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Pensions and the path to gerontocracy in Germany

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Abstract

An impending demographic crisis in Germany calls for fundamental reforms of the pension system. In a democracy, however, reforms require the support of the majority of the electorate. To determine whether the majority is in favour of reforms of the pension system, we calculate for each year the "indifference age" as the age of the cohort that is not affected by the reform and the "median age" as the age of the politically decisive cohort. Until 2016, a reform can be democratically enforced. After 2016, Germany will be a gerontocracy.

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Keywords: , Demographic crisis; Pension reform; Political feasibility; Median age; Indifference age

1. Introduction

At the beginning of the 21st century, for every 10 Germans no more than 7 children are being born, and life expectancy is increasing by 1 year every 8 years. By the year 2035, the ratio of old to young will have almost doubled and only thereafter will the situation improve. Germans will have the oldest population on earth by around 2030. These facts will lead to a crisis of the pay-as-you-go pension system (Sinn, 1999).

In the political discussion, these considerations have been known for some time. Serious attempts at a fundamental reform have however only been undertaken in Germany in recent years. In 1992 and 1999 defined benefits were reduced, but not sufficiently to prevent a rapid increase in the contribution rate. Further reductions were implemented in a

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new reform enacted in 2001, and to compensate for these cuts, people were encouraged and supported with fiscal means to increase their private savings. Germany has moved towards a partially funded pension system, replacing part of the pay-as-you-go pensions with funded pensions.

Reforms that aim at reducing defined benefits and replacing the cuts in the pay-as-you-go pension with a funded pension will be supported or rejected, depending on personal interest. Whether one belongs to the losers or winners depends on age. In general, older individuals lose and younger individuals gain. With the young in the majority, reforms that lead to a partially funded system can be implemented. Once the elderly are in the majority, such reforms are no longer feasible. Germany has a chance for reform, but that chance will vanish as the young lose their majority, if the young and the old vote according to their self-interest.

The question is whether there is a majority in favour of a partial transition to a funded system and if there is, how long a majority will continue to exist. We use a theoretical approach in the tradition of Browning (1975)[1] as well as the CESifo pension model based on the demographic projections of the German Federal Statistical Office (Statistisches Bundesamt, 2000) to calculate the gains and losses for alternative age cohorts, and to generate a well-founded projection about the political feasibility of reforms and the point of time at which the German society becomes a gerontocracy. The projection describes the available time frame for the transition of the pay-as-you-go system to a partially funded system.

2. Politically feasible reforms

It is not self-evident that a reform towards a funded system can ever find a political majority. The problem underlying the political feasibility of a reform through partial transition to a funded system is that the reform burdens present voters and favours generations who are not yet born and therefore cannot vote.

The proposals of the German Council of Economic Advisors to the Federal Ministry of Economics and Research (Wissenschaftlicher Beirat beim Bundesministerium für Wirtschaft, 1998) and Sinn (1999) respect existing pension claims and make the working population worse off. The working generation has to pay a higher fraction of the present value of implicit taxes, which all present and future generations must pay to redeem the implicit government debt resulting from earlier gifts to introductory generations in the pay-as-you-go system.[2] A working generation will, therefore, oppose reform, and the pensioners will not care. There is no majority for the reform since there are no winners in the electorate.

In order to create a majority for a partial transition to a funded system, it is necessary to reduce acquired claims and relieve rather than increase the overall burden on the working

[1] For a survey of the literature on the political economy of social security, see Breyer (1994) and Galasso and Profeta (2002).

[2] In any pay-as-you-go system, the present value of all future taxes implicit in the contributions equals the present value of the then-existing pension claims, i.e., the then prevailing implicit public debt. The implicit tax a generation has to pay is the difference between the actual contributions and the private savings that would have generated the same pension claims. See Sinn (2000) for proofs.

generation. This can be achieved if the contributions of the working generation are reduced by more than their own expected pensions, i.e., if the implicit taxes to be paid by this generation fall. In this case, the retired and almost retired will oppose the reform, but younger electors will support it. The German government was apparently aware of this when it decided to cut the existing pension claims with its reform of 2001.

In this paper, we abstract from efficiency aspects of a transition and concentrate fully on distributional effects on different age cohorts.[3] We assume that the transition involves a parallel downward shift of the time path of the contribution rate: starting with the year 2001, each year's contribution rate is set one percentage point below the contribution rate that would have resulted without a reform. The pay-as-you-go pension benefits fall accordingly. The missing pension claims can be offset by private savings in a way that corresponds to a partial transition to a funded system, but as the present value of the cash flow generated with private savings is zero, the details of the funded system are unimportant for the distributive effects. Our aim is to find whether a majority supports the reform.

The distributional effects of a reform lead to changes in the behaviour of the retired and the contributors. One can expect an increasing labour supply and reduced incentives for early retirement. However, these behavioural changes will not affect voting behaviour because they are second-order effects, which—within the framework of our marginal reform—lead to no utility changes. The calculations, therefore, do not need an economic optimisation model but can be done—without any loss of generality—by assuming given time paths of behavioural choices.[4]

3. When Germany will become a gerontocracy

To determine whether the majority is in favour of pension cuts or pension increases, we calculate a "median age" and an "indifference age". In the case of pension reforms that redistribute resources between age cohorts, the median age plays an important role. A reform will be feasible if and only if the median voter favours it.

For the calculation of the median age, we use the middle variant of the ninth co-ordinated demographic projection of the German Federal Statistical Office (Statistisches Bundesamt, 2000). We assume that the minimum voting age remains at 18 and that an identical share of voters of all age cohorts votes.[5] The median age is changing rapidly because of the decrease in fertility and increase in life expectancy. Fig. 1 shows the

[3] The question of efficiency has already been dealt with extensively in various contexts. See, e.g., Breyer (1989) and Fenge (1995).

[4] For an elaborate analysis of the political feasibility of pension reforms based on a simulation model with explicit optimisation, see Hirte (2000) for Germany, Bütler (2000) for Switzerland, and Galasso (1999) for the United States.

[5] One difficulty of the calculations is the effect of immigration and naturalisation. We assume a yearly migration surplus of 200 000 according to the middle variant of the demographic projections of the German Federal Statistical Office (Statistisches Bundesamt, 2000), and a yearly rate of naturalisation of 4% of the given foreign population. This corresponds to the average rate of naturalisation in the years 1994–1999 (Bundesausländerbeauftragte, 2002). For the age distribution of the immigrants, we take the distribution of 2000 and assume this distribution to remain constant (Bundesausländerbeauftragte, 2002).

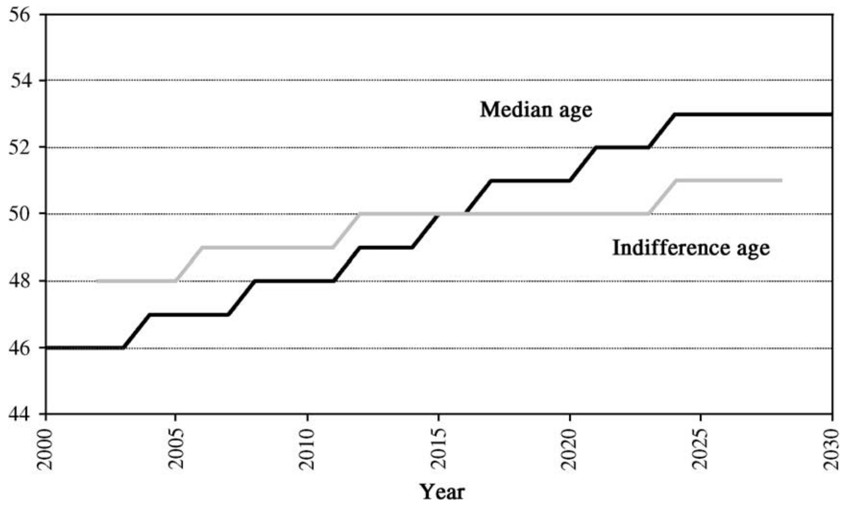

Fig. 1. Germany's last chance. Note: The data for the median age are based on German citizens of the year 2000, their descendants, and naturalised foreigners. Source: Statistisches Bundesamt (2000), (Bundesausländerbeauftragte, 2002), and own calculations.

increase in the median age from 2000 to 2030. The increase in the median age strengthens the defenders of the present pay-as-you-go pension system.

The indifference age is defined in a way that the cohort of this age is not affected by the proposed reform. Older cohorts lose and younger cohorts win. We use the CESifo pension model, which has served as the basis for the calculations of the German Council of Economic Advisors to the Federal Ministry of Economics and Research (Wissenschaftlicher Beirat beim Bundesministerium für Wirtschaft, 1998), to calculate the indifference age. This model also relies on the middle variant of the ninth co-ordinated demographic projection of the German Federal Statistical Office. In addition, we assume a growth rate of 2% of the net wages and strict proportionality between individual contributions and pension benefits as is characteristic of the German system.[6]

We focus on the effects on alternative age cohorts and calendar years of the described cut in contributions, using the change in a generation's present value of the cash flow accruing from the chosen calendar year until the expected year of death as an indicator of the voting behaviour. If the change in the present value is positive, a vote in favour of the reform is assumed, and conversely.

The reform eases the financial burden of the contributors before retirement. After retirement, however, the retirees face lower pension benefits. For a young cohort, the

[6] For details, see Sinn (1999), Thum and v. Weizsäcker (2000) and Wissenschaftlicher Beirat beim Bundesministerium für Wirtschaft (1998).

positive effect on the contributions dominates. Reducing the scale of the system is a net gain for young people entering the system and for future generations. However, for a cohort close to the retirement age, the negative effect on pension benefits dominates. The cohort for which the present value of the changes in the cash flow is closest to zero is taken to be the indifferent cohort, and the age of this cohort is the indifference age of the respective calendar year. Repeating these calculations for alternative calendar years yields the time path of the indifference age as shown in Fig. 1.

The indifference age increases by 3 years between 2000 and 2030. The number of retirees keeps increasing relative to the number of contributors, which deteriorates the situation of the contributors and shifts the borderline of contributors who prefer to abolish the pay-as-you-go system upward. The increase of the indifference age slows down around 2012. Those who are 50 in 2012 can be more optimistic concerning their pensions. They know that they will retire at about the peak of the pension crisis (2035), but they also know that the situation will relax in the years to come.

Fig. 1 shows that the indifference age up to the middle of the second decade of the new millennium exceeds the median age. Thus, in a sense, the young outweigh the old, and there is a majority for a reform towards a partially funded pension system. The majority, however, is slight. According to our calculations, in 2012 51.4% of the eligible voters gain from such a reform, whereas 48.6% lose. This majority will vanish around 2015 when the time path of the median age cuts the time path of the indifference age from below. In 2018, the median age will exceed the indifference age by one year and the proportion of those who are against the reform and who, instead, favour an extension of the pay-as-you-go system, will be 53.0%. Germans will then be trapped in their pension system, unable to realize further reforms in the direction of funding. Germany will be a gerontocracy: The old can, through their majority, exploit the young by increasing pension burdens.

4. Concluding remarks

The beginning of the 2010s will be Germany’s last chance for a partial transition to a funded pension system. Thereafter, the country will effectively be a gerontocracy. Only the fear that the young might emigrate—or an altruistic attitude towards their own descendants—will then prevent the old from exploiting the young.

Of course, many people may not understand what is going on and may not know whether they belong to the winners or losers from a pension reform. Therefore, clever politicians might succeed in deceiving voters and in postponing the turning point of the electoral majority. But this deception cannot go on forever. The greater the lag between an election year and the switching year, the more difficult it will be to resist the majority that will result from the ageing of the German population. Reforms that prevent the collapse of the pension system should therefore not be deferred. For, with each passing year, the majority in favour of pension reform declines.

However, even if Germany succeeds in carrying out the necessary reforms of its pension system before the critical switching year, there will always be the risk that the then prevailing majority of the old will undo the earlier reforms and re-establish the pay-as-you-go system. Constitutional safeguards would be useful to prevent this from happening, but they can hardly be implemented. In the absence of such safeguards, the Germans can only hope that the earlier reforms will imply a strong implicit commitment for politicians beyond the time where the majority switches. History will tell whether this hope was justified.

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