that normal

age of retirement. In this way, younger, active cohorts (who exhibit a longer horizon and more flexibility to adapt) absorb longevity risks, while older generations who have retired and thus have depreciated their human capital are shielded from these risks. The government can enhance the efficiency of intergenerational sharing of longevity risk further by issuing longevity bonds, thereby allowing private pension funds and insurance companies to protect retired generations from longevity risk. Linking the age at which citizens first receive their public pension to life expectancy makes it in fact more attractive for the government to issue longevity bonds because this link reduces the exposure of the government's balance sheet to longevity risk.

#### *Automatic link mitigates political risks*

Automatically linking public pensions to life expectancy as part of a transparent risk-sharing contract avoids the political costs of discretionary decisions limiting eligibility to public pensions. Agreeing on a risk-sharing rule *ex ante* also reduces the political risks associated with collective discretionary decision-making. Moreover, the government does not offer unrealistic guarantees but is transparent about how it distributes risk over the stakeholders of the public pension. Linking retirement ages to life expectancy is also fair: younger generations work longer but still enjoy a longer expected period of retirement. Moreover, in the face of gradually increasing life expectancy and retirement ages, workers and firms can adapt gradually to a longer working life by better maintaining human capital and adjusting the organization of work to the needs of older workers. An increase in spending on disability pensions and unemployment benefits is thus avoided.<sup>5</sup>

#### *Flexible labor markets extend working lives ...*

Linking retirement ages to longevity is credible and politically legitimate only if a well-functioning labor market for elderly workers ensures that additional demand for older workers matches additional supply. Together with better-maintained human capital, a flexible labor market also allows the speed and extent of phased retirement to act as a buffer for

<sup>1</sup> Agents can be allowed to collect retirement benefits earlier if annual retirement benefits are cut in an actuarially neutral way.

<sup>2</sup> At fixed retirement ages, increased longevity puts financial stress on not only PAYG schemes but also funded pension schemes. Indeed, funded pension schemes may be particularly vulnerable to increased longevity. The reason for this is that the longer life spent in retirement calls for more financial saving, which depresses the return on capital and thus hurts funded pension schemes.

<sup>3</sup> The rule is thus closely related to so-called notional defined contribution (NDC) systems, which keep contribution rates fixed when longevity rises.

<sup>4</sup> Denmark has implemented a rule that keeps constant the absolute length of the expected retirement period so that the statutory retirement age in the public pension system rises on a one-to-one basis with longevity.

<sup>5</sup> At the same time, the eligibility criteria for passive unemployment and disability benefits facilitating early retirement and rapid depreciation of human capital should be tight. By discouraging employers and employees from using these schemes as early retirement schemes, governments encourage firms and social partners to invest more in older workers and to adapt work, wages and workplace cultures to the needs and talents of elderly workers.

absorbing aggregate risk. This requires adjusting the implicit labor contract according to which workers are underpaid when young and overpaid later on. Indeed, increasing the retirement age at which the employer lays off the employee must not put undue strain on the employer. Employees should thus accept more wage flexibility over the life course (so that they are paid according to their productivity) as well as flexible working practices (so that labor productivity is maintained at higher ages).

*... and stimulate entrepreneurship, risk taking and informal care*

With a more flexible labor market, older workers bear less unemployment risk and thus depend less on political intervention in the form of public income transfers. In fact, a well functioning labor market with plentiful jobs for older workers protects these workers against firm-specific shocks and is thus an efficient insurance device, which relieves pressure from the welfare state. In particular, it narrows the differences between the *insiders* who are lucky enough to work for a surviving firm and the *outsiders* whose firms have not survived intense competition. Moreover, golden chains no longer tie older workers to their employer. Indeed, workers can more easily transfer between different states in the labor market (e.g. entrepreneurship, full-time employee, part-time worker, part-time retirement, etc). The flexibility to change one's working conditions to better suit changing needs and to find new challenges stimulates entrepreneurship and can help extend fulfilling working lives. The positive effect on labor-market attachment of enhanced flexibility to adjust working conditions to one's private circumstances holds true also for women between the ages of 50 and 70, who often provide informal care to aging, fragile relatives and friends. This informal care is likely to remain important in the future, due to shrinking family sizes and budgetary pressures on formal care provided by the public sector.

### Protecting fertility

*Voting rights for parents of young children*

One radical measure aimed at increasing the political support for families and more inclusive labor and housing markets is to give parents with minors an additional voting right for each child. Indeed, the political process is often biased in favor of protecting

the interests of insiders at the expense of the outsiders and new entrants.

*Link PAYG retirement benefits and child benefits to fertility*

Whereas both funded and PAYG pension systems are vulnerable to increased longevity, PAYG pension schemes are especially vulnerable to lower fertility because they rely on the human capital of the young to finance the pensions of older generations. This calls for automatic and transparent risk-sharing rules that stipulate that retirement ages (pension incomes) in public PAYG systems should increase (decrease) more than proportionally with longevity if fertility declines or remains at a low level.<sup>6</sup> Indeed, if generations invest less in the human capital of the next generations by reducing fertility, they should invest more in financial capital by saving for their retirement or in their own human capital so that they can work longer.<sup>7</sup> Indeed, lower fertility may call for gradually shifting from PAYG financing to funded pension schemes (see Sinn 2000).<sup>8</sup> Lower public spending on pensions also creates budgetary room for more public support for households with young children. By thus redistributing from people without children to those with children, society avoids becoming entangled in a vicious circle of low fertility, early retirement and a dearth of human capital.

In the face of low and falling fertility rates, countries with large PAYG systems should thus consider focusing the public scheme on poverty alleviation<sup>9</sup> by gradually reducing earnings-related PAYG benefits for those earning higher incomes.<sup>10</sup> This would

<sup>6</sup> Notional defined contribution systems, which adjust the indexation of pension benefits so that contributions remain fixed, provide examples of such rules.

<sup>7</sup> Investment in human capital rather than financial saving is called for if human capital and physical capital are poor substitutes and other countries are aging as well or international trade in financial capital, labor and/or goods is limited.

<sup>8</sup> These private savings plans do not have to be individual defined-contribution schemes but can also be low-cost stand-alone collective pension plans with restricted individual choice (see Bovenberg 2007). Indeed, the government may compel workers to save part of their labor income in order to protect households from myopia or to prevent households from counting on the government to bail them out from old-age poverty.

<sup>9</sup> Public transfers for old-age unskilled workers may be in order if low-income individuals are not able to save or work longer in the face of raising differences in life expectancy and health between low-skilled and high-skilled individuals. A flat public pension may be preferred over means-tested public pensions because means-tested benefits may be stigmatising. These latter benefits may also discourage saving and undercut the political support of the middle class for public pensions: targeted programs for the poor may result in poor benefits.

<sup>10</sup> The currently retired generation has not been able to anticipate lower public PAYG benefits. Accordingly, a strong case can be made for changing the rules of the game (i.e. reducing PAYG benefits and increasing taxes on the elderly) only gradually. Relative PAYG benefits can be reduced gradually by indexing benefits more to prices rather than wages or by raising the retirement age for younger cohorts.

yield a better balanced portfolio between funded and PAYG schemes, as workers with middle- and higher incomes substitute private, funded pensions for public PAYG benefits (see OECD 2001). Workers thus would become more dependent on capital markets rather than public transfers for their retirement. This strengthens political support for private property and reduces the scope for potential conflicts between labor and capital. Moreover, the fact that the elderly rely less on public transfers averts political conflicts between the generations about the level of public transfers. Indeed, solidarity between older generations and young generations raising young dependents becomes more symmetric as the state supports not only the old (especially the poorer old) but also young families in raising children.

### Conclusions

We have argued in favor of state-contingent rules for sharing demographic risks. At the same time, we must acknowledge that such legal rules suffer from limitations. First of all, in designing state-contingent rules, the government faces a trade-off between commitment (rules) and flexibility (discretion). In particular, governments may want to create clarity *ex ante* in complete contracts with regard to how risks are shared in order to limit political risks. At the same time, however, they may want to leave some discretionary powers so that they can respond to unforeseen contingencies.

A second limitation of legal rules is that commitment in a democracy is always limited. Even though rules are the default if laws are not changed and defaults can be powerful also in politics, voters can always change the rules. Giving rules a constitutional status can enhance commitment to rules because a larger majority is required to change these rules. Even in that case, rules must retain sufficient popular support in order to be credible. Hence, implicit rules embedded in the culture are ultimately more important than legal rules.

Politics, economics and culture (i.e. individual preferences and social values) are mutually dependent. The political structure obviously affects economic policy. At the same time, however, by affecting the income sources of future voters, current economic policy impacts on which policies will gather sufficient political support in the future. Moreover, by

inducing people to work longer, governments may change future preferences and social norms (Lindbeck, Nyberg and Weibull 1999). These insights point to the importance of implementing soon the institutional reforms described in this paper. In this way, we prevent Europe from becoming a gerontocracy: a large future constituency is built that is economically active, endowed with sufficient human capital to embrace the risks associated with a dynamic, innovative society, holds a stake in flexible labor and capital markets, and exhibits a strong work and entrepreneurial ethos supporting the dynamics of open markets. Indeed, to enhance confidence and trust in a stable social contract while at the same time facilitating timely adjustments, governments should announce as early as possible prospective changes in the social contract. This would allow the large baby-boom generations to anticipate reduced public transfers in retirement by saving more and investing in human capital.

In addition to arriving at new, transparent risk-sharing arrangements, the key challenges of aging for institutional innovation are twofold. In the face of scarce human capital, the first challenge is to stimulate the maintenance of human capital and the flexibility of the labor market. In this way, human capital of youngsters, women and elderly workers is exploited better, the working life is extended, the major opportunity costs facing parents when investing in children (i.e. lost career opportunities) are contained, and people can embrace risks. Indeed, a large entrepreneurial workforce, empowered with sufficient skills, safeguards the legitimacy of a dynamic market, thereby boosting productivity growth.

The second challenge for institutional innovation is to better diversify the income sources of the elderly. In this way, this politically powerful group becomes less dependent on public transfers and relies more on labor and capital income, thereby creating more budgetary room for support of young parents. Replacing passive public spending on able-bodied elderly by public spending on young children aimed at enhancing their ability to learn prevents large one-sided resource flows between generations, which may be the source of divisive political conflicts.

Two major economic securities of citizens should be, first of all, their employability and the associated capability to adjust to shocks in labor and financial markets and, second, secure claims on pension and

financial assets that help agents diversify risks. Schools, employers and unions can play an important role in helping people acquire the necessary financial competences and life and work skills. Better education may also make voters more aware of the fundamental trade-offs in social policy, thereby enhancing the quality of the political debate and ultimately improving policymaking (Boeri and Tabellini 2005).

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## PANEL

The panel was chaired by **Georges de Ménéil**, Professor of Economics, École des Hautes Études en Science Sociales, Paris. Panellists included business executives from large German companies.

**Norbert Reithofer**, Chairman of the Board of Management of BMW AG, emphasised the role of demographic change for his firm's long-term strategy. In order to remain innovative and competitive, he argued that BMW's employees should continuously be highly productive. Its "Today for Tomorrow" project helps ensure that the employees (1) take preventive health measures, (2) engage in lifelong learning, (3) work in a favourable environment, (4) can take advantage of personalised retirement models, and (5) increase their awareness of demographic change. As an important future opportunity for the company he suggested that the premium car market

is expanding nearly at the same rate as the population gets older, since such high-quality cars are predominantly bought by older, well-off customers.

The next speaker, **Klaus Kleinfeld**, CEO of Siemens AG, presented the economic significance of healthcare costs and the business opportunities of healthcare industry in an aging society. In Germany the GDP share of healthcare costs amounted to 10.8 percent in 2003 compared to 9 percent in the EU and 15.2 percent in the US in the same year. Furthermore "around 800,000 people are working in the automotive industry in Germany, while ca. 4.1 million are working in the healthcare industry. The relation is even more apparent in the US, with 1 million in the automotive and 14.5 million in the healthcare sector." According to the patent statistics, he assessed the German healthcare industry as innovative. Consequently, innovation-unfriendly regulations and other legal limitations that constrain the development of a more efficient healthcare system also have a negative effect on the labour market in Germany.

**Reiner Klingholz**, Director of the Berlin Institute for Population and Global Development, reported that "after reunification, Germany's east has for some years seen the lowest fertility rates (0.77 children per woman) ever observed in a single country. In addition, the east registered a considerable loss of young and talented inhabitants (more than 10 percent of the former GDR population), mainly young women. Today Germany's east is the region with the biggest surplus of young men in Europe. These males without partners are often jobless and without education – a mixture barely inviting for females to return". He added further that in a way this German experience shows what can happen to many European regions in the course of coming changes – mainly in Eastern Europe, but also in the high North and in the peripheral South. Europe, not only by country but also by region, is divided demographically into a medium fertility zone, where rising life expectancy and immigration will add up to further population growth, and a low fertility zone, where the number of children per woman is 1.5 or lower. If the fertility level remains low for an extended period of time, the latter group of regions might be caught in a serious "fertility trap" because having few children might eventually turn into a social norm. In total, Europe-27 will have lost probably 10 percent of its population by 2050, which – among other things – will surely have spatial consequences.





Dinner Speech by

**KURT FALTTHAUSER**

Bavarian State Minister of Finance

Ladies and Gentlemen,

It is a great pleasure for me to welcome you all very warmly to the “Kaisersaal” of the Munich Residence on behalf of the Bavarian State Government.

We are delighted at the brilliance that this Summit radiates far beyond the borders of Bavaria. Munich is not only a centre of high technology and an art and cultural metropolis. Munich is also a place for world-class economic research.

We would like to thank all of you who have helped to make this so. Our particular thanks go to Prof. Dr. Hans-Werner Sinn, President of the ifo Institute, who launched the Munich Economic Summit and through his own efforts brought it to its present peak of splendour.

We are no less indebted to the BMW Foundation Herbert Quandt and its Chairman, Jürgen Chrobog. This year you have once again supported this top economic event both generously and magnificently by material and immaterial means.

Since our last Economic Summit, not only have you and I become one year older, but the whole of Europe has also aged. According to the statistical experts, the old-age quotient in Germany, for example, last year exceeded the youth quotient for the very first time. This means that for every one hundred people aged between 20 and 65 there will in future be more and more over 65 year-olds than under 20 year-olds. That is a snapshot of an ageing process already extending over decades.

Anyone taking a look at our media could easily gain the impression that we are in a hopeless situation. There is talk of “senilisation” and that the Europeans are dying out.

I do not share the mood of doom that this implies. But we do have to take the demographic challenge seriously, and so analyse it precisely and draw the necessary conclusions. The Munich Economic Summit is making its contribution in this respect.

I think it is essential that the people in positions of responsibility in science, industry and politics exchange ideas and views about how we can respond to this demographic development. You have already debated this at length today. And tomorrow more discussion rounds are on the agenda.

Let me just make a few more remarks in this context from the perspective of a politician: we must tackle the challenges presented by this demographic trend in a number of different ways.

*We must improve the framework conditions for economic growth*

If population is getting smaller and growing older, then competition for employees will increase, the fight among locations for investments will become tougher. Our objective must therefore be to create the prerequisites for a high level of employment, for investments and innovations and so for economic growth with good locational conditions. Because: If the work is attractive, people will go there. If the work is attractive, people will stay there.

*We must introduce basic reforms to social security systems*

Our social systems are already reaching the limits of their efficiency. Despite the good state of the economy, pressure on the social security services will continue to increase, unless we counteract it with structural reforms. The welfare-state demands of the citizens are restricted by the performance of the economy. What we need is for citizens to assume more responsibility for their retirement and more equity-funded social security pillars. A generation-oriented

policy must spread the burden of an ageing society fairly on the shoulders of all generations.

*We must tackle labour market reforms and make labour markets more flexible*

While the strong upswing has brought us a long way in cutting unemployment levels, if we do not back up the momentum of employment with further structural reforms now, we will quickly end up in the next downturn precisely where we were in 2005. And the decline in births and the ageing of the population will not automatically solve the problem of unemployment in Europe. It is symptomatic that in those European regions, where the population is already decreasing, this is by no means automatically being accompanied by a fall in unemployment.

We must therefore exploit the potential of the working population in the best possible manner. The longer life expectancy is a gain for society. But up to now too little advantage has been taken of the potential offered by the older people. Too rigid regimentation of the retirement age will not satisfy many people's ideas of a fulfilling life in mature years.

We must give older people better professional opportunities. For example we can restrict the possibilities for imposing early retirement and flexibly increase their effective working life.

In addition, we must improve the professional opportunities for women and facilitate the compatibility of family and profession, because many women want to work and have to work, in order to make sure that the family income is adequate.

*We must increase the potential for start-ups and innovations*

Fewer employees tends to mean less growth. In Bavaria, we have therefore for a long time been relying heavily on a proactive strategy of technological progress, networking science and research.

*We must place the education programme on a broader basis*

We must encourage and develop the talents and strengths of all children and young people even more proactively and effectively – from pre-school teaching through general education and vocational

training and further education all the way to university education. The keyword is “lifelong learning”.

*Reforms*

In Germany we have in the last 1½ years succeeded in implementing major reforms, and especially under demographic aspects, for example:

- Marked improvement in the economic framework conditions for corporate investment by pursuing a growth- and innovation-friendly policy.
- Progress with consolidating the federal budget.
- Gradually raising the retirement age limit to 67 in order to ease the burden on the statutory pension insurance.
- Introduction of family allowances for parents to make family and work more compatible.

In Bavaria we are on the right track with our three-pronged policy of “Investment – Remediation – Reform”. Next year we will already be launching a big programme for the future “Bavaria 2020 – Children, Education, Jobs”.

We are going to invest in the development of the child-care system and in the support of families. Best opportunities for everyone – that is the goal of our education policy.

The task of economic policy is – not least – to seize opportunities. In this respect we are pinning our hopes on the leading markets of the future. With our “Allianz Bayern Innovativ” Initiative we are encouraging companies, scientific institutions and investors to organise themselves into powerful and effective industry and technology networks. Our aim is that Bavaria stays a world-class centre for innovation despite the demographic changes.

I wish you all a pleasant evening, stimulating conversations and an enjoyable meal. Feel at home here with us in Munich.

I look forward to seeing you again at the Munich Economic Summit 2008.





## Panel 2

## TOP-HEAVY LOAD: TROUBLE AHEAD FOR SOCIAL SECURITY SYSTEMS

### Introduction

PETER A. DIAMOND\*

Professor of Economics, Department of Economics,  
Massachusetts Institute of Technology (MIT),  
Cambridge, Massachusetts

The so-called double-aging phenomenon – steadily decreasing birth rates coupled with ever increasing life spans – has turned the developed world's age pyramids into age mushrooms. Low birth rates mean fewer people paying for ever larger legions of old folk for an ever increasing number of years. Much has been said about the effect of this on pensions, but the effects on health care are equally precarious. What is the situation in Europe? What is being undertaken to stave off a meltdown? What can we learn from the experience of other countries?

Birth rates have been trending down for a long time. Figure 1 shows a century of information for four countries with readily available data. The baby boom was a large temporary reversal in that pattern, resulting in a rapid decline in birth rates after its end. Mortality rates have also trended down for a long time. The drop in child mortality was very important for the increase in life expectancy at birth. And declining mortality at adult ages has added greatly to remaining life expectancy, measured both from an age typical for the start of work and

\* I am grateful to Maisy Wong for research assistance in preparing this paper.

from an age typical for retirement. Figures 2 and 3 show a century of remaining life expectancy for four countries at ages 21 and 65. Thus, the ratio of the population over 65 to that between 20 and 64, commonly referred to as the old-age dependency ratio, has shown an upward trend for a long time, as shown in Figure 4. That trend is projected to continue and, in some countries, to be more rapid. Hence the aging of the population and the anticipated continued aging.

Accompanying the long-term trend to longer adult lives has been a long-term trend to shorter working lives, to earlier retirement ages, as shown in Figure 5. And it is not just at ages typical of retirement that labor force participation of men has been declining, but also at prime working ages as well, as shown in Figure 6 for the US. Indeed, the decrease in work is not just measured in terms of years of work, but also the length of the work day, the work week, and the work year. The pattern for women is more complex as changing work roles for women have been combined with the same underlying trend.

Given at least a century of these trends, it is natural to ask why aging has become a major issue in pension design over the last two decades. By basic accounting, any pension system, whether fully, partially or not funded, must adapt in some form to this

Figure 1

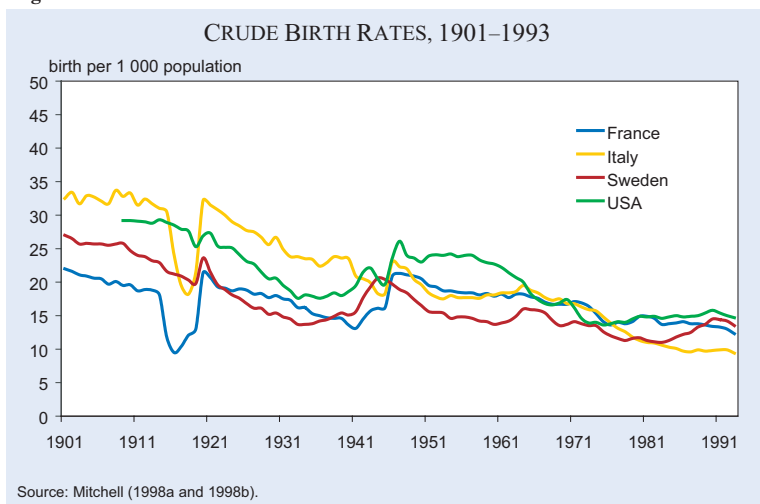


Figure 2

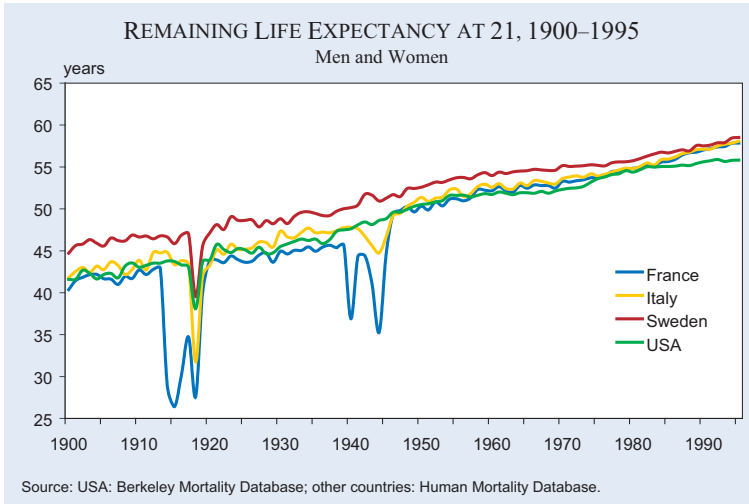


Figure 3

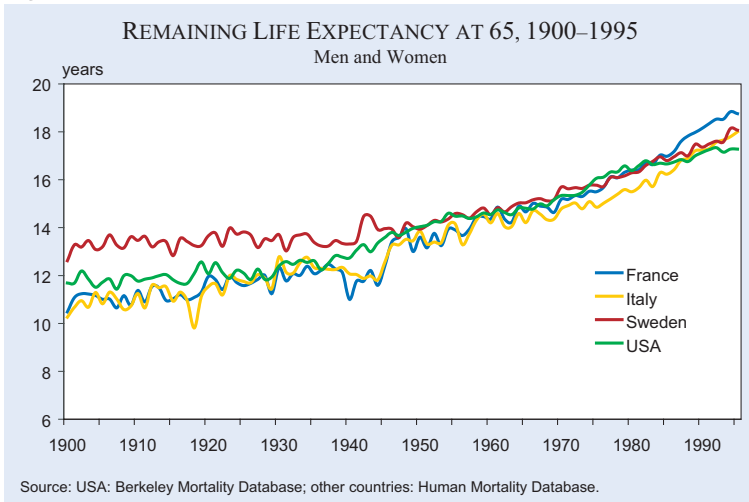
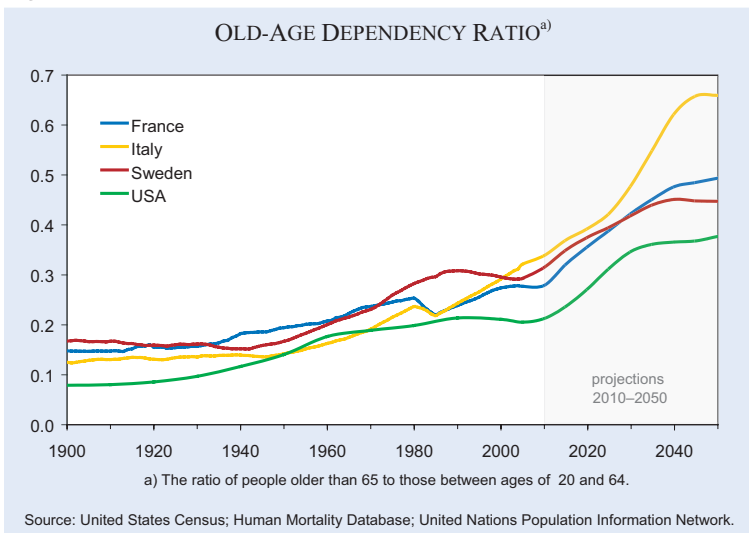


Figure 4



trend in mortality and retirement. The same levels of contribution rates, monthly benefit levels, and retirement ages are not mutually consistent with different demographic patterns. In response to aging, it is necessary to have some combination of increased contribution rates, decreased monthly benefits, and a later starting age for paying benefits. This is true whatever the degree of funding of the pension system.

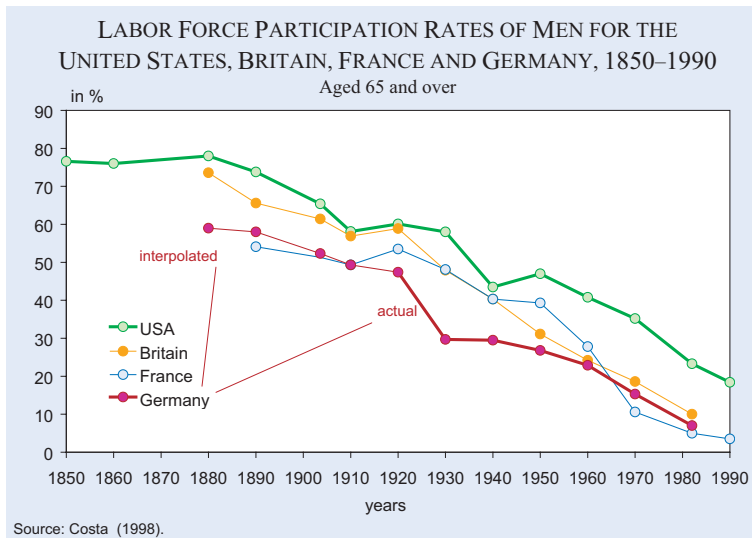
Partially-funded and not-funded (pay-as-you-go) systems must also respond to the changing old-age dependency rate. Key here is not the demography of the entire population, but the “demography” of the covered population. At times, increases in coverage have implied a different financial picture than would be suggested by overall demography. But in advanced countries, coverage is now complete or nearly so, so that a further increase in coverage is not a significant option and so population demography is a key driver.

And fully-funded and partially-funded systems must also respond to changes in wages and interest rates, which can be affected by the demographic trends. I suspect that globalization and the increasing development of poorer countries will be far more important for wages and interest rates than the demographic trends.

**Adjusting benefits**

Most advanced countries now have payroll tax rates that are sufficiently high that they are not considering significant further increases in contribution rates, so

Figure 5



I will focus on the other two variables, the level of benefits and the ages at which benefits can be claimed.<sup>1</sup> To frame the options, consider the adaptation to demography of a mandatory fully-funded, defined contribution pension system that bases annuities on market pricing. In this case, all of the adjustment would be in terms of the monthly benefit for any given retirement age. And the adjustment would be automatic, not requiring changes in the pension system rules. Of course, workers could choose to work longer in order to have larger monthly benefits. And the size of the benefit increase for a given delay in the start of benefits would also automatically adjust to changing life expectancies. It would take changes in the rules to raise the earliest age at which benefits could be started or to raise the contribution rate. Either of those might make sense if the replacement rates – monthly benefits relative to past monthly earnings – became too low to be doing a good job of fulfilling the social needs that the pension system is trying to address.

Similarly, a defined benefit system, with or without some assets, could adjust benefits automatically based on mortality data (with or without a mor-

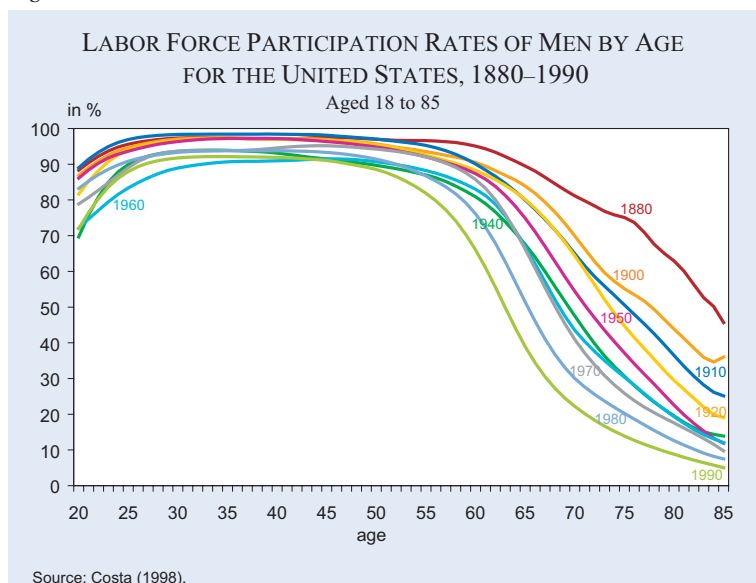
<sup>1</sup> In contrast, together with Peter Orszag, I have called for tax increases to be part of the adaptation to longer life expectancy in the US (Diamond and Orszag 2005).

tality projection). This is the approach taken in the hybrid defined benefit system called a Notional Defined Contribution system, and has been implemented in Sweden, with quasi-actuarial adjustments. And the Swedish approach also adjusts the increase in benefits for a delay in the start of benefits on a quasi-actuarial basis. The Swedish approach to increasing benefits for a delay in their start is an excellent way of avoiding excessive implicit taxes on continued work, which unfortunately encourage too much early retirement and plague many systems.<sup>2</sup> Some system of automatic adjustments for life expectancy seems to me a valuable part of pension design. And the lack of such adjustments has been a major part of the financial concerns generated by the demographic trends.

But an adjustment for remaining life expectancy, by itself, is not necessarily sufficient for financial stability with decreased growth in the payroll tax base and thus in revenues. So Sweden has also incorporated an adjustment in the pension system's notional interest rate based on the financial position of the system. This can further reduce future benefits to limit the

<sup>2</sup> Excessive implicit taxes on continued work have plagued some retirement systems. But a zero implicit tax on continued work is not part of an optimal system providing insurance and redistribution.

Figure 6



risk of inadequate finances. And Germany has included an adjustment of benefits for the system's dependency rate.

While useful, putting a pension system completely on automatic pilot for its finances may inhibit revisiting design to better fulfill the social goals of the pension system. For example, if pensions in payment increase more slowly than wages, as can happen with price indexing of benefits in force, longer lives after retirement mean that the lagging of pensions behind wages becomes more important. Or a system that includes a minimum pension might find it appropriate to revisit the size of the minimum. Or evolving relative life expectancies of men and women, along with evolving patterns of marriage and divorce, might call for reexamining the way the pension system works for all present and past family members.

Another approach, taken in the US in 1983, is to reduce future benefits based on projections of future life expectancy. I think this approach is not as good as automatic adjustments since there is great uncertainty about future mortality. Indeed there is considerable debate among demographers and actuaries about the likely trend in future mortality. Several recent reform proposals in the US do incorporate automatic adjustments for life expectancy.

Automatic changes in benefits based on life expectancy should follow three principles. First, the rules should relate to the date of birth not the date of retirement. Otherwise many workers will retire just before a reduction in the benefit formula in response to improved mortality. Such an incentive to retire is inefficient. Second, changes should be made annually. Otherwise the system will produce large changes in benefit levels across nearby cohorts. Such large changes are inequitable, as benefits will differ more significantly between those born in successive calendar years, some of whom are born just days apart. Large changes are also more difficult to sustain politically. And third, it is better to have explicit rules for changing benefits, rather than relying on some group to review and adjust them in light of experience. Greater predictability and decreased political pressures seem better with automatic adjustment with given rules. Nevertheless, there always remains the option of legislation to change whatever the automatic rules produce.

### **The earliest age for starting benefits**

If benefits vary with the age at which they start in a roughly actuarial way, then increasing the age at which benefits can first be claimed with no other changes does not significantly impact the finances of the system. To see the interaction between the earliest pension age and finances, let us consider the system in the UK. Currently, the earliest pension age is 65 and if a worker chooses to delay the start of benefits until age 66, the monthly benefit is increased by 10.4 percent. To increase the earliest pension age without also reducing benefits at ages when they can still be claimed, eligibility to claim benefits could start at 66 rather than 65, without reducing the size of benefits paid as a function of the age at which they start at 66 or beyond. In contrast, the 10.4 percent increase in benefits for the first year of delay in benefits beyond age 65 could be removed, with or without denying the ability to claim (reduced) benefits at age 65. By eliminating the right to claim benefits at 65 without lowering benefits at 66 and beyond, the pension system has lower expenditures for workers at 65 (since benefits are not being paid) and higher expenditures for those 66 and beyond (since more workers are receiving the 10.4 percent increase for not starting benefits at 65). The net impact on finances, on a present discounted value basis, is not large (indeed it is zero if the benefit increase is strictly actuarial). Thus, the earliest pension age should be based on fulfilling its social role, on seeing that pension levels are adequate and are available by the time a significant fraction of the population should sensibly be receiving them. Unfortunately, the UK uses the same variable, the State Pension Age, for these two separate functions – the earliest age for claiming benefits and the key parameter for determining benefits. Thus it is not simple to change the two separate functions on different schedules, as should probably be the done.

Mandatory pension systems are mandatory because of a concern that left to their own devices too many workers would not save adequately for retirement. This concern does not fully go away as workers age and is the basis for judging what would be a good earliest age for claiming benefits. Increasing the earliest pension age from 65 to 66 would hurt some workers who ought to start benefits at 65, given their job opportunities, financial position and life expectancy (including the position of their spouses). On the other hand, increasing the earliest age for claiming benefits helps workers

who would start benefits at 65 but would be better off if they waited until 66, because of the increase in annualized benefits (possibly their only annuity) and possibly because working another year, given available options, is worthwhile for improving their remaining lifetime finances. Choice of an appropriate earliest age for claiming should balance these two factors.

If replacement rates shrink in response to longer lives, it becomes plausible that a better earliest pension age is a later one. But, I have not seen any appealing simple principle for adjusting the earliest pension age in step with life expectancy. Such a link would need to be based on an expectation of how much longer people who retire early should work in response to lower mortality rates. But the age at which it is sensible for a worker to retire depends on more than just life expectancy. It depends as well on a worker's ability to work, interest in work, and the availability of jobs. All of these will change as mortality decreases, but not necessarily in a simple relation to life expectancy. A sensible retirement age also depends on the extent to which, because of the trend to higher earnings, workers are more interested in retiring earlier. Furthermore, the diversity in the labor force and the appropriateness (in some cases the need) for some workers to take early retirement also underscore the importance of preserving some early retirement options. And future declines in mortality will widen the variance in ages at death. And they may continue to involve more rapid rates of decline in mortality rates for higher earners. These factors, if anything, *increase* the importance of providing an option of early retirement for those with shorter life expectancy.

There may be a perceived political gain from hiding a cut in monthly benefits (from any given starting age) by increasing the earliest pension age and providing the same benefit as had been provided at the earlier age. But that is a cut in monthly benefits at any given age of starting benefits. Apart from its politics, the choice of an earliest pension age should be based on fulfilling its social role.

### Early retirement and unemployment

Some people think encouraging early retirement is a good way to reduce unemployment. But that is a fallacy that ignores the reaction of the supply of jobs to the supply of labor. When more workers are

available, firms are more willing to hire because suitable labor is easier to find and equilibrium earnings tend to be somewhat lower. The century-long trend to earlier retirement, noted above, has not been accompanied by a matching decline in unemployment.

This trend suggests that greater income levels (both higher earnings and access to better investment opportunities) are a key driver of retirement decisions. Yet the details of pension systems also matter greatly. This has been found in the comparative studies of pensions and retirement in 11 countries by a team led by Jonathan Gruber and David Wise (Gruber and Wise 1999). In particular they employed a simple measure of the incentives inherent in pension rules by calculating an implicit tax on earnings; that is, the decrease in expected lifetime income as a consequence of the pension rules should a worker continue earning for another year. The studies in the Gruber-Wise volume calculated such implicit taxes for each of the 11 countries in the project. And they defined a variable they named the "tax force" by adding up the implicit taxes from the age at which a male worker becomes eligible to claim a retirement benefit up to age 70.<sup>3</sup> In a crude, aggregate way, this variable measures the extent to which the design of the pension system contains a financial incentive to do less work, reflecting both the earliest age for starting benefits and the implicit taxes thereafter.

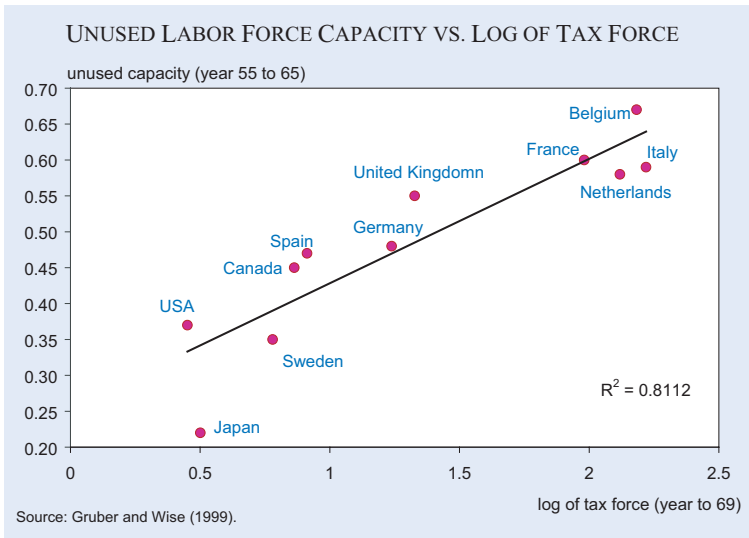
To see how this measure of retirement incentives is related to retirement across their sample of countries, they used a simple aggregative labor supply measure. For each age between 55 and 65, they calculated the fraction of the male population not in the labor force and then added up these fractions over these ages. They named the variable "unused productive capacity." Regressing unused productive capacity on the logarithm of the tax force, there is a strong correlation and a sizable, statistically significant coefficient, as shown in Figure 7.<sup>4</sup> Moreover, time series evidence and analyses based on individual data suggest that at least a large part of this correlation is causation from implicit tax incentives to early retirement.

<sup>3</sup> The focus here on male labor force experience recognizes that increases in female career patterns that have marked many countries in recent decades have varied in timing and size across countries, making it harder to isolate the impact of pension rules on labor supply by analysis across countries.

<sup>4</sup> At the mean, the elasticity of unused capacity with respect to tax force is 0.36.



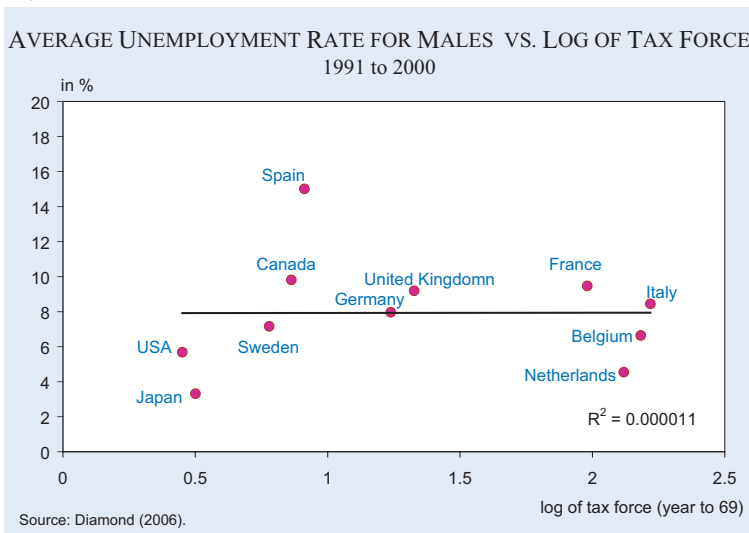
Figure 7



Thus the implicit taxes from the pension plan have a strong effect on retirement. One can then check whether they also have a strong effect on unemployment by regressing male unemployment rates, measured by a decade long average unemployment rate, on the same variable – the log of the tax force. Whether interpreted as the impact of implicit taxes from pensions on unemployment or as an instrumental variables measurement of whether early retirement affects unemployment, the answer is clear – there is no effect, as shown in Figure 8 (see also Diamond 2006).

Thus it is a mistaken policy to have very high implicit taxes that strongly encourage early retirement (and which may affect the pension system long-term) as a response to unemployment which is gen-

Figure 8



erally shorter term and not systematically improved long-term. Discouraging work by high implicit taxes is an example of large inefficiencies (deadweight burdens) which do not accomplish social goals and should be avoided.

**Increased funding**

What is the role of increasing the funding of pensions for dealing with the demographic trend? As indicated above, a fully funded pension system needs to adapt to changing demography as well.

The extent of the needed change for longer lives is similar to that of an unfunded system. The change needed in an unfunded system for slower labor force growth is replaced by the change needed for lower interest rates, if that should happen. Thus the essence of increasing funding for the mandatory system is to distribute the costs of adapting across revenue sources as well as benefit cuts and to distribute the patterns of benefit cuts and tax increases differently across generations. Funding may also alter the political viability of different kinds of changes, possibly for the better or for the worse. Of course, some individuals will sensibly respond to lower replacement rates in the mandatory system by increased voluntary savings, and such a response is sensibly encouraged by tax policy.

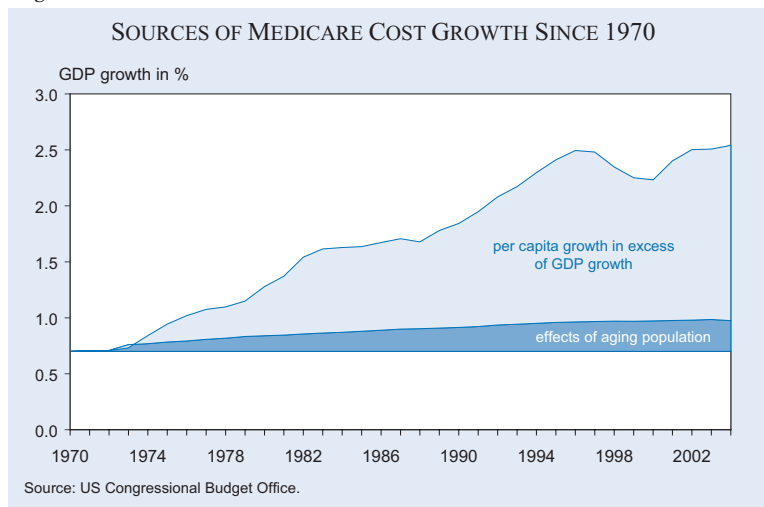
Economists recognize that the real gain from the funded defined contribution (DC) accounts is a change in intergenerational distribution; that a widely-made argument of higher returns from funded DC accounts is not a legitimate argument. Let me present and correct that argument. Some analysts and politicians compare the long-run return on assets with the long-run return in a pay-as-you-go (PAYG) system, which, as is well known, is the rate of growth. Since long-run rates of return exceed rates of growth, this is sometimes presented as a

pure gain. But it is wrong to analyze policy by considering only the long run, not including the short-run costs and benefits. It would be wrong to say that having the rate of interest exceed the rate of growth implies that a funded system is better. A full analysis shows that there is no gain available for everyone from funding per se, but an intergenerational redistribution, which may be worthwhile or may not be worthwhile.

This correct argument can be seen by considering the infinite-horizon present-discounted-value (PDV) budget constraint for social security. Basing benefits on individual accounts does not change this constraint per se – taking some social security revenues and moving them into funded individual accounts leaves behind a revenue gap. Combining the need to fill this revenue gap with the other effects of creating the accounts leaves the PDV constraint roughly unchanged. The overall rate of return, which equals the rate of interest on assets, minus the extra taxes needed because of the revenue gap, is equal to the rate of growth, just as before. In contrast, raising revenues or lowering benefits do change the future PDV constraint. And obtaining a higher rate of return on whatever assets the system holds changes the PDV constraint as well.

There are two aspects to increased funding, both of which matter. One is the growth of national capital and the other is the fiscal (or accounting) position of social security. More growth of national capital increases resources available in the future; a stronger fiscal position for social security affects the political process that allocates costs and benefits in the future. So, economists tend to favor funding that increases national savings, not funding that is merely re-labeling or shuffling liabilities. To this end, increased funding within social security should not be offset by larger government deficits outside social security.

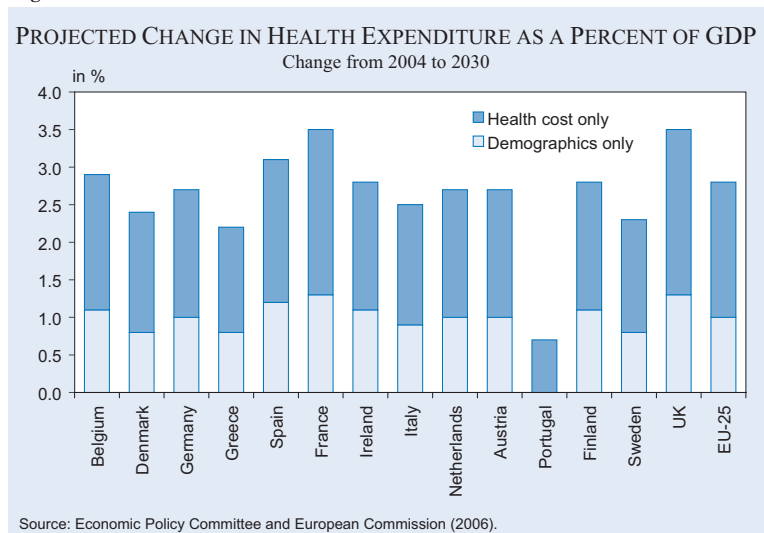
Figure 9



Medical expenditures

Turning to the expense of medical care, the issue is more complex for two reasons. One is that the impact of longer lives on medical costs depends on the changes that occur in the pattern of health across different ages. Hence different assumptions about improved health imply different rates of growth of medical expenses. The second reason is that aging alone does not explain all of the medical care cost growth we have experienced or anticipate experiencing. The steady changes in medical technology, indeed the revolution in biology, have profound implications for both the quality of medical care that can be delivered and its cost. While in principle ongoing research and development could raise or lower the cost of medical care, it seems to me that the future is likely to resemble the past, with better medical care resulting in greater expen-

Figure 10





ditures. Figure 9 shows the historic pattern for the over-65 population in the US. Similarly, projections of medical expenses note that aging alone is only a portion of anticipated cost increases, as shown in Figure 10. This makes it important to focus on the details of incentives (on both demanders and suppliers) to use medical care, incentives that affect prices of medical services, and incentives for research and development.

As a closing note, let us remember that projections are just projections and the future is uncertain. Thus systems need to be adaptive, to some extent automatically adaptive, rather than designed for a particular future, one that may not occur.

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## PANEL

In addition to the above speakers, the panel, which was chaired by **Martin Wolf**, Associate Editor and Chief Economics Commentator of *Financial Times*, consisted of experts from business, interest groups and the public administration.

**Edward Palmer**, Professor of Social Insurance Economics, Uppsala University, stressed that the current EU projection assumes a long-run fertility rate of 1.5 children per woman for the EU-25. Demographic risks caused by increasing longevity and low fertility can be managed to a large extent "if countries' social systems – especially pension policy and family policy – are appropriately designed to accommodate not only today's but also tomorrow's demographic and economic realities". Apart from a family policy that subsidizes child birth and supports female labor force participation,

a well-designed pension system is urgently needed that counterbalances the effects of increasing longevity and low fertility on pensions. Both, the financial defined contribution (FDC) scheme and the non-financial defined contribution (NDC) scheme accomplish this, albeit in different ways. Moreover, the defined contribution (DC) schemes seem to have the advantage over the defined benefit (DB) schemes. The DC schemes are amenable to flexible retirement, which can promote longer working careers for older workers, while they are neutral with respect to labor mobility.

**Hans Rudolf Schuppisser**, Confederation of Swiss Employers, presented the Swiss government's future strategy to overcome the financial shortages caused by the rapidly changing demography. "At the moment the Swiss government is trying (1) to stabilise its health insurance system, (2) to find a solution for the old age pension system by introducing the retirement wage of 65 for both women and men combined with a slower revaluation of pensions (the 1st pillar) as well as by lowering the conversion rate of occupational pension plans from the current 7.1 percent to 6.4 percent in 2014 (the 2nd pillar), for example." A discussion about raising the retirement age to 67 is not on the agenda at the moment. For years his organisation has recommended the introduction of a higher official retirement age in the next decade and an improved combination of children day-care facilities and school system in Switzerland.

**Craig L. Fuller**, Executive Vice President of APCO Worldwide, Washington DC, reported the serious US problems related to the financing of the social insurance system. "Today the ratio of workers to social security beneficiaries is 3.3 to 1 in the US. And, in 2040 there will be two workers for each beneficiary. At the beginning of this year the US Social Security Trustees suggested that the annual sum of social security benefit payment will exceed the flow of tax income into the system starting in 2017. Thereafter the Trust Fund assets held by the Treasury will be utilised; however, they are projected to be exhausted in 2041." Furthermore the US Medicare programme paid benefits of \$402 billion in 2006 while yielding income of \$437 billion. Quoting the recent report of the US Medicare Trustees he argued that the Hospital Insurance Trust fund is also expected to be exhausted in 2019 and the financial outlook for the Medicare programme continues to raise serious concerns in the US.

**Peter Schnabel**, General Director of the Social and Cultural Planning Office of the Netherlands in The Hague, pointed out that there are several types of social security systems in the OECD which include: the liberal, Anglo-Saxon type, the corporatist/continental model, the social-democratic/Nordic regime, the system prevalent in the Mediterranean countries and that in the new, modern EU states in Eastern Europe. Examples of social security systems that are the most vulnerable but are also quite flexible in adjusting to future needs appear to be the corporatist regimes that are presently in effect in countries like Germany, the Netherlands, Belgium and France. He added that the pension systems do not always run parallel to the social security systems. They can be organised publicly or privately, capital-based or tax-based, coverage can be universal or selective, they can offer low or high level pensions, and be partly voluntary and partly mandatory. In his opinion, pensions are likely to become a serious problem sooner in those countries where the absence of a capital-based system is combined with universal coverage and generous allowances. Apart from the cases in France and Germany this has also recently emerged as a sensitive political issue in the Netherlands.

## Panel 3

## LOW FERTILITY IN EUROPE: IS THE PENSION SYSTEM THE VICTIM OR THE CULPRIT?

### Introduction

#### ALESSANDRO CIGNO

Professor of Economics, Faculty of Political Science,  
University of Florence

Over the last two and a half centuries, fertility has fallen dramatically throughout Europe (Mitchell 2003). In relative terms, the fall has been more pronounced since the end of World War II. After a modest recovery in the 1960s (the so-called baby boom), the total fertility rate (TFR) declined for almost two decades before settling below the replacement level of 2.1 births per woman.

If we plot the TFR against the share of pension or, more generally, social expenditure in GDP, we detect a negative correlation (see Figure 1). Why? The usual explanation is that, since the state has taken over from the family as the main source of old-age support, any increase in the old-age dependency ratio translates into higher public expenditure on pensions, health and social facilities for the aged peo-

ple. The effect of falling fertility has been exacerbated by the fact that life expectancy has risen, but the statutory age of retirement has not been allowed to keep pace with the age at which people actually become old.

The combined effect of fewer births, longer lives and sluggish retirement age is putting public pension systems, all essentially pay-as-you-go, under increasing strain. Most governments are responding to this by either raising contributions or cutting benefits (by a variety of means, including later retirement). Those who have gone for benefit cuts are introducing tax inducements to buy into private pension schemes. Some have also introduced or are about to introduce fertility incentives. Others still are making it easier to combine work with parenthood by improving child-care facilities, introducing flexible working hours, etc.

What does not seem to have occurred to anyone in government, or in a position to influence public opinion, is that

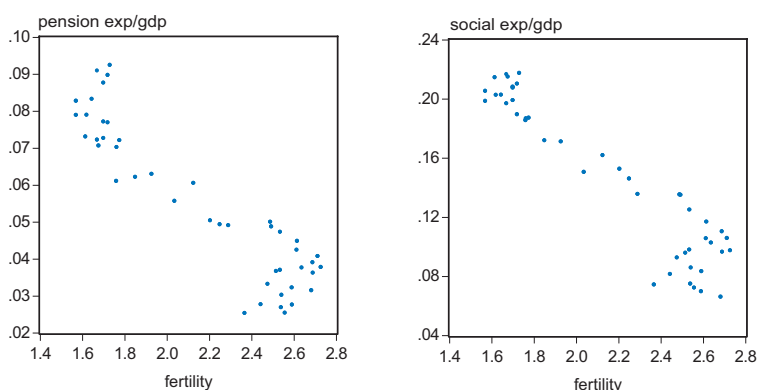
- public pensions themselves are in part to blame for the fertility decline, and
- cutting pensions would not increase voluntary saving.

I shall try to throw light on these issues, drawing on Cigno and Werding (2007).



Figure 1

FERTILITY AND PENSION/SOCIAL EXPENDITURE AS SHARE OF GDP  
1949–1993



Source: Puhakka and Viren (2006).

### What do we know about the effects of pension policy?

The effect of pension policy on voluntary saving has long been the object of empirical research. A majority of the studies based on individual or household data finds that pensions will either discourage or have no statistically significant effect on household saving. Others find a positive effect. All take the household age struc-

ture, hence fertility, as given. Fertility is assumed to be exogenous also in early studies of aggregate data, and the findings are equally contradictory. The effect on fertility has received less attention. A number of cross-country studies find that pensions discourage fertility.

More recent investigations allowing for saving and fertility to be jointly determined invariably find that pensions have a negative effect on fertility, but either a positive effect, or no effect at all, on household saving.<sup>1</sup> Contrary to what appears to be the assumption behind current policies, it would thus seem that public pensions displace fertility, and human capital investment, rather than voluntary saving. This makes public pension systems, all essentially pay-as-you-go, intrinsically unstable. The system eats away at its own contributive basis.

There are various ways in which one can explain this phenomenon. The one I favour goes as follows. Most people derive pleasure from having children and from seeing them as well. But children are very costly in terms of actual expenditure and forgone earnings. If pension entitlements increase with earnings, there is a further cost in terms of forgone pension benefits. Fertility will consequently be higher if, in addition to altruistic pleasure, children bring tangible rewards – in other words, if bringing a person into the world is a good investment, as well as an act of love. Explanations of reproduction and transfer behaviour based entirely on the latter do not appear to fit the facts.<sup>2</sup>

In developing countries where young children can be made to work, part of the reward for having a child may come rather early, in the form of the child's net contribution to family income. In developed countries, young children do not usually make any contribution to family income. But most grown-up children provide their elderly parents with personal services, and a few also with material support. Since, in developed countries, the old are relatively well provided with money through either personal saving or the pension system, and given that the market does not provide perfect substitutes for the services of their own children, the money-equivalent of the utility that they derive from such services (i.e., the

amount of money that they would be willing to pay for them) is likely to be even higher than in developing countries.

The problem with the idea that money and time spent on a young child might return in the form of old-age support is that parents cannot oblige a grown-up child to do or give anything. Both the economic and the sociological literature abound with arguments to the effect that a child can be brought up to feel it is his moral duty to support his parents in old age, or otherwise that an adult will meet with society's disapproval if he does not support his elderly parents. My own argument, not incompatible with those mentioned, is based on the family-level equivalent of a political constitution. A family constitution (unwritten, and typically also unspoken) is a set of rules specifying the minimum that an adult must give, or do for his elderly parents, and each of his young children, so designed that it is in every family member's interest to obey it, and in no generation's interest to amend it.

The introduction of a public pension scheme makes a number of these constitutions unviable.<sup>3</sup> For a number of adults, the investment motive for having children, and for investing money and time in their upbringing, will then disappear. These persons will have fewer children than they would have had without the scheme. Indeed, if the scheme is pay-as-you-go, they will have fewer children than is efficient. An extra birth would in fact make all participants in the scheme collectively better-off.<sup>4</sup> Given a large number of participants, however, the benefit to the child's own parents will be too small to matter, and will thus be disregarded in taking fertility decisions.

The effect on voluntary saving is ambiguous. On the one hand, compulsory saving in the form of pension contributions tends to substitute for voluntary saving. On the other, however, those who, without the policy, would have saved very little or not at all, may now find that the pension does not fully compensate them for the loss of filial support, and will then save more. The household saving rate may thus rise or fall. As already mentioned, there is evidence that it would either rise or stay the same.

<sup>1</sup> See Cigno and Rosati (1992); Cigno and Rosati (1996); Ehrlich and Zhong (1998); Cigno et al. (2003a); and Zhang and Zhang (2004). Those investigation in which I am involved are single-country, time-series studies. The other two are cross-country studies, and estimate also the effect of pensions on growth. But one finds this effect to be negative, the other to be positive.

<sup>2</sup> See Cigno et al. (2003a and 2006), and references therein.

<sup>3</sup> The demonstration is in Cigno (2006). Evidence that a statistically significant fraction of the population is constrained by it is reported in Cigno et al. (2006).

<sup>4</sup> For Germany, Werding and Hofmann (2005) put the average present value of the net benefits accruing to the pension fund as a result of the birth of a child at about 139,000.

### Is there anything a government can do?

One thing a government can do, if it wants to get rid of the undesirable effects of a public pension system, is get rid of the system (or cut it back drastically, leaving in place only a low safety net). That would restore the incentive to have children, and invest in them. But it would also reduce the incentive to save. Could this be countered by tax inducements to buy into private pension plans? Since the tax advantages induce a substitution of pension plans for other forms of voluntary saving, there will be an overall increase only if the substitution effect is dominated by the income effect. But the latter will in any case be compensated away if the government raises the income tax rate to recover lost revenue.

An alternative to cutting the public pension system, or cutting it too drastically, is to subsidize fertility. Cash benefits and tax allowances for families with children are present almost universally. Fertility-related benefits are present in some pension systems. Examples of this are the *majoration de durée d'assurance pour enfants* in the French *Régime Général*, and the Swedish *extrapension för barn*. In 1986, the German government started crediting parents who withdraw from the labour market to look after a child with a notional pension contribution, *Kindererziehungszeiten*, originally set at 75 percent of average earnings, for up to one year. Later, this notional contribution was raised to 100 percent of average earnings, and extended to three years. Since 1996, however, the condition that the parent should actually give up work in order to qualify for the benefit has been removed, and *Kindererziehungszeiten* has become a fertility-related pension benefit just like the French and Swedish ones.

The only difference between child benefits as commonly understood, and fertility-related pension benefits, is that the former are paid much earlier, and are less uncertain, than the latter. Given imperfect credit and insurance markets, one euro in the form of conventional child benefits is thus likely to elicit a stronger fertility response than the promise of a fertility-related pension benefit with a present value of one euro. Irrespective of when they are paid, however, fertility-related benefits induce parents to substitute quantity for quality – in other words, to have more children, and spend less money or time on each of them.<sup>5</sup> This may be countered using education

subsidies. Since both kinds of subsidy cost taxpayer's money, however, using them together is an expensive way to foster fertility and human capital formation.

A more cost-effective policy is to introduce pension benefits contingent on the total earning capacity of the pensioner's own children (Cigno et al., 2003b). An element of that was present in *Kindererziehungszeiten* until the requirement that a parent should give up work to qualify for the benefit was removed. The length of time that a parent stays out of the labour market following the birth of a child is, in fact, a measure (albeit a very crude one) of the amount of time that the parent spends with the child. Conditioning pension benefits on this, however, rewards only one of the inputs into the making of a successful citizen, and will consequently distort parental choice. Furthermore, it does not take account of the quality of parental attention.

### Policy proposals and simulations of their impacts

My proposal is to set up two parallel pension schemes, each one designed to break even over the long run:

1. A conventional Bismarck-type scheme, where individual benefits depend on individual contributions, with some adjustment for equity and insurance purposes.
2. A scheme offering benefits conditional on the earning potential of the pensioner's own children,<sup>6</sup> again with adjustments for equity<sup>7</sup> and insurance.

Unlike a conventional pay-as-you-go scheme (where there is no connection between the amount a pensioner takes out, and the amount his children put in the common pool), the scheme 2 contains an incentive to maximise the collective earning capacity of one's own offspring. Couples and individuals should be free to combine the schemes 1 and 2 in a way they like, and thus to allocate their time between earning money and producing future earning capacity in accordance with their comparative advantages.

<sup>5</sup> The point appears to have been made for the first time in Cigno (1986).

<sup>6</sup> Potential rather than actual because the children, too, may want to withdraw from the labour market for a period to raise children.

<sup>7</sup> A redistributive element is desirable not only for the usual reasons, but also to stop parents pushing their children into the more lucrative occupations irrespective of personal inclination.



To illustrate the effects of this proposal, and compare them with those of alternative policies, I will now report some of the simulations in Cigno and Werding (2007). These were carried out using the econometric model of West Germany in Cigno et al. (2003a). The latter was estimated using aggregate data relating to the 1960-95 period, the longest for which the relevant information is available for West Germany separately from the rest of the country. The model allows for possible cross-links between saving and fertility and for the increase in the effectiveness of birth control that followed the introduction of the contraceptive pill in the late 1960s.<sup>8</sup>

As elsewhere in Western Europe, fertility in West Germany fell sharply after the baby boom from about 2.5 in 1965 to about 1.35 in 1975, and then oscillated around this low level. Figure 2 shows what happened to the TFR over the last decade and a half of the estimation period. For the subsequent years until 2020, it shows what would have happened under alternative policy scenarios. The latter differ with regard to the evolution of pension coverage, of the forced intergenerational transfers implied by a pension fund deficit or surplus, and of the child benefit rate.

Pension coverage is measured by the ratio of pension payments, at constant prices, to the number of persons aged 65 (the statutory age of retirement) or over. Variations in this ratio reflect changes in longevity, in the *effective* age of retirement, in the monetary amount of the benefit in the first year after retirement, and in the method used to uprate this benefit in subsequent years. The forced intergenerational transfer is measured by the difference between pension payments and pension contributions, expressed as a percentage of the latter.<sup>9</sup> The child benefit rate includes all fertility-related cash payments and tax allowances, again at constant prices. The alternative policy scenarios are as follows.

**S1** Pension coverage grows, on average, at the same rate (2 percent a year) as over the estimation period. The forced intergenerational transfer and the child benefit rate are held constant at their 1995 level.

**S6** Pension coverage declines on average by 2 percent a year. The forced intergenerational transfer is held constant. The child benefit rate increases by 1.2 percent a year from its 1995 level.

**APS** Pension coverage is the actual one until 2001, the one implied by the 2001 pension reform from then on. The forced intergenerational transfer is held constant. The child benefit rate increases by 1.2 percent a year from its 1995 level.

**FRP** Pension coverage falls faster than in either **S6** or **APS**. This is achieved by making it more difficult to retire before the statutory age,<sup>10</sup> and by indexing pension benefits to consumer prices instead of wages minus pension contributions as is current practice.<sup>11</sup> The forced intergenerational transfer is held constant. The child benefit rate increases by 1.2 percent a year. The clause that a parent should actually withdraw from the labour market in order to qualify for *Kindererziehungszeiten* is reintroduced, but the maximum number of years for which the parent can be credited with this notional pension contribution is increased from 3 to 18.

**CFP** Pension coverage is reduced, and the child benefit rate increased as in **FRP**. The pension benefits paid under the **Kindererziehungszeiten** scheme are related to the earning capacity of the pensioner's own children, rather than to average earnings in the pensioner's own contemporaries as in **FRP**. The deficit of the pension fund current account is transformed from a collective benefit for all current pensioners into an individual benefit for the pensioner whose children are currently paying taxes and pension contributions, and it is thus made endogenous.

**S1** is a continuation of the 1960-95 policies. Figure 2 shows that this would have resulted in a continuation of the downward fertility trend experienced in the last two and a half decades. **S6** hypothesizes that the government relies exclusively on lower pension benefits, and higher child benefits, to induce people to have more children. This would have caused a sharp inversion of tendency that would have brought the TFR back up to its 1972 level by 2020. **APS** describes what was actually done until 2001, and what will be, or would have been, done from

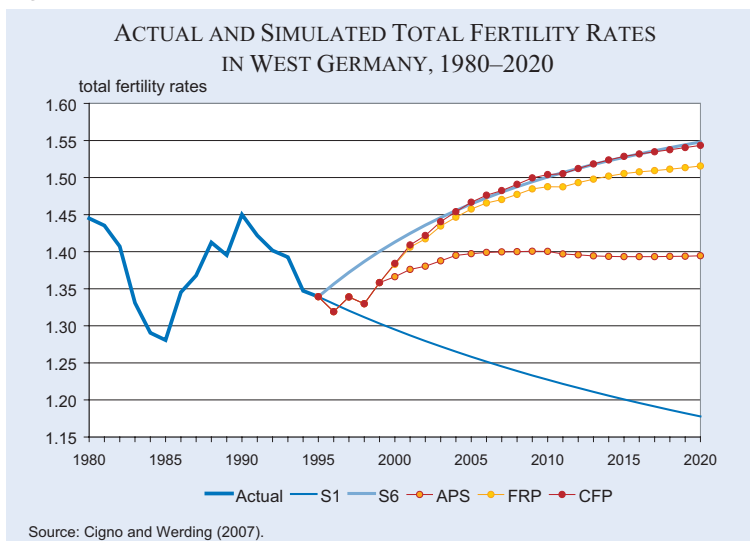
<sup>8</sup> Consistently with the hypothesis that reproduction is a voluntary act, the study finds that this improvement in birth control technology has made fertility more responsive to the policy variables.

<sup>9</sup> In the long run, a deficit or surplus in the pension fund current account tends to translate into a surplus or deficit in the generational account.

<sup>10</sup> As a result, the average age of retirement rises to 65 by the year 2010.

<sup>11</sup> This indexation method, introduced in Germany in the year 2000 and later abandoned, is less favourable than the one actually in force because it does not take account of real wage growth.

Figure 2



then on if the political decisions taken in that year are or were put into practice. This would have brought about a more modest recovery than **S6**. **FRP** hypothesizes more radical pension reform than **APS**. In particular, it re-introduces the incentive for parents to spend time with their children. This would have led to a recovery of TFR more robust than in **APS**, but still less robust than in **S6**. **CFP** approximates my own proposal, and would have led to faster fertility recovery than **FRP**. In this scenario, the TFR would have reached the same level as in the **S6** scenario by about 2005.

The policies under consideration affect not only fertility, but also voluntary saving. Presumably, they affect human capital investment too, but we do not have estimates of that. **S1** would have driven household saving up sharply from its 1995 level. **APS** and **FRP** would have led to a more moderate increase. **S6** and **CFP** would have reduced saving slightly. Although the model is silent on the subject, and evidence from other sources is contradictory,<sup>12</sup> productivity can be expected to grow faster in **S1**, which entails an increasing capital-labour ratio, and **CFP**, which entails a modest decline of that ratio, but an increase in human capital investment, than in any of the other scenarios, all of which imply a rapidly decreasing capital-labour ratio, and less human capital investment. Unlike **S1**, however, **CFP** would not pay for this increase in human capital investment with a reduction in fertility.

<sup>12</sup> As already mentioned, Ehrlich and Zhong (1998) estimate that cutting pensions would raise productivity growth, while Zhang and Zhang (2004) demonstrate that such a policy action would reduce it.

It may thus be possible to reform a pension system so that the incentive for couples and individuals to have children, and invest in their future earning capacity, is restored. As well as resolving the financial problems of the system itself, this would make the economy at large more efficient.

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## PANEL

Also represented on the panel, which was chaired by **Robert Thomson**, Editor-in-Chief, *The Times*,

London, were personalities from politics and business.

**Regina Stachelhaus**, Managing Director of Hewlett-Packard GmbH, Böblingen, highlighted that academically qualified women are disproportionately involved in the drop in the birth-rate. Firstly, they delay child-bearing and then either have only one child or remain childless. They are not motivated by a selfish attitude but truly fear the feasibility of successfully managing a demanding job and parenting. In addition they often doubt whether they would have enough support from their (1) partner, (2) employer and colleagues, and (3) family, friends and the society. She called for a new public debate in Germany regarding this matter. Apart from the more intensive supports provided by government initiatives as well as by employers and industry, a change in the acceptance of working mothers by the society appears to be required.

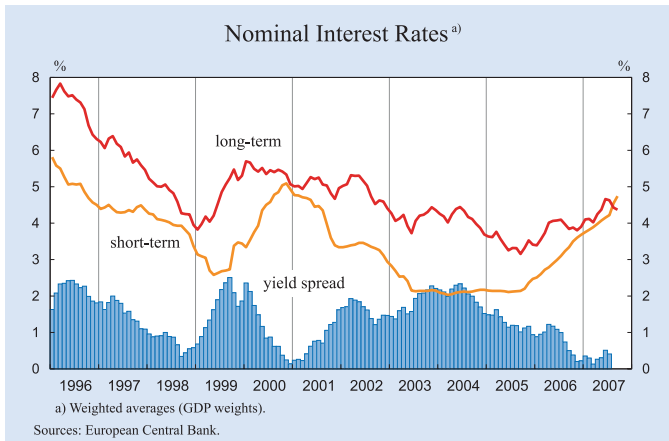
According to **François Héran**, Director of the National Institute of Demographic Studies (INED) in Paris, most of the process of population ageing is due to the inexorable increase in longevity, and the policy initiatives to increase the fertility rate will never offset the unavoidable part of population ageing. They can be successful only if their objective is to counter the avoidable part of population ageing due to low fertility by alleviating the relevant economic and non-economic constraints. Nevertheless, there appears to be no scientific rationale to justify the priority of internal growth (native births) over external growth (through immigration). In his opinion, the decision is merely political. In practice, the natural increase in population of the European countries will continue to slow down, and immigration will turn out to be the first engine of demographic growth, even in France.

The next speaker, **Kurt Biedenkopf**, the former Minister-President of Saxony and Chairman of the Board of Trustees, Hertie School of Governance in Dresden, argued that he is in “agreement with much of what family policy is doing – child-care, kindergartens, payments to families – to secure better opportunities for combining work and child raising. All these factors are of great importance”. In addition he emphasised that “we have to direct our attention towards making better use of human resources, which gives education a top priority. The political consequences of that are far-reaching. It is a fact, at least in Germany, that it is immensely difficult to

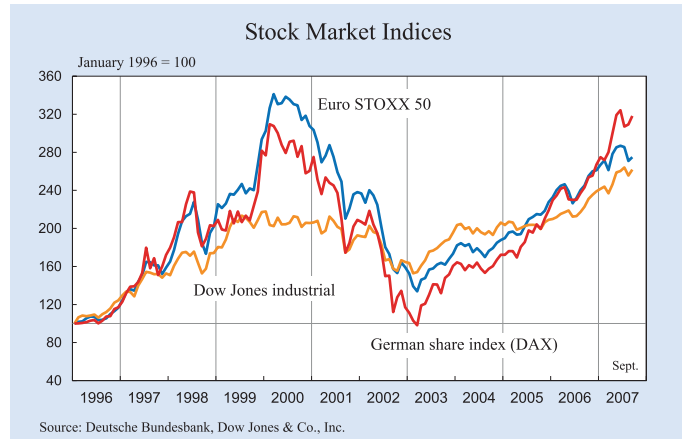
expand the educational system, both in quantity and in quality. However, if you have one third fewer children, and they are supposed to carry the burden of maintaining the present living standard if not contribute to its growth, they have to be much better educated than their parents. Right now the opposite seems to be true. We have a growing group of people, especially in the so-called lower strata of society, who, for whatever reasons, are not really attending to education. So we are actually wasting human resources rather than developing them. A turnaround in this area is indispensable for future development. Education and life-long learning are imperative”. Yet he warned of the emergence of the so-called moral hazard problem in this policy field, saying that “the more the state intervenes, the less the population is willing and – over a longer period of time – capable of adapting to changing conditions without political support”.

**David Willets**, Member of Parliament and the Shadow Secretary of State for Education and Skills of the UK, pointed out that the birth rate and the birth behaviour can be well affected by some deregulation policy measures. Apart from the implementation of flexible labour market system and working hours, a combination of having jobs and having children appears to get easier for women if there is less restriction regarding the consumer market system including shopping hours. Longer school hours and extended school days would also have a similar impact. According to his opinion, the delay of household formation in Italy has been, to a certain extent, led by the highly regulated domestic financial and banking systems accompanied by the expensive mortgage system. Furthermore in some European countries including Italy and Greece but also in Japan a large number of women have been taking care of elderly people and children within the same household. Although it sounds paradoxical, a shift of the obligation for elderly care to the state seems to be an option for the pro-child family policy in these countries.

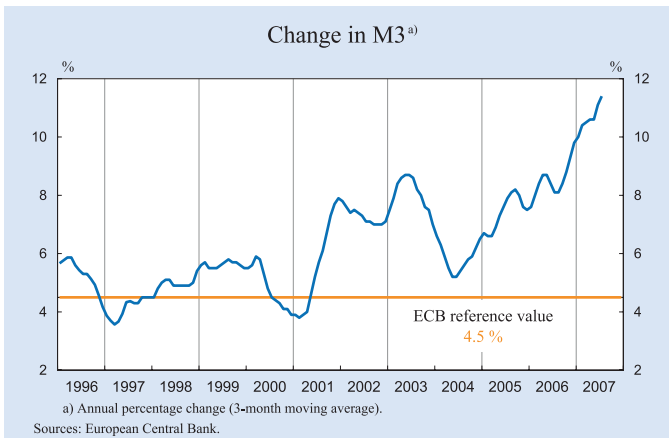
## FINANCIAL CONDITIONS IN THE EURO AREA



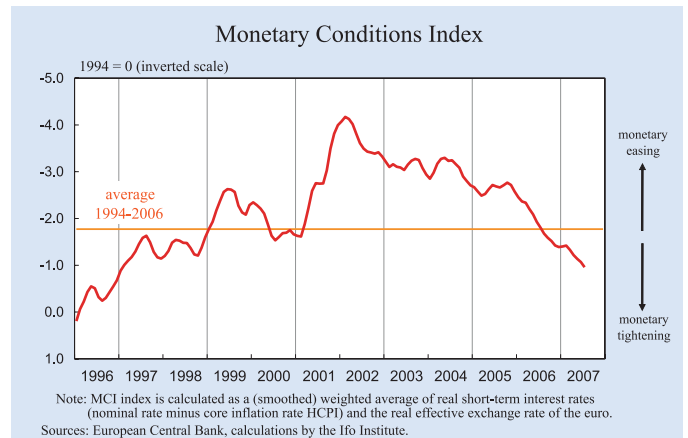
In the three-month period from July 2007 to September 2007 short-term interest rates rose continuously. The three-month EURIBOR rate increased from an average 4.22% in July to 4.74% in September. Yet, ten-year bond yields decreased from 4.63% in July to 4.37% in September 2007. In the same period of time the yield spread declined rapidly from 0.41% (July) to -0.11% (August) and -0.37% (September).



The German stock index DAX continued to rise in September, averaging 7,861 points in September 2007 compared to 7,584 points in July. The Euro STOXX increased from 4,221 in August to 4,284 in September. In parallel, the Dow Jones Industrial rose in September, averaging 13,558 points compared to 13,240 points in August.

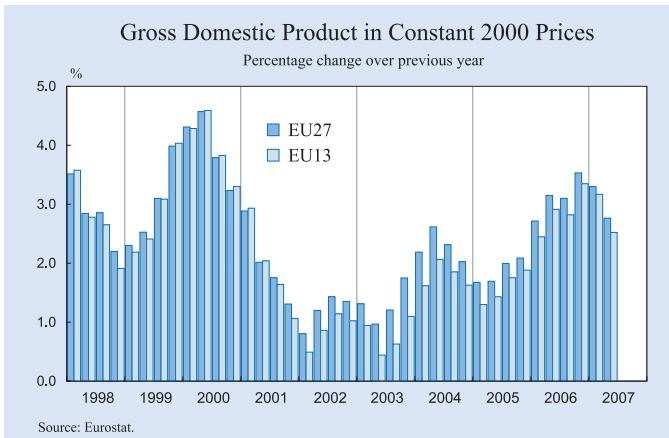


The annual rate of growth of M3 stood at 11.4% in July 2007, compared to 11.1% in June. The three-month average of the annual growth rate of M3 over the period from May to July 2007 rose to 11.0%, from 10.5% in the period February – April 2007.

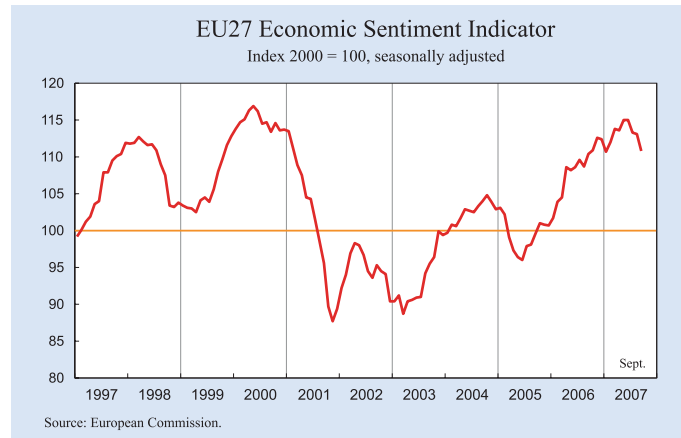


In July 2007 the monetary conditions index continued its general decline that had started in late 2001, signalling greater money tightening. This is the result of rising real short-term interest rates and a rising real effective exchange rate of the euro.

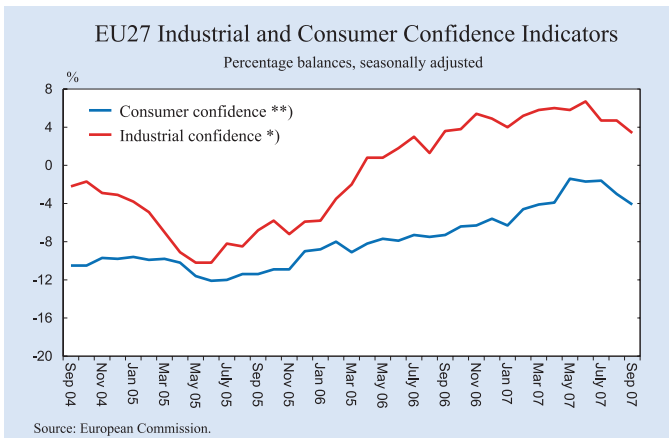
# EU SURVEY RESULTS



According to the first Eurostat estimate, euro area (EU13) GDP grew by 0.3% and EU27 GDP by 0.5% in the second quarter of 2007 compared to the previous quarter. In the first quarter of 2007 growth rates were 0.7% in both the euro area and the EU27.



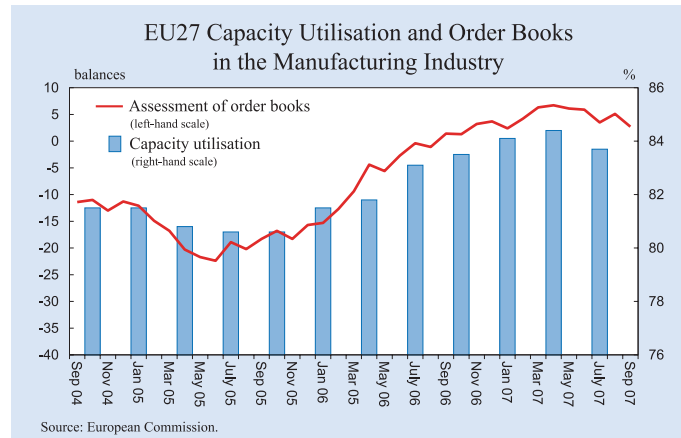
In September, the EU Economic Sentiments Indicator continued to decrease in the EU27. It dropped by 2.3 points in the EU reaching 110.8. Despite the declines observed in the third quarter, the indicator remains well above its long-term average. Overall economic confidence improved in Poland and the UK, while it decreased in Germany, Spain, Italy and France.



\* The industrial confidence indicator is an average of responses (balances) to the questions on production expectations, order-books and stocks (the latter with inverted sign).

\*\* New consumer confidence indicators, calculated as an arithmetic average of the following questions: financial and general economic situation (over the next 12 months), unemployment expectations (over the next 12 months) and savings (over the next 12 months). Seasonally adjusted data.

In September 2007 the *industrial confidence* indicator decreased in the EU27 from its high level. In contrast to the negative judgement in Germany, Italy and France, a marked improvement in industrial confidence was recorded in the UK. In parallel the *consumer confidence* indicator also saw a continuous downward correction in September. On average consumer confidence had been on a fairly steady and steep upward path since mid-2005. In September consumer confidence worsened in Germany, France and the UK, while it improved in Italy and Poland.

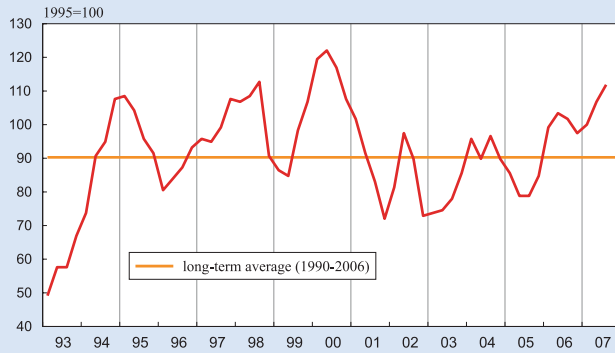


In September 2007 managers' assessment of order books deteriorated from 5.1 in August to 2.7 in September. In July the indicator had reached 3.5. Capacity utilisation also slightly declined to 83.7 in the third quarter of 2007 from 84.4 in the previous quarter.



# EURO AREA INDICATORS

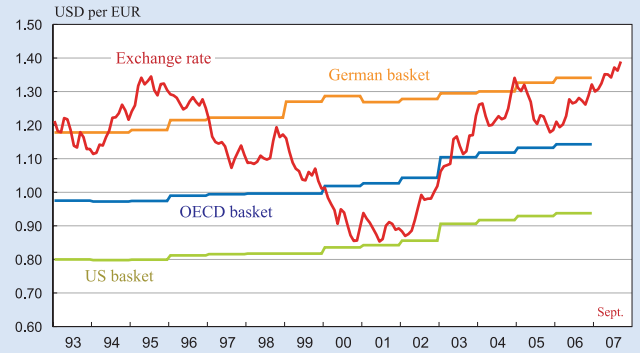
### Ifo Economic Climate for the Euro Area



Source: Ifo World Economic Survey (WES) III/2007.

The Ifo indicator of the economic climate in the euro area (EU13) improved again in the third quarter of 2007. The improvement applies to both survey components: the assessments of the current economic situation that have reached a new six-year high and the expectations for the coming six months. The latest survey results indicate a robust economic upswing also in the second half of 2007.

### Exchange Rate of the Euro and PPPs

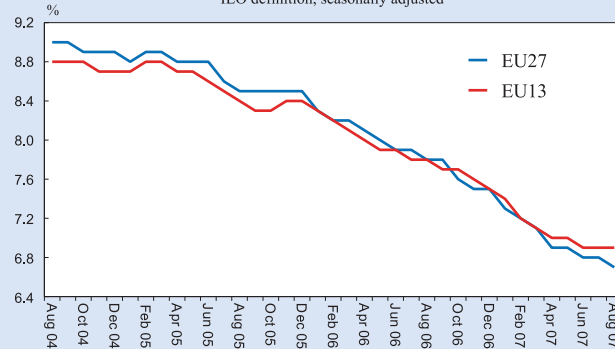


Sources: European Central Bank, Federal Statistical Office, OECD and calculations by the Ifo Institute.

The exchange rate of the euro against the US dollar averaged 1.39 \$/€ in September 2007, an increase from 1.36 \$/€ in August. In July 2007 the rate had amounted to 1.37 \$/€.

### Unemployment Rate

ILO definition, seasonally adjusted

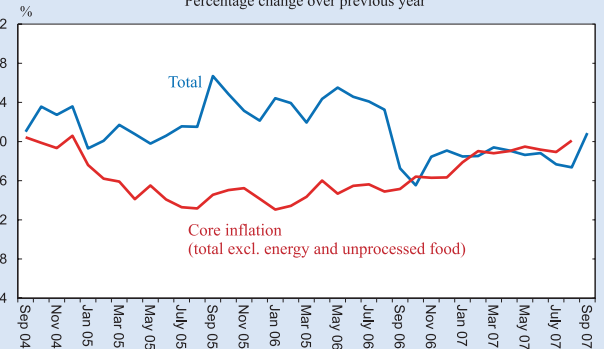


Source: Eurostat.

Euro area (EU13) unemployment (seasonally adjusted) stood at 6.9% in August 2007, unchanged compared to July. EU27 unemployment was 6.7% in August 2007, compared to 6.8% in July. It had been 7.8% in August 2006. Among the EU Member States the lowest rate was registered in Denmark and the Netherlands (both 3.3%). Unemployment rates were the highest in Slovakia (11.1%) and Poland (9.1%).

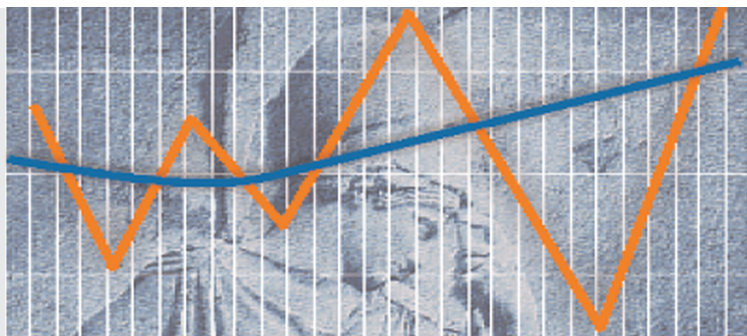
### Inflation Rate (HICP)

Percentage change over previous year



Source: Eurostat.

Euro area annual inflation (HICP) is likely to have been 2.1% in September 2007. It was 1.7% in August down from 1.8% in July. A year earlier the rate had been 2.3%. The EU27 annual inflation rate was 1.9% in August. An EU-wide HICP comparison shows that in August 2007 the lowest annual rates were observed in Malta (0.6%), Denmark (0.9%) and the Netherlands (1.1%), and the highest rates in Latvia (10.2%), Bulgaria (9.3%) and Hungary (7.1%). Year-on-year EU13 core inflation (excluding energy and unprocessed foods) rose to 2.01% in August 2007 from 1.89% in July.



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## **ifo Beiträge zur Wirtschaftsforschung**

### **Effects of Innovation on Firm Performance**

by

Stefan Lachenmaier



Institut für  
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an der Universität München



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