The Impact of Labour Market and Pension Reforms: The recent German Experience

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1. Introduction

As many other developed countries, Germany is facing a dramatic demograhic challenge in the coming decades. Due to the aging of the baby boom cohorts and the fertility decline since the 70ies, the total workforce is aging (just like the total population) and shrinking at the same time. In order to dampen the negative growth effects of these population dynamics and to reduce the pressure on public social expenditures, it is necessary to increase labor force participation rates especially of older workers. For many years, the transition into retirement was quite different in Germany compared to many other OECD countries. Whereas in Scandinavian and Anglo-Saxon countries elderly workers were encouraged to remain in the labour force, public policy in Germany promoted early retirement programms as a means to fight unemployment. However, during the last decade, the government has recognized the negative impact of such policies and initiated comprehensive labour market and pension reforms in order to raise employment levels of older workers.

The present paper reviews the evidence, whether these reforms had already an impact on the recent recovering of the German labour market. Due to strong employment growth during 2007, the registered rate of unemployment declined significantly to 8.7 percent in January 2008. The current unemployment rate is 1.5 percentage points lower than in January 2007 and 3.4 percentage points lower than in January 2006 (Federal Employment Office, 2008). At the same time, almost one million additional registered jobs were created during the last two years. While various reasons can be found which explain the upswing on the German labour market, our study concentrates on some recent reforms which affect especially older workers.

The next section introduces the three major reforms in this area: The phased-in increase of the statutory retirement age, the merger of unemployment aid and social assistance popularly referred to as Hartz IV and the income safeguarding program for older workers. Section 3 compares the labour market behaviour of 50-64 year old workers during the last decade with the employment dynamics of all other cohorts during this period. Finally, section 4 presents some evidence that the observed pattern of elderly employment dynamics in Germany is in fact linked to the recent reform process. The discussion concludes with some comments on the most recent labour market legislation.

2. Recent reforms affecting employment of older workers in Germany

Our discussion starts with the pension reforms of 1992 and 1999, which phased-in the introduction of adjustment factors for early and late retirement in the pension formula. Before 1992 there were no actuarial adjustments at all, benefits were only implicitly adjusted due to the reduced (or increased) length of the contribution period. Old-age pensions were available for workers age 63 or older with a long service history of 35 years. Retirement at age 60 was possible for woman, the unemployed and severely disabled workers. Pre-retirement (i.e. retirement before age 60) was possible in combination with unemployment compensation and severance pay schemes. As a consequence, labour-force exit before age 60 was frequent and Germany had fairly low employment shares of elderly workers compared to other industrialized countries. As Table 1 shows, employment of older workers was much higher in Scandinavian countries, but also the USA, UK and Japan. Only Italy and France had similar employment shares and retirement ages in year 2000.

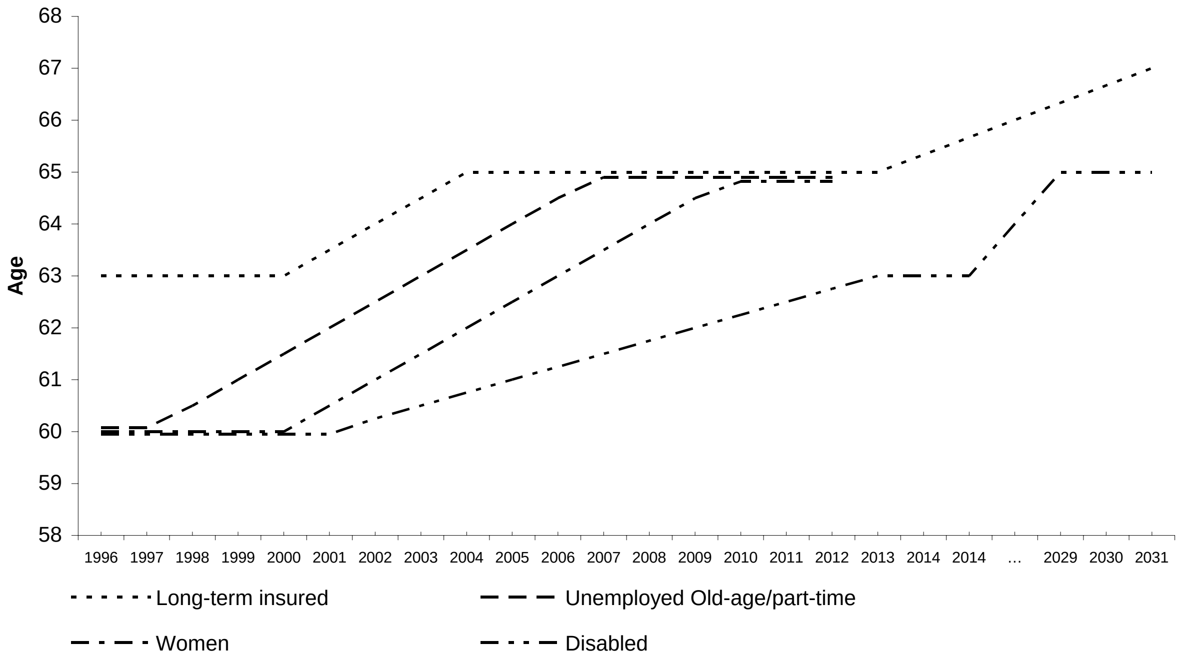
Table 1: Labour market participation and retirement ages in year 2000

	Employment shares of those aged 55-64 (in %)		Average effective age of retirement		Incidence of unemployment age 55+, 1 year and over	
Country	Men	Women	Men	Women	Men	Women
Germany	46.4	28.9	61.3	60.6	69.0	69.1
France	38.5	30.3	58.6	58.6	68.7	70.7
Italy	40.9	15.3	60.1	61.4	66.0	56.4
Japan	78.4	47.9	69.3	66.1	35.6	37.5
Sweden	67.7	62.4	63.8	61.7	48.6	50.3
United Kingdom	59.7	41.4	63.0	61.5	46.1	30.4
USA	65.7	50.6	64.2	63.1	15.5	7.4

Source: OECD.StatExtracts, http://stats.oecd.org/wbos/default.aspx, request on 26.02.2008.

The pension reforms of 1992 and 1999 introduced a phased-in increase of retirement age limits to 65.[1] After the transitional period which ends in year 2010, there will be no longer exceptions for unemployed, part-time employees, and woman after 2012 and the retirement entry rules will be the same as for long-term insured persons. Figure 1 displays the transitional rules for retirement entry. Starting in 1997 the age for unemployed (or part-time employed) to retire without benefit adjustment increased from year to year. After 2007 it was not possible any more for unemployed to retire before age 65 without adjustments. In year 2000 the pivotal age for benefit computation for long-term insured and woman started to increase. After 2004 all long-term insured have to retire after age 65 if they don't want to accept benefit adjustments.

Figure 1: Transition rules for statutory retirement age without adjustment



Similarly, while woman can retire in 2008 without adjustments if they are 64, the pivotal age increases to 65 by 2010.

Of course, it is possible to retire before the pivotal age, but that would reduce benefits by 0.3% per month for each month of earlier retirement.[2] It is possible to retire up to three years earlier and accept a maximum reduction of 10.8% of benefits in this case. If retirement is postponed beyond the pivotal age shown in Figure 1, benefits increase by 0.5% per month for each month of later retirement. Berkel and Börsch-Supan (2004) argue that the adjustment

[1] See §35-40, SGB VI (Sozialgesetzbuch. (SGB) Sechstes Buch (VI)). For a comprehensive dicussion of these reforms and the most recent pension reforms in Germany see Wilke and Börsch-Supan (2006).

[2] See §77, SGB VI.

factors may not be high enough for an actuarial adjustment. Nevertheless we will argue below that the reform had a significant impact on retirement behaviour in Germany. Especially the 1999 pension reform act also eliminated the disability pathway to early retirement. Before 2001 it was possible to receive a so-called disability pension (Erwerbsunfähigkeitsrente, EU) with full old-age benefits if a person was not able to carry on a regular employment. Since 2001 a new disability pension (Erwerbsminderungsrente, EM) is phased-in which includes for retirement before age 63 similar adjustment factors as the old-age pension, see Figure 1.[3] Summing up, the pension reforms of the 1990ies made early retirement in the new century more complicated and also more expensive.

The second important reform was the so called "Hartz IV" law (named after the former principal staff manager of Volkswagen Peter Hartz) which came into effect on January 1st 2005.[4] Hartz IV is the last in a series of four Hartz-laws all aiming at modernizing the German labour market. The central idea is to give unemployed people willing to work better help and individual guidance and to ensure that those who take up legitimate employment will be better off than those who do not. For this reason unemployment benefits have been cut back quite substantially. Prior to 2005, an unemployed person received full unemployment benefits (UB) which amounted to 60% (or 67% for parents) of the previous net salary between 12 and 32 months depending on the beneficiary's age and work history. After that period unemployment assistance (UA) which amounted between 53% (or 57%) of the last net salary could in principle be received until retirement. Starting in February 2006, the reception of full unemployment pay (renamed UB I) has been restricted to 12 months in general and 18 months for over 55-year olds. In addition, Hartz IV combined the former unemployment assistance and the social assistance into a single unemployment benefit (renamed UB II) which is means-tested and independent of former salary. In order to be eligible for UB II, a claimant has to prove that his/her individual savings, life insurance and income of husband or wife have been already used up. The Hartz IV reform brought dramatic changes especially for older workers, since pre-retirement with unemployment benefits was very common in Germany during the 1990ies. Typically, firms dismissed workers at age 57 (and 4 months) so that they could receive unemployment benefits for 32 months and then move into retirment without any deductions. In 1997, a labour market reform increased the age limits for eligibility, see Table 2 below, but it was only a modest reform. Table 2 clearly documents that

[3] There are some other changes for disability pensions which mainly tighten eligibility rules. For example, the labour market situation needs no longer to be taken into account.

[4] Gesetz zu Reformen am Arbeitsmarkt, §434l, BGBl S. 2003, Teil 1 Nr. 67. A detailed discussion of the Hartz IV reform is provided in Schmitz and Steiner (2007).

the Hartz IV reform was more radical. After 2006, the transition to retirement became much more costly. On the one side the benefit entitlement periods for elderly workers were substantially reduced from 32 to 18 months. On the other side, the newly introduced UB II was a means-tested benefit and independent of former wages.

Table 2: Changes in unemployment benefit entitlement periods over time

Until 1997			1997 – 2006			2006-2007			From 2008		
Length of UB (months)	age	Months worked	Length of UB (months)	Age	Months worked	Length of UB (months)	Age	Months worked	Length of UB (months)	age	Months worked
12	-	24	12	-	24	12	-	24	12	-	24
14	42	28	14	45	28						
16	42	32	16	45	32	15	55	30	15	50	30
18	42	36	18	45	36	18	55	36	18	55	36
20	44	40	20	47	40						
22	44	44	22	47	44						
24	49	48	24	52	48				24	58	48
26	49	52	26	52	52						
28	54	56	28	57	56						
30	54	60	30	57	60						
32	54	64	32	57	64						

Source: Adapted from Schmitz and Steiner (2007) with own extensions.

Table 3 compares the possible transition of a 55 year-old into retirement given the rules of the mid 1990ies and 10 years later. We assume in both situations that he had an average gross income of 29.000€ from which we subtract 30% taxes and social security contributions in order to arrive at a net income of 20.300€ in the last employment year. We assume also in both situations that the agent had received an average income in each of the 35 years of full employment. Consequently, when he/she becomes unemployed at age 56, the accumulated earning points for the pension calculation amount to 35. According to Table 3 the unemployed elderly could receive full unemployment benefits for 32 months[5], then unemployment assistance until he/she retires at age 60 without any adjustments. In the example of Table 3 we assume that full unemployment benefits and unemployment assistance amount to 60% and 53% of previous net income, respectively. During the four years of unemployment the earning points increased from 35 to 37,34. Since we assume an actual pension value per earning point

[5] Since he/she was already unemployed in 1997, the reformed entitlement periods do not apply in this case, see §129 SGB III.

of 28€, the annual gross pension which is received starting at age 60 in year 1998 amount to ($28 \times 37{,}34 \times 12 =$) 12.546€.

Table 3: Transition into retirement before and after RRG 1992 and Hartz IV

Age	55	56	57	58	59	60	61	62	63	64
Before RRG 1992 and Hartz IV										
Year	1995	1996[a]	1997 [a]	1998[b]	1999 [b]	2000[c]	2001[c]	2002[c]	2003[c]	2004[c]
Income	20.300	12.180	12.180	11.706	10.759	12.546	12.546	12.546	12.546	12.546
After RRG 1992 and Hartz IV										
Year	2005	2006[d]	2007[d,e]	2008[e]	2009[e]	2010[e]	2011[e]	2012[e]	2013[f]	2014[f]
Income	20.300	12.180	10.680	8.700	7.740	7.260	7.260	7.260	11.566	11.566

Source: Own computations. **[a]** §127, §129 SGB III. **[b]** § 195 SGB III. § 207 SGB III, § 276b SGB VI, §276c SGB VI. **[c]** §38 SGB III. **[d]** §127, §129 SGB III, **[e]** §127 SGB III, §19, §20, §22 SGB II, f §38, §77 SGB III.

Ten years later, someone who became unemployed at age 56 could only receive full unemployment benefits for 18 months. Already in the second half of year 2007 he/she has to rely on UB II which for single adults amounts to 345€ per month in West Germany. In our calculations we assume an additional supplement of 260€ for housing cost so that annual benefits amount to $(12 \times 605 =)$ 7.260€. In the first and the second year we also take into account an additional monthly supplement of 160 and 80€, respectively. Consequently, annual income in year 2007 is $(0.5 \times 12.180 + 0.5 \times 9.180 =)$ 10.680€ and then it falls to $(0.5 \times 9.180 + 0.5 \times 8.220 =)$ 8.700€ and $(0.5 \times 8.220 + 0.5 \times 7.260 =)$ 7.740€ before it reaches the final level in 2010. Due to the pension reforms in 1992 and 1999 it is not possible to retire before year 2010. When he/she can finally retire at age 63 the earning points have only increased to 37,097 due to the low UB II benefits. In addition, the retiree has to accept a reduction of 7.2% so that the annual pension is now ($28 \times 37{,}097 \times 12 \times 0{,}928 =$) 11.567€. Table 3 documents the dramatic reduction in benefits especially for older workers which took place due to the two reforms described above.[6] It is important to note that these benefit payments could be reduced by 30%, if a job offer is turned down without good reason. Consequently, unemployed persons can now be forced to accept any legal job, no matter how advanced their (previous) professional training was.[7] Especially the reduction of the entitlement periods for elderly was heavily criticized in the public debate. As a result, the

[6] Similar calculations for different types of workers are done by the studies cited below which evaluate the Hartz IV reform. Of course, for low income workers the benefit reduction was much less severe.
[7] The Hartz reforms also brought dramatic institutional changes, which are important for the implementation but not for our discussion here.

great coalition just recently adjusted the rules for elderly again as shown in the right part of Table 2.

The introduction of adjustment factors in the pension formula and the reform of unemployment compensation are rather passive measures of labour market policies. But Germany has also introduced some active policies especially targeted towards long-term unemployed that were important for elderly unemployed. The most important instruments are the so called integration supplement ("Eingliederungszuschuss", EGZ) and the earnings insurance ("Entgeltsicherung", EGS).[8] The EGZ pays a wage subsidy to employers employing persons with individual disadvantages on the labour market. In 1998 three variants of the EGZ were defined: EGZ while adapting to the new job, EGZ for workers with placement difficulties and EGZ for older workers. Benefit duration and volume differ for these groups, older workers were eligible to the highest amount of subsidies. When the EGZ was initially introduced older workers had to be above age 55. In 2002 this age limit was reduced to 50 and in 2004 the separat EGZ program for older workers ended.[9] For regular employment, the subsidy rate is between 30-50% of wage cost which is paid at a maximum of 36 months with declining annual rates. However, for disabled and older workers up to 70% of standardized wage cost is covered at a maximum of 24 months and declining annual rates for another six years.

Finally, the earnings insurance subsidy which was introduced in 2003 is targeted towards elderly unemployed workers to increase their incentives to take up a job with a wage below the level of the previously held job. Workers older than 50 years who have been unemployed for more than 4 months can receive a wage subsidy of 50% of the differential between the former salary and the net remuneration of the new job in the first year of employment. In the second and final year, the subsidy rate is reduced to 30%.

We will review some empirical findings about the effectiveness of these labour market instruments below. Before, however, we discuss the most recent employment figures of elderly workers.

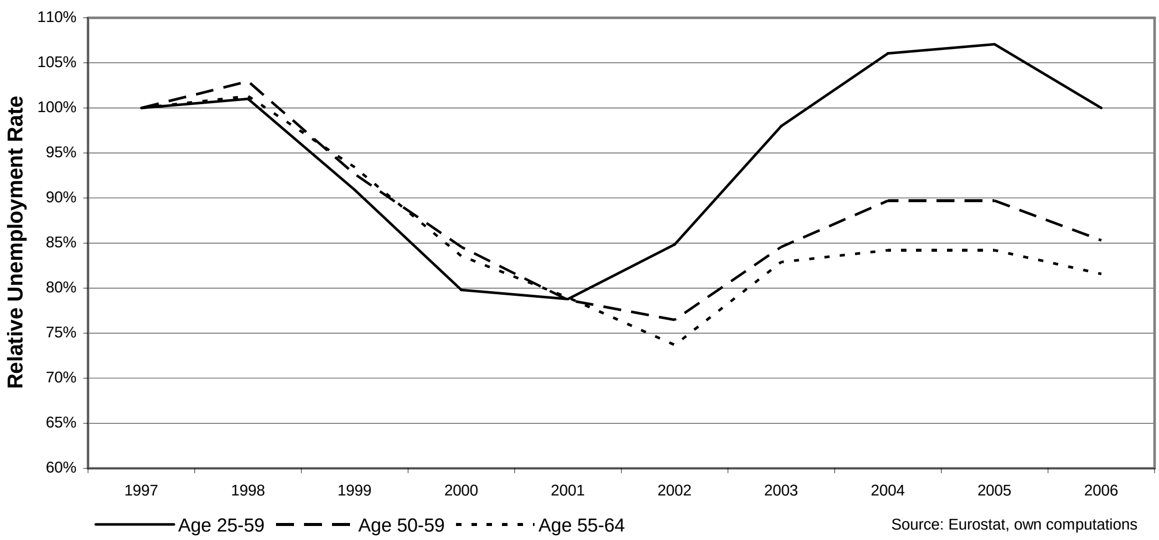
3. Recent labour market performance of older workers

This section discusses the employment dynamics of elderly workers during the last decade in Germany. Figure 2 reports the development of different unemployment rates until 2006 relative to the base year 1997. During this period, unemployment rates of the whole

[8] See Boockmann et al. (2007) for a comprehensive description of these instruments.
[9] However, EGZ benefits are still available. The latest revision extends the program until the end of 2009.

workforce (ages 25-59) decreased initially due to the booming business cycle at the turn of the century but increased again after 2001 until 2005 even beyond the former level. Since 2006 unemployment rates are falling again. For the age cohorts 50-59 and 55-64 the initial decline of the unemployment rate was even slightly stronger since the cycle ended one year later in 2002. However, and even more importantly, the subsequent increase in the unemployment rate was much weaker for these cohorts than for the whole workforce.

Figure 2: Relative Unemployment Rates



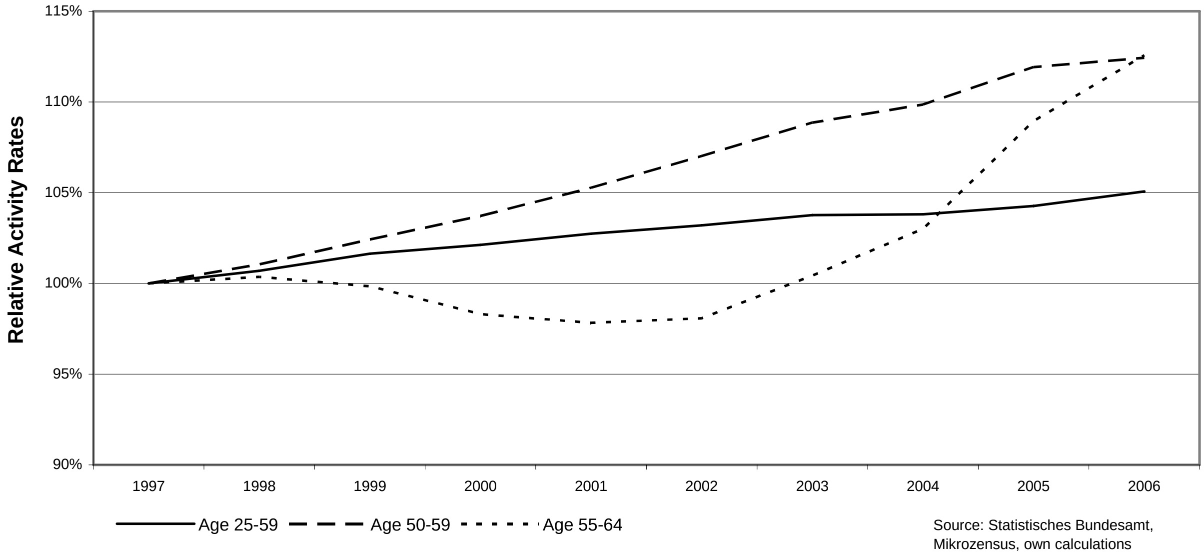
The modest increase of elderly unemployment after 2002 is surprising for at least two reasons. On the one hand, due to the implementation of the Hartz IV reform described above, many elderly had a strong incentive to become unemployed before 2006 because then they were not eligible to the new UB II.[10] On the other hand, especially the cohorts age 50-59 in the years after 2000 were relatively strong since they were mostly born before World War II. Although both factors tend to increase unemployment especially for elderly, Figure 2 clearly shows only a weak rise in unemployment compared to the whole work force.

The positive dynamics of the labour market performance of elderly workers since 2002 is also documented in Figure 3 which shows the development of relative activity rates (Erwerbsquote) between 1997 and 2006. In this period activity rates of the whole workforce (age 25-59) increased only modestly by 5 percentage points. For the age group 50-59 the activity rate increased by roughly 12.5 percent during this period. For elderly workers in the age group 55-64 the employment dynamics was quite different. Until year 2002 their activity rate even felt compared to the base year. However, after 2002 especially this group

[10] Some transitional arrangements also smoothed the benefit reduction of those who became unemployed after January 1st, 2005. See §24 SGB II.

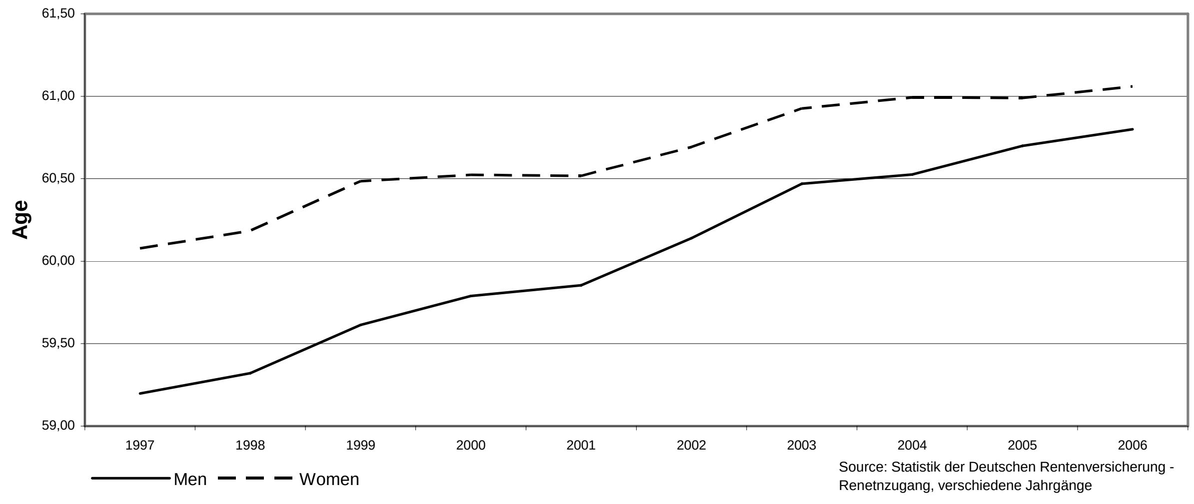
experienced a strong increase in the activity rate so that employment growth (over the whole period considered) until 2006 was similar as for the respective younger cohorts.

Figure 3: Relative Activity Rates



The sharp increase in employment rates may be also due to the fact that people remained in the workforce for a longer period before they entered retirement. In fact, as Figure 4 shows, the average retirement age for men and woman increased steadily during the decade considered. [11]

Figure 4: Average retirement age



[11] The difference of the retirement age in 2000 compared to Table 1 is caused by statistical effects. The data used in Figure 4 also include disability pensions.

Note that the retirement age of woman was always higher than the retirement age of men although woman had very generous early retirement options in the past. This is mostly due to the fact that woman typically have interrupted working periods due to child bearing. In order to increase their pension benefits they stay longer in the work force, whereas men very often used the pre-retirement options to enter retirement. As a consequence, the average retirement age of men reacted much stronger when the pre-retirement options were eliminated starting in 1997.

Summing up, the improvement of the German labour market was especially beneficial for elderly workers. Unemployment rates decreased for them and the retirement age rose considerably so that employment in these cohorts increased substantially. The question is now how much these developments can be attributed to the recent reform process which was described in the first part of the paper. The following section tries to provide an answer to this question.

4. Labour market reforms and labour market outcomes: empirical evidence

Of course, the macroeconomic dynamics which were presented in the last section could be due to various reasons. In order to isolate the impact of specific reform instruments, empirical studies have to apply microeconometric evaluation and estimation techniques. In this section we discuss the results of such studies for Germany.

In various papers, Börsch-Supan (1992, 2000, 2001) has analyzed incentives for early retirement provided by the German pension system using the option value approach. The option value computes for each retirement age the difference in maximum attainable utility between retiring now and retiring one year later. In the second step this option value is included together with some socioeconomic characteristics as explanatory variable in a discrete choice model witch explains the retirement probability of a specific person. Policy reforms alter the option value and, consequently the retirement probabilities. With respect to the 1992 and 1997 pension reforms, Berkel and Börsch-Supan (2004) find that the introduction of adjustment factors will increase the average male retirement age by almost two years from age 61.2 to 63. In line with the observed behaviour in Figure 4 above, the retirement age of woman is affected much less by the reform. It only increases according to the estimates from age 61.7 to 62.4.

Whereas these studies analyze individual retirement behaviour, other approaches concentrate on the impact of retirement rules on individual job search. Tatsiramos (2007) compares the effect of job displacement for workers aged 45-64 years on labour market transition in Germany, Italy, Spain and UK with individual data covering the years 1994-2001 from the European Community Household Panel. The study explicitly takes into account the existing unemployment and pre-retirement rules. The findings suggest that especially in Germany and Spain, older displaced are less likely to be reemployed and more likely to retire because of the incentives created by the social insurance schemes. Consequently, the phased-in elimination of early retirement options could have also improved the employment of elderly workers in Germany as shown in Figure 3.

Of course, given the severe reduction in benefits after 2005, one would expect that especially the Hartz IV reform had a significant impact on job search of elderly unemployed in Germany. However, since it has only recently become effective, the effects of the reform cannot be quantified directly at the moment. Consequently, forecasts have to be based on the results of either studies that quantify previous reforms or ex-ante evaluations. Various studies such as Hujer, et al. (2001) or Caliendo et al. (2008) evaluate more recent labour market programs which were targeted towards long-term unemployed but do not consider elderly explicitly. Other studies such as Fitzenberger and Wilke (2004) or Launov et al. (2004) analyze unemployment rates of elderly, but they consider labour market reforms of the mid 80ies. Both studies found that the extension of benefit-entitlement periods increased the duration of unemployment among the older unemployed. Müller et al. (2007) study the more recent labour market reform of 1997 which was already explained in Table 2. Similar as with the Hartz IV reform, the maximum entitlement length for unemployment benefits was reduced for unemployed elderly. For example, the reform reduced the length of unemployment benefits in the upper part of Table 3 by 6 months from 32 to 26 months. After the reform it was not possible any more to become unemployed with age 57 and transit into retirment without falling back on unemployment assistance. In order to quantify the effects of the reform on the labour market performance of elderly, Müller et al. (2007) apply a difference-in-difference approach with individual data from the IAB employment sample for the years 1975-2001. The results confirm that after the reform the probability of becomming unemployed and the duration of unemployment for the age groups before retirement were significantly reduced. Therefore, the study clearly indicates that extended entitlement periods for unemployment benefits are used by companies and their employees for early retirment purposes. Schmitz and Steiner (2007) asses the impact of the Hartz IV reform on the duration of unemployment by estimating a flexible hazard rate model with pre-reform data from the Socioeconomic Panel (SOEP). Based on the estimated parameters of the hazard model they simulate the reduction of the entitlement periods and the introduction of UB II which came into effect in 2005. Their results indicate that the reform will have only small effects on the duration of unemployment for the population as a whole but it will reduce the share of long-term unemployed and the median unemployment duration of those above 55 years substantially. The effects are stronger in West Germany than in East Germany and they are mostly driven by the shortening of the UB-entitlement period, whereas the introduction of the UB II seems to have relatively little impact. Consequently, Schmitz and Steiner (2007) confirm the results of Müller et al. (2007).

Finally we discuss some studies that deal whith active labour market programms for older workers in Germany. Ammermüller et al. (2006) apply a difference-in-difference estimation using data from the integrated employment histories (IEB) from 2002 to analyze the effect of the extension in eligibility for integration subsidies which was introduced in 2002. They find that the reform increased the employment probability for elderly workers by roughly two percentage points. In addition, they also indicate that the deadweight losses associated with the reform are rather low. However, these results were not confirmed by the subsequent extended analysis of Boockmann et al. (2007). This study uses a different base year, checks the robustnes of the results with respect to alternative group definitions, and considers also the elimination of the special integration supplement for elderly unemployed in 2004. They find only positive employment effects of the programm for East German women and even there the employment effect is only significant for parts of the duration. Consequently, they indicate that employers in the past have reduced unsubsidized hiring by almost the same amount as they have increased subsidized employment. These conclusions are in line with Haan and Steiner (2006) who analyze stilyzed wage subsidies in a micro-simulation model for Germany that includes a detailed modelling of household labour supply. Despite the fact that they assume a permanent (instead of temporary) subsidy on low wages (instead of income) they find only very moderate employment effects for older workers which are stronger for woman than for men.

Summing up, the existing empirical evidence suggests that the positive labour market outcome of the last years is mainly due to the increase in the retirment age and the reduction of the unemployment benefit period for elderly. As it seems, active labour market programs have been rather ineffective in the past.

5. Conclusion and outlook

The present paper documents the positive recent labour market dynamics of older workers in Germany and argues that at least partly theses effects are due to major reforms which change the early retirement incentives for elderly dramatically.

Although the existing evidence clearly provides a success story, especially the consequences of the Hartz IV reform for elderly unemployed have been heavily attacked by public opinion in Germany. As a consequence, the parliament has just recently decided to partially revoke the shortening of the entitlement period. Starting on January 1st 2008, persons aged 50 and over are to be paid UB I for 15 (instead of 12) months and persons aged 58 and over for 24 (instead of 18) months, see Table 2 above. This extension of the entitlement period will partly revers an important part of the Hartz IV reform and much likely lower the number of older persons in employment. In addition, this reform works in exactly the opposite direction as the recently legislated reductions in retirement benefits and the phased-in increase in the statutory retirement age from 65 to 67 until 2031. In order to counteract the retirement of the baby boom generation all policies have to improve incentives for elderly to stay in the labour force and reduce early retirement instruments. The most recent policy turnaround clearly shows that there is still a lot to be done to integrate pension and labour market reforms for elderly in Germany.

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