

When No Dye Helps: the Greying of Germany

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Abstract

This paper discusses the demographic situation in Germany and its probable economic and societal consequences. Germany is ageing rapidly, and politics has so far largely ducked away with the problem. The German experience may send a warning to countries that still are in a more favourable demographic situation: ageing is manageable – unless one waits too long.

Keywords: Ageing, Germany

1. Introduction

In January 2007, German TV broadcast a controversial science-fiction film entitled “Aufstand der Alten” (*“Uprising of the Old”*). The movie is a faux documentary set in 2030. Senior citizens, socially and economically marginalized and on the brink of starvation with minimal pensions and almost no health care, start a rebellion. When investigating the mysterious death of an elderly rebel leader, a journalist “looks back” for several decades at the rebellion’s roots. She discovers the empty promises made by politicians in the past about pensions and unravels the grand failures of German politics to fix the looming demographic problems.

The film hit a nerve. It upset viewers, many of whom unable to distinguish fact from fiction. It forced to the spotlight a political time-bomb with which German politicians apparently are reluctant to grip: the ageing crisis (routinely belittled as “the demographic development” by chancellor Merkel and her colleagues from all parties).

This article takes a look at the demographic situation in Germany and its economic implications. Here, population trends are most serious and dramatic. Today’s Germany combines, in a unique and unlucky way, several self-aggravating factors that directly relate to the ageing problem: Germany is among the countries with the lowest birth rates worldwide; Germans, however, also enjoy high life expectancies. Germany is running an old-age income and welfare system that is rather generous to its elderly but which also contributes, through the high tax burden it imposes on employed labour, to an almost invariably high level of unemployment. Germany’s economic power almost exclusively rests on the quality of its human capital; yet, among OECD countries, Germany has been lagging behind for many years with respect to investment in human capital and all types of education. Due to its high living standards and generous welfare system, Germany is a popular destination country for immigrants from all over the world; at the same time, Germany is suffering a noticeable “brain drain” since its elites find living abroad more attractive and rewarding. Even almost 20 years after its re-unification, Germany is still economically (and, as some would argue, also mentally) divided into two parts: the West and the East.

Although demographic trends have been foreseen since long and demographers, economists, and sociologists have been publishing their alarming forecasts for at least 35 years, German politicians and their complacent voters by and large chose to ignore the problem. If recognized as problematic at all, the demographic trend was long seen merely as a nuisance for the pay-as-you-go public systems

of old-age pensions and health care; these problems would, however, be solved by reforms within the German welfare system.

Meanwhile it has become clear to most Germans that demographic problems cannot be explained away in that manner. Awareness has risen that the demographic changes induced by low fertility rates and increasing life expectancies have the potential to uproot the country: its welfare system, its economic performance, its regional structure, and its social fabric.

The rest of this article proceeds as follows: Section 2 presents some facts and forecasts for the demographic situation of Germany. Section 3 illustrates some of the prospective consequences arising from these trends and some additional, aggravating factors. Section 4 discusses (and discards as ineffective) several approaches to solve the demographic problems. Section 5 concludes.

2. Some Numbers about Demographics in Germany¹

2.1 Total Fertility Rates

On average, the total fertility rate (i.e., the number of live births per woman) in Germany has been between 1.2 and 1.4 over the past 20 years. From the early and mid-1960s (the baby-boomer period in West-Germany), this is a significant decline, given that the total fertility rate then was at around 2.5 (East and West Germany combined). For a stable population size (i.e., to fully replace a parent generation by their children), the total fertility rate in a country like Germany with low mortality among their young needs to be around 2.1.

In Germany, historical events like World War I, the economic crisis in the early 1930s, World War II, and the re-unification in 1990 led to a decline of the fertility rate below the replacement level. Changes in family values (visible in a decline in the number of marriages, rising numbers of divorces, and the spreading both of cohabitation and young single-member households) and social norms further contributed to decreasing birth rates. Also the expansion of the welfare state – which made insurance against the risks associated with old-age, sickness, or unemployment largely independent of the number of one's *own* children – reduced the incentives and the necessity to raise children.

¹ Unless indicated otherwise, all figures in sections 2.1 to 2.3 are taken from Statistisches Bundesamt (2006) and Birg (2003).

2.2 Population Size

As a direct consequence of declining birth rates over the past 30 years, Germany is facing a long-term shrinking of its population. At 10.3 deaths/1,000 population with only 8.6 births/1,000 population (in 2003) this is inevitable. Since 1972, the number of births has been lower than the number of deaths in Germany, and the population could only remain stable or grow due to massive immigration. Yet, the year of 2006 was the fourth in a row that saw the population size decrease in Germany. If the total fertility rate remains stable at its present level of 1.4 children per women and if life expectancy continues to increase at the same pace as previously, the population size of Germany will (without immigration) decrease from 82 million people today to 51 million in 2050 – and to only 22 million in 2100. An increase in the total fertility rate to 1.5 (the average in the European Union) over the next 15 years would only moderately dampen that downward trend; the German population would be around 55 million in 2050 and 32 million in 2100. Even if the total fertility rate steadily increased to the replacement level of 2.1 until 2030, the population in Germany would continuously decrease until 2080 since the balance of births and deaths would only be reached in the grandchildren generation of today's women.

All these numbers unrealistically assume that no migration takes place. Due to its high standard of living, Germany is attracting large numbers of people from all over the world. *De facto*, it is an immigration country, even though, if asked, many Germans still would not subscribe to this view. Over the past decades, Germany had an average net migration surplus (i.e., number of immigrations minus number of emigrations) of around 170,000 people per year (annual numbers show, however, large variability). Since the early 1970s, the annual number of immigrants has been larger than that of newly born children in Germany.

Today, fertility rates differ significantly between German and foreign women in Germany: Per woman of German nationality today only 1.2 children are born. Women with foreign background on average give birth to 1.9 children; among these, women with a Turkish or other non-European background have total fertility rates of above 2.0.

Assuming a net migration surplus of 300,000 at a total fertility rate of 1.4, the population in Germany would increase to roughly 84 million people until 2020 and then start to decrease to 78 million in 2050 (with zero net migration, that number would be 59 million). Roughly the same demographic development could also be achieved if the total fertility rate in Germany increased to 1.6 and the net migration

surplus were “only” at 225,000. Hence, increased immigration *prima facie* seems to be a policy option to stabilize at least the size of the population Germany – we will, however, add strong caveats to that recommendation later.

2.3 Age Structure

Germany is experiencing dramatic changes in the age structure of its population. The average age is creeping up from currently 42 years to 50 years by 2050. While the German population is shrinking in total, there is an explosion in the number of old people (aged 60 and above) and an implosion in the sizes of younger cohorts. The absolute number of people aged 60+ will increase by 10m until 2050 – while the number of people (aged between 20 and 60) will decrease in the same period by 16m. In 2050, there will be as many people above the age of 80 (namely, 10m – up from 3m today) as there will be under 20. Needless to say that this implies a huge shake-up in what used to be the age pyramid and now more looks like a mushroom. Today, only half as many children live in Germany as did 40 years ago – although the population size itself has increased by 6.5 million since then.

The old-age ratio (i.e., the number of people aged 60 or older divided by the number of people between 20 and 60) was at 0.39 in the year of 2000. At a constant total fertility rate of 1.4, the old-age ratio in Germany will be at 0.9 in 2050.

3. Consequences and Additional Complications

3.1 Consequences for the Labour Market, Income and Growth

The demographic crisis in Germany will lead to a massive problem of insufficient labour supply. This seems pretty odd – given that the unemployment rate currently amounts to around 10 percent (in total: 4.2m people). Yet, the forecasted numbers are depressing. At the current fertility rate of 1.4 and with a net immigration of 150,000 people p.a., the workforce (those between 20 and 60) would decrease by 3.4 million people (= 7.5 percent) until 2020 and by an additional 11.3 million people (= 25 percent) until 2050. At a fertility rate of 1.6, the contraction of the labour force would “only” by 8.7 million people.

Also the age composition of the German workforce will change. E.g., the modal age of the German workforce will rapidly increase from 36 in 2000 to 46 in 2010 and to 54 years in 2020. This change in the age structure will have profound effects on the microeconomics and the sociology of the labour market. The

economically most important aspect is the effect on labour productivity. If labour productivity is age dependent, a shift in the age structure will also bring about a change in aggregate productivity, even if age-specific productivity were to remain constant. Unfortunately, there is no clear-cut pattern in the age profile of labour productivity: while older workers may be less flexible, physically weaker and less ready to adopt new technologies, they may compensate this by higher experience, reliability and work ethics. According to Boersch-Supan (2003), there is no indication that the labour force becoming unproductive is *per se* a serious problem of ageing societies.

3.2 Education

Labour market problems in Germany are not only quantitative but also (and mainly) qualitative: The qualification levels of the German labour force are bound to decrease considerably, given that the country neglects the formation of its most precious asset: the human capital of its labour force. Compared to other OECD countries, Germany is spending only a low share of its GDP (namely, 5.3 percent in total and 4.4 percent from the public) on education and research; this brings Germany to rank 21 among the 28 OECD countries for which data is available (OECD, 2006). Especially primary and lower secondary education receive considerably less resources in Germany than in other countries (4,600 US-\$ in Germany compared to 5,400 US-\$ in the OECD average; pupil-to-teacher ratios are also less favourable). In spite of average levels of spending on tertiary education, the percentage of young people obtaining a higher degree (tertiary education) reached 23 percent by 2004 – again well below the OECD average of 39 percent. A persistently large share of 15 percent of the young people does not even complete secondary school, the baseline for an entry into the labour market; only 56 percent of adults without upper secondary qualifications are employed. Germany is also lagging behind other OECD countries in the possibilities it offers for life-long learning.

As a consequence of the neglect of education, German pupils and students are losing ground in international comparisons, especially in subjects like maths and the sciences. According to the PISA study (Programme for International Student Assessment), the performance of students in Germany is well below the OECD average (rank 25 out of 32 in 2000, rank 21 in 2001) in all fields (mathematics, reading, scientific literacy), but in particular at the lower levels of performance and in scientific

or mathematical subjects. Almost ten percent of pupils are *de facto* illiterate in that they cannot comprehend simple texts from reading. Moreover, educational performance displays an extreme lack of social mobility (i.e., educational attainments and social backgrounds of parents determine, to a large degree, educational attainments of their children). The likelihood of passing final school exams and making it to university is between four and six times higher for children from more affluent backgrounds than for those of poorer families. Especially the *Hauptschule*, which is the lowest rung in the German three-tier educational system, has become a dumping ground for social misfits and migrant children with poor language skills. Also at the top-tier of education, Germany is lagging: in a recent survey of international universities, Germany barely made it into the top 50.

No other OECD country has bigger differences than Germany in its levels of educational attainment and professional qualification between natives and immigrants. This then translates into an emerging ethnic underclass with drastically reduced chances for employment among people. E.g., in Germany 32 percent of native unemployed do not have a formal professional training – while that number is a staggering 77 percent for non-German unemployed in Germany. Almost 20 percent of non-German teenagers leave the German school system without any degree, and only below 4 percent of young residents (20-25 years) with foreign background visit a university (while 18 percent of Germans of that age do).

3.3 Emigration from Germany

In 2005, 150,000 native Germans officially (plus some estimated 90,000 unreported cases) emigrated from Germany, mainly to the USA, the UK and to neighbouring Austria, Switzerland, the Netherlands and Poland. This is the highest number since World War II. A growing stream of well-educated and gifted Germans is currently moving abroad -- without any intention to come back.² Like a developing country, Germany is facing a brain-drain problem. While still quite negligible in terms of absolute numbers, it is the changing nature of the emigrants

² Two anecdotal pieces of evidence: A popular program on German television these days is “Goodbye Deutschland: The Emigrants,” a 12-part series chronicling several families who have forsaken Germany for South Africa or southern Spain. The exodus of German doctors to Scandinavia recently led several German universities to offer Swedish courses for their students in medicine.

that causes worries: These are not (only) young unskilled workers, but more and more highly educated and highly productive professionals (doctors, engineers, architects, scientists and researchers; see Uebelmesser, 2005), often with children. Those who leave cite chronic unemployment, a rigid labour market, stifling bureaucracy, high taxes, hierarchical structures in firms and research institutions as their main reasons. It is estimated that every seventh person with a doctorate in science leaves Germany for the U.S., an exodus that threatens the future of the country's high-tech industries.

3.4 Consequences for Income and Growth

Ageing, the bleak demographic forecasts and faltering qualities of human capital will almost certainly entail negative consequences on GDP and economic growth in for Germany (and most other EU countries; see Carsone et al., 2005). For the EU15 countries (i.e., EU members before 2005), economic growth is bound to decrease from 2.2 percent in 2010 to 1.3 percent p.a. in the period 2030-2050; the German economy is also forecasted to grow at around 1.3 percent p.a. in that period (which means a per-capita growth of 1.5 percent). Also the sources of growth will alter drastically: from employment-driven growth to productivity driven growth.

Similar numbers for Germany emerge from a recent study of Deutsche Bank Research (2006). It reports that the growth potential of the German economy will shrink from about 1.25 percent p.a. at present to a mere 0.25 percent p.a. by about 2060. Moreover, in per-capita terms, the annual increase in real income will be dampened by up to 0.3 of a percentage point up to 2050, falling to just below 1.0 percent p.a. Compared to the period from 1955 to 2005, this means a reduction of the annual increases in prosperity to one-third. Under "status quo" conditions, also the return on capital will decline by around 100 basis points by 2060.

In Germany, the effect of the working population shrinking faster than the overall population will lead to a reduction in per-capita GDP by 15 percent, all other things equal (Börsch-Supan 2003). It is extremely unlikely that the decline in the relative size of the economically active population will be offset by higher capital intensity. Hence, labour productivity will need to increase considerably in order to compensate for the impact of population ageing on domestic production. This once more highlights the need for more education and training to increase the quality of human capital.

The shift in the age structure will also change the structure of demand for goods. Older consumers spend more on health and hygiene goods, housing, personalized services and energy but less on transport, entertainment goods etc. than young consumers. Changes in aggregate consumption patterns have to be accommodated by corresponding changes in sectoral production patterns. This necessitates considerable re-structuring of employment across different sectors of the economy and will require a substantial increase in intersectoral (but also geographical) labour mobility. According to Boersch-Supan (2003), one in six German workers will have to change his or her job just in order that production can accommodate to demographically induced structural changes in demand.

3.5 Consequences for Public Finances and Social Security

In Germany, virtually the entire system of social security is based on the pay-as-you-go principle: contributions to pensions, public health insurance, and long-term care insurance are paid for by current workers and immediately flow out as benefits that (fully or disproportionately) accrue to the elderly. The pension scheme is of the Bismarckian type and, until recently, was managed in terms of defined benefits. With an increasing number of people aged 60 or older and a decline in the number of those between 20 and 60 years, the current level of social benefits is obviously no longer affordable. To maintain today's levels for pensions, health and long-term care, the real burden on contributors (i.e., on those between the ages of 20 to 60) would more than double. Alternatively, keeping contribution levels at today's levels would imply a reduction in per-capita benefit levels for the elderly by 50 percent.

Under optimistic forecasts for the growth of labour productivity, per-capita income might perhaps double until 2050. However, given the current structure of the German social security system, which ties benefits to current income levels, also the beneficiaries of social security would profit from an increased labour productivity. Keeping the pay-as-you-go structure and its ramifications fixed would imply that even if per-worker gross income doubled, also the contribution rates for pensions, health insurance and long-term care would have to double to maintain current standards and benefits.

Of course, this is not feasible, neither politically nor economically. To relieve the strains on the PAYG scheme, a pension reform in 2002 added a private, funded,

and voluntary and tax-favoured component (see below). A more promising approach is the increase of the retirement age to 67, which has been phased in 2007 (also see below). However, the effects of this measure on the welfare system are negligible: To keep the ratio of pensioners to active workers at the -- already quite high -- current level, an increase in the retirement age to 73 years would be necessary. Given that Germans indulge in their long retirement period, this seems almost as illusory as the rise in fertility to 3.8 births per woman that would be needed to maintain, in 2030, the present dependency ratio.

Apart from the pension system, also the German public health and long-term care insurances are in serious demographic distress. In addition to the problem of finding adequate ways of finance, health care and, in particular, long-term care face a serious production problem. Being highly labour-intensive, not enough staff to cater for the needs of the sick and infirm will be available -- this shortage of care personnel has already set in today. With a decline in the labour force, Baumol's cost disease will increase the opportunity costs of personalized services in ageing societies by order of magnitude.

Migrants, at least in their current composition, tend to tighten the fiscal strains further, even though they are, on average, younger than the domestic German population. Subtracting from taxes and social insurance contributions to be paid by an immigrant the benefits he or she receives from government and parafiscal institutions, it turns out that the statutory pension scheme and the compulsory long-term care insurance slightly benefit while the remaining components of the fiscal-social system face higher deficits. In total, immigrants are net beneficiaries in the German welfare state (Sinn et al., 2001).

3.6 East and West Germany

Even almost 20 years after re-unification of its Western and Eastern parts, Germany is, in many respects, still a divided country. First, there is a stark economic divide, with East German GDP per-capita ranging at only 66 percent of the West German level. That household net income levels in East Germany amount to 79 percent of the Western level provides anecdotal evidence for the enormous transfers flowing from West to East Germany (so far, roughly 1,400 billion Euro).

Second, there is also a strong demographic divide between West and East Germany. Birth rates in former East Germany have been dramatically lower than --

the already low ones – in West Germany. East Germany holds the world record for low birth rates: 0.7. In addition, East Germany is plagued by a considerable emigration to the West. E.g., the state of Saxony (the most prosperous among five East-German states) has lost 640,000 people since 1990 – at a total population of 4.3 million. In total, almost 1.5 million people have left Eastern Germany since 1990. In some regions population has decreased by a fifth, and the decline, emptiness and depressive mood in these regions become obvious even to the casual visitor. Since 2002, more than 130,000 apartments have been “built back” – so the official jargon for their demolition. Public infrastructure – over-generously built after unification – is no longer needed and can, due to dwindling tax revenues, no longer be afforded. Due to high fixed costs, prices for energy, water, public transport etc. are driven upwards, which further worsens the attractiveness of these regions. A fatal demographic maelstrom sets in.

In parts, this reduction is a “natural” consequence of the economic decline after the collapse of ex-communist Eastern Germany. However, emigration from East Germany is highly selective: emigrants are, as a tendency, well-educated, young -- and female. Today, the female-male ratio in East Germany is only 0.82, in some parts close to the Polish border it is down to 0.75. The remaining men are more often than not unemployed and poorly educated. Ranging at the lower ends of the social spectrum, they are less likely to marry and to have a family, which tends to further quicken the demographic decline (Kroehnert et al., 2006).

In total, this leads to a vicious demographic-economic circle in East Germany: worsened economic prospects trigger emigration and a decline in fertility which in turn worsen economic prospects, and so forth. The political fallout from this situation is dangerous: East Germans, feeling to be left behind, increasingly fall prey to extremist and anti-democratic ideologies.

Also in the Western part of Germany, regions are differently hit by demographic problems, causing major shifts in regional structures. As a tendency, the south and west of the country (especially Bavaria and Baden-Wuerttemberg) will fare better than the north and the east; the classical industrial zones in the western part will experience a stark decline (Kroehnert et al., 2006).

Ageing also impacts agglomerative structures in Germany. As German families with children tend to settle in suburban peripheries or in the countryside, inner cities in Germany are bound to age faster than the average of the country. Horror visions

see cities (in particular in East Germany) as desolate places, void of young people, divided into ethnic ghettos, and with solitary elders roaming the streets.

3.7 Political Feasibility

For all proposals for policy reforms, feasibility considerations have to be taken into account. In a democratic system this (by and large) means that a reform can only be feasible if does not do harm to a majority of voters. Most policy reforms aiming at alleviating the consequences of the demographic crisis (say, cuts in pensions, higher expenditure for education, subsidies for families etc.) involve changes in the intergenerational incidence: some age cohorts will benefit while others will be hurt. Take the example of a reform in a pay-as-you-go pension system that reduces old-age benefits (and, thus, also contributions). Younger individuals will welcome this: for them, reductions in contributions are worth more than the prospects of lower pensions later. On the contrary, older individuals will object to the reform: they do not benefit that much (if at all) from reduced contributions but will suffer from the pension cut. In between, there is an age group (“indifference age”) for which the positive and negative effects just cancel out. If a majority of people is young, (i.e., the median age is below the indifference age), the pension reform is feasible in a (direct) democracy; otherwise it will fail to gather sufficient support. The majority of old people will outvote the young and impede any reform (gerontocracy).

This -- admittedly simplistic -- scenario carries an important message for ageing societies with fiscal and social systems that are (too) generous towards the elderly: the longer one waits, the less likely is it to find support for proposals to reform these systems. E.g., for a stylized pension reform, Sinn and Uebelmesser (2002) predict that, the young will have a majority until 2012 – after that gerontocracy looms. However debatable that figure might be – undeniably, the window of opportunity for “easy” pension reforms is closing.

Relations between generations are still harmonious in Germany. But intergenerational imbalances – and the reluctance among the young to simply swallow them -- are increasing. According to Fenge and Werding (2004), the German statutory pension scheme entails an implicit tax of 20 percent(!) of lifetime income for individuals born after 1965, with a corresponding net financial benefit from the pension scheme on the side of older cohorts. The German welfare state is generous towards the elderly. Unlike 50 years ago, today’s retired people are on average affluent and have higher

disposable incomes than younger cohorts. Poverty risks for the young exceed those for the old. The enormous volume of intergenerational distribution to the benefit of the old is increasingly being questioned by younger Germans. Although the country is still far away from the sort of intergenerational warfare depicted in “Aufstand der Alten” (“*Uprising of the Old*”, the TV broadcast mentioned in the introduction), the awareness of intergenerational imbalances in the Germany social security is growing – and with it the mistrust and the reluctance to support such a system (see Dallinger, 2005).

4. Policy Responses and Solutions

While experts have predicted adverse demographic trends (for Germany and other countries) since 30 years, population ageing and its likely consequences have only recently been fully perceived by the general public. For those who see ageing as a problem, this is fatally late, as there is no quick fix: by their long-term nature, demographic trends cannot be changed in the medium term: fewer children 30 years ago mean a decreased number of (potential and actual) parents today, and will inevitably imply even lower numbers of births in the future.

Problems associated with the ageing of society can be addressed from various angles. Let us briefly comment on some approaches taken in Germany.

4.1 Labour Markets

Responses to a lack in supply of affordable and qualified supply of labour include:

- Outsourcing: Work might be shifted offshore, to take advantage of the abundant and cheaper workforce in poorer countries;
- Immigration of high-skilled workers (also see Section 4.2);
- Substitution of labour by capital: new equipment could enhance the productivity of a better-educated workforce;
- Deregulation: removing labour-market inflexibilities and thereby combat unemployment;
- Family-friendliness: rendering child-bearing and child-raising more easily compatible with a professional career, especially for women (also see Section 4.3).

But one of the readiest sources of skilled labour is closer to hand: getting the old to work or to continue working rather than retire. Early retirement compounds adverse

population trends; it involves foregone productive capacities and thus considerable output losses which currently range around 7.5 percent of GDP and are bound to increase to 10 percent within the next few years (Herbertsson and Orszag, 2003).

Not long ago, the average German retired at the age of 59 (in 2006: at age 61), while the mandated retirement age is 65. Only 42 percent of all Germans aged 55 and 64 still work (compared, e.g., with 70 percent in Sweden). Early retirement was (and still) is popular both among firms – that preferred to push aside older employees with seniority-based salaries in favour of cheaper, younger ones – and among workers. The government facilitated leaving the workforce before 65 by subsidizing early retirement schemes (to be phased out by 2009) and by lowering standards to claim for disability pensions.

In March 2007, the government raised the mandatory retirement age from 65 to 67, in a staggered process ending in 2029. Moreover, under the new law, everyone seeking retirement earlier than 67 will face a monthly pension cut of 0.3 percent.

It should be noted that a moderate increase in the retirement age is not bound to have any significant effect on social security systems. According to Sinn (2005), the statutory retirement age in Germany would have to be raised from 65 to 76 if pensions and contributions relative to gross earnings were to remain at their 1995 levels in 2050. The main positive effect of an increase in the retirement age, thus, lies in an increased output and the avoidance of a shortage of skilled labour in the (not-too-far) future.

4.2 Immigration

It is highly unlikely that immigration (even of young and productive individuals) can solve the “number problems” associated with ageing in Germany. If, *per annum*, an additional 100,000 people migrate into the country, the old-age ratio will increase to 0.83 by the year of 2050 – with 600,000 additional immigrants per year, it will increase “only” to 0.68. Accounting for a (realistic) increase in life expectancies will worsen the ratio, though.

According to the United Nations’ population forecast (UN 2000, p. 39), 188 million additional young immigrants would be needed in Germany to prevent the old-age ratio to increase until 2050 (replacement migration, variant III). This enormous number results from the fact that Germans and immigrants age at the

same speed, implying, e.g., that a 30-year-old immigrant in 2007 will, by the year of 2037, increase the old-age ratio in Germany as he himself will belong to the 60-plus group then. The rejuvenating effect of immigration from countries with relatively young populations is only moderate.

Things might look different for some qualitative aspects: Germany already now is lacking a qualified workforce in many sectors, ranging from care to IT specialists to engineers. If immigration is supposed to help solving this problem, a change in paradigm needs to happen: Notwithstanding many promising examples of economic success and social integration, migrants into Germany have, due to their below-average qualification, poor educational prospects and the failure to integrate them (selves) into society, over the past 25 years have become an economic burden rather than a boon for the country. There is a considerable amount of redistribution from natives to immigrants at the moment, and immigration seems toacerbate, rather than to alleviate, long-term labour market problems. In addition to populist gripes about foreigners (most notorious after EU enlargement to Eastern Europe are “Polish plumbers”) taking away German jobs, a growing chorus of concern even among polyglot intellectuals over the integrability especially of Muslim immigrants evidences that Germans start to wonder whether they can retain their national and cultural fibre.

The failure is partly a political one: stubbornly denying that Germany is an “immigration country”, politicians failed to develop a consistent concept of how to integrate millions of immigrants with their diverse and remote cultural, economic and educational backgrounds. While immigration could, in principle, be a means to increase national income and to alleviate the burden of the demographic crisis, this chance has so far not been utilized in Germany. To the contrary, the country does not even manage to attract highly-qualified immigrants: a (now superseded) “green card experiment”, running from 2000 to 2004 and aimed at luring 25,000 computer specialists and IT experts (mainly from India) to Germany, failed. Germans had to learn that xenophobic prejudices, red tape, high taxes, and a widespread aversion against science and new technologies do not make their country an attractive host for high-potentials “even” from allegedly less-developed regions.

4.3 “Familienpolitik”

Still dismissed as “nonsense” by former chancellor Gerhard Schroeder, the German government has re-discovered “Familienpolitik” (family politics) in an effort to encourage fertility. In 2007, it introduced the so-called “Elterngeld” (a parental allowance) whereby the parent who stays at home for the first 12 months after birth of the child (in Germany this is by tradition always the mother) receives a 67 percent compensation of their net income up to a maximum of 1,800 Euros per month. In addition, if the father also pulls his weight that period can be extended by two months to 14 months in total.

This may seem a small step. Yet, for the first time it also puts some responsibility on the father to stay at home. Germans still adhere to a traditional view of the family: children should stay at home where a caring mother lovingly caters for them while the male breadwinner earns the money by working outside the house. The participation rate of women in the labour market ranges at 66 percent in Germany (while it is 75 percent and higher, e.g., in Scandinavian countries).

Against that backdrop, it might be questioned whether the “Elterngeld” will really help to increase the birth rate. In spite of emphasizing the role of fathers in childrearing, it leaves the dominant view that children and mothers should stay at home basically untouched. The “Elterngeld” sets incentives for the parent with lower earnings (typically the mother) to give up working and stay at home, thereby cementing the traditional family pattern and, in the future,acerbating the shortage in labour supply. Paying parents for giving up the workplace might even be counterproductive: an earlier attempt by the Schroeder government that granted women the right to stay home for three years after giving birth before returning back to work resulted in a lot of women not going back to work at all; positive effects on fertility did not occur.

Experiences from other countries show that fertility boosts were the (mostly unintended and unanticipated) spin-off from attempts to promote gender equality, especially in the labour market (Bjoerklund, 2006). For a country like Germany that currently imposes most of the hassle and opportunity costs of childbearing and child-raising on women this indicates that policies that to facilitate the combination of childbearing and mothers participating in the labour market look most promising. While children between the age of three and school-entrance are legally entitled to visit a half-day kindergarten, Germany (at least the Western part) is urgently lacking a proper infrastructure for childcare; crèches for children under

the age of three, all-day kindergartens and schools, or morning and afternoon care for school children are still a rarity there. This lack of infrastructure *de facto* forces many parents (especially mothers) to permanently give up working -- and many other activities they were enjoying -- upon the arrival of a child. As a recent policy response, the government announced plans in March 2007 to create, until 2013, an additional 500,000 day-care places for children under the age of three. It is unclear, however, how such a measure could be financed (estimated cost: 3 billion Euro p.a.).

4.4 Social Security Systems

For a wider public (recall the resonance to the TV broadcast mentioned at the outset), the uncertain prospects of old-age pensions and the German welfare state are the most pressing problem associated ageing. Also, most politicians still seem to consider the question of how to deal with the growing number of old and retired people chiefly as a financial puzzle: how to pay for the leisure of those layabouts. Clearly, the German welfare state is teetering at the brink of insolvency. But the issue is more than just a financial one: it raises social as well as economic questions, and its resolution will involve governments, employers and people.

For the German pension system, serious attempts at a fundamental reform have only been undertaken in recent years. In two half-hearted reforms in 1992 and 1999, defined benefits were reduced, but not sufficiently to slow down the increase in the contribution rate. Further reductions and a shift towards a defined-contribution scheme were implemented in 2001. To “compensate” for these cuts, future pensioners were encouraged and supported with fiscal incentives to increase their private savings (so-called “Riester-Rente”, named after a former minister for labour and social affairs).

With the Riester-Rente, the German old-age system made a step towards partial funding. While supplementing public pension by private insurance might individually alleviate financial distress during old-age, prefunding does not get to the demographic roots of the problems on the aggregate. Funding can redistribute the fiscal burden of ageing within and across generations but it does not alter the fact that fewer young people must cater for the consumption of more and more older people (Breyer, 2001).

A currently hotly debated issue are pension cuts (or increases in contributions) for childless people or, more generally, differentiating the size of pensions by the number of children. In a (romanticised) family system of former times, children were seen as an investment: raising and educating a child meant access to greater consumption possibilities during old-age. With pay-as-you-go pension systems and their kindred, the returns to human capital investment are socialized: one's children's earning will finance everybody's pensions, enabling the childless to benefit from the costly educational investments of others. As a consequence, the incentive to have children is crowded out (evidence for Germany can be found in Cigno et al., 2000). The pay-as-you-go system is, thus, cutting off its own roots -- since in the aggregate the link between the average number of children and consumption possibilities during old-age remains untouched. Moreover, working parents are financially disadvantaged compared to their childless peers. To correct for the allocative and distributive imbalances of such a system, some economists and politicians have proposed to honour children (or to "punish" childlessness). For instance, Sinn (2005) proposes a general income tax to be levied on everybody out of which child pensions for those retirees who raised children are paid. Alternatively, pensions for the childless could be halved. In a third variant, only individuals that raised two or more children should have access to pay-as-you-go pensions at all. Needless to say, such proposals (that would have been unthinkable some years ago) are more than controversial. Yet the fact that politicians debate them seriously evidences that the dangers of falling birth rates and ageing populations has raced to the top of the political agenda in Germany.

4.5 Education

To maintain high standards of production and of living, it is vital in an economy with a shrinking labour force to increase labour productivity over and above the level "naturally" generated by higher capital intensity. This requires: education, professional training, and lifelong investment in human capital. After the painful insight that -- despite the belief in being a stronghold of literacy and technology -- their educational system (from primary schools to universities) is at best mediocre, Germany started to devote more resources to that area. E.g., in an initiative explicitly devoted to foster excellence, the federal government and the German states decided to collectively pay 1.9 billion Euro to finance upgrading five to ten existing universities to "elite status" by 2011.

A fundamental problem is not addressed by these well-intended measures. While the Anglo-Saxon model of the welfare state always included “education” as a key component of social policy (see, e.g. the standard textbook by Barr, 2004), Germany traditionally chooses to view these issues as separate. Moreover, within the federal system of Germany, education is a policy area that is assigned to the local and the state levels – and, thus, an area that has traditionally received little attention and funding.

4.6 Demise

Article 72 of the German constitution commits politics to establish equal living conditions in all parts of the country. In the wake of the demographic crisis, this policy objective becomes increasingly unrealistic and debatable, given that regions will be hit in different degrees by the consequences of an ageing and shrinking population. The “trek west” cannot be stopped, some industrial regions and urban areas will become dysfunctional, and some rural areas depopulated. The “traditional” German policy response would be handy subsidies and transfers to declining regions and the people living there. Given the huge dimension of today’s problems, this is not sustainable. The only practicable policy response can be: let it happen. Let people migrate and, thus, vote with their feet, and let nature re-conquer territories that have previously been exploited by industry and agriculture. From an ecological viewpoint, this seems welcome – and maybe some German regions develop a high economic potential as national parks (Kroehnert et al., 2006).

5. Outlook

Germany is in dire straits: it is greying, shrinking – and faltering in its attempts to tackle this problem. Gloomy pundits see Germany at the verge of disappearance³ and lament that the country has so much to lose: its economic power, a high standard of living, a rich tradition, an admired culture and also a well-functioning political system. More optimistic commentators point at the various demographic crises which the territory nowadays called Germany overcame in the course of time (most notoriously, the loss of up to 30 percent of its population in the Thirty Years’ War, 1618-1648).

³ The headline in Germany’s mass-selling tabloid *Bild* on March 14, 2007 screamed: “Baby shock: We Germans are dying out”.

The ageing problem has no easy fix, not in Germany nor elsewhere. In particular, demographic trends are irreversible and show high persistence. “Doing nothing”, however, is not an acceptable approach to the ageing process either. There is a bundle of measures that alleviate the demographic burden. Guidelines should be:

- Human capital: give top priority to education, kindergartens, schools, universities, vocational training and research.
- Labour markets: get older people (back) to work.
- Family politics: decrease the opportunity costs of childrearing.
- Regional economics: accept the secular decline of some regions of the country; rather focus on growing regions.
- Immigration: attract high-potential immigrants and strengthen efforts to integrate immigrants into the society.
- Intergenerational redistribution: cut pensions.

Ageing is a global phenomenon. As a consequence of increased life expectancies and, more importantly, of (further) expected future reductions in fertility, both developed and developing countries will see the average age in their populations rise. According to the latest UN forecasts, the number of people aged 60 or more will increase from currently 673 million to 2 billion (United Nations, 2007). The German approach of ducking away from the problem should give the rest of the world a warning of how *not* to deal with the ageing crisis, at least if an “*Uprising of the Old*” (or of the young) is to be prevented.

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