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Veröffentlichungsversion / Published Version
Arbeitspapier / working paper

gesis
Leibniz-Institut
für Sozialwissenschaften

Mitglied der
Leibniz-Gemeinschaft

Sonderforschungsbereich 186
der Universität Bremen

Statuspassagen und Risikolagen
im Lebensverlauf

Patterns of Labour Market Exit

in Germany and the UK

von

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Sfb186

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Abstract

This study gives an overview of the pathways from work to retirement in Britain and Germany. Although the institutional incentives differ considerably, both countries face a trend towards early retirement. In Germany, this development was mostly attributed to the favourable conditions in the social security system. In the UK, the increasing coverage of occupational and private pensions seems to be responsible for the low labour force participation of older persons. For the duration analysis, a distinction is made between various exit paths from work. The results indicate that the social security or occupational pension schemes have a strong impact on the age a person leaves the labour force for retirement. Pension incentives can less explain the moves into other states of non-employment.

Acknowledgements

Preface

The purpose of this research project (led by Prof. Dr. Winfried Schmähl) is to investigate the transition from employment to retirement with a special focus on part-time work and early retirement. One aim of this study is to find out in how far social policy regulations influence personnel policy concerning older workers. Another aim is to give an overview of typical exit paths from the labour force and to test labour market theories concerning older workers by using longitudinal micro data.

An aging population and a trend towards earlier retirement imply a growing number of elderly people dependent on a shrinking labour force. In pay-as-you-go pension schemes, this leads to higher social security contributions and increasing costs of labour. Governments, as a consequence, are increasingly interested in reforms that will improve incentives for individuals to work until a later age. At the same time, conditions for early retirement are getting worse. This paper provides a comparison of labour market exits in Germany, a country with high social security incentives with the UK, a country with low social security incentives to retire early. It offers some insight into which factors determine the decision to retire or to exit from the labour market via unemployment or disability.

First, a review of theoretical and empirical literature on retirement and labour market exits in the UK and in Germany is given. This is followed by an introduction to the institutional setting of early retirement in both countries, such as social security rules and the labour market situation of older workers. Event history models, based on the German Socio Economic Panel (GSOEP) and the British Household Panel Study (BHPS), are estimated for men and women. Their results suggest that, institutional settings of social security and occupational pensions play a mayor role for the age of retirement. To explain the exits into other states of inactivity, family circumstances, individual and job characteristics also must be considered.

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Contents

1   Introduction

Both in Germany and in the UK the employment rate among men between the ages of 55 and 65 has fallen between the beginning of the 1970s and the mid 1990s. Labour market statistics indicate that fewer and fewer persons work until the statutory pension age and in many cases an intermediary phase of unemployment or other inactivity has emerged between the end of employment and receipt of a state pension. Persons who have been made redundant late in their working life often feel that there is little point in looking for another job and declare themselves retired. In general, they bridge the gap between work and "regular" retirement by payments like unemployment benefits or sickness pay

From a macroeconomic perspective, the shift towards early retirement results in a decline of the aggregate labour supply. A trend towards earlier retirement implies a loss of skills and experience and therefore a waste of human capital. In aging populations, it means also a growing number of elderly people dependent on a shrinking labour (Disney 1996, p. 198). The fact that persons leaving the labour force turn from contributors of taxes and social security into recipients of benefits is especially problematic in the German pay-as-you-go pension system where the active labour force has to pay the pensions for the retired (Schmähl 1992, p. 83). High social security contributions increase the costs of labour, which is partly made responsible for the high unemployment rate in Germany. Because of this and the expected burdens by demographic aging, the conditions for early retirement have recently made worse in order to encourage older people to remain in or to re-enter the labour market. The same has been done in the UK, although the flat rate pension scheme in the UK is not likely to undergo financial difficulties.

There is, however, a conflict of interests between social security and labour market goals. As long as the unemployment rates are high or employers are not willing to hire older workers, the changes could lead primarily to lower replacement rates of pensions and eventually poverty in old age. Therefore, it is not sufficient to analyse the *labour supply* behaviour influenced by factors like labour income, social security benefits, pensions, wealth and preferences for leisure over work. Also *labour demand* factors have to be considered. These factors are strongly related to older workers' cost to the employer, especially in comparison to younger workers. A significant postponement of retirement age can only be expected if the labour market situation is favourable enough to develop a demand for older workers.

A comparison of Germany with the UK, a country with lower social security incentives to retire early, might give some insight into which factors determine the exit from the labour market via retirement, unemployment or disability. One aim of this study is to outline the paths from work to retirement which are taken in the UK and in Germany. Another aim is to find out how far different incentives cause observable differences in the labour market behaviour of older workers. According to economic theory, people in the UK should work until a later age than in Germany and they should to a larger extent continue work after retirement age. Since the analysis of incentive effects of the German social security system on retirement has already been done extensively, the models in this paper allow for other exit states than retirement and concentrate on the job and family factors that influence the labour

market participation in late working life. The empirical analysis is done by descriptive and event history analysis relying on data of worklife-histories and panel data drawn from the German Socio Economic Panel (GSOEP) and the British Household Panel Study (BHPS).

2 Theoretical background and existing research on retirement behaviour

Economic research on the labour force behaviour of older workers and the retirement decision has mainly been forced by demographic change and growing financial burdens for pension systems and social policy as a whole. Retirement is treated as an aspect of labour supply, taking into account special institutional arrangements such as public or occupational pension schemes. According to economic theory (see e.g. Killingsworth 1983), an individual is supposed to retire from the labour force if his or her lifetime utility cannot be augmented by postponing the exit from the labour market.

A large part of the economic studies analysing the retirement decision in Germany focuses on incentives set by the social security system. Viebrok (1997) offers a theoretical dynamic labour supply model which describes these incentives in a detailed manner. Due to data restrictions and complexity, empirical investigations tend to simplify the utility maximisation framework and the social security incentives. To model the incentive effects of the German statutory pension scheme (see e.g. Antolin, Scarpetta 1998; Börsch-Supan, Schnabel, 1997 Siddiqui 1997) approximate "option values" for early retirement were constructed and included as covariates. These option values of postponing retirement are used to assess the economic incentives of public pension schemes.

Empirical evidence for Germany is generally based on data from the German Socio Economic Panel (see e.g. Siddiqui 1997, Schmidt 1995, Börsch-Supan, and Schnabel 1997). Earlier retirement is considered as a rational response to incentives by the statutory pension system. Besides this, poor health seems to have the strongest impact on leaving the labour market. Riphahn (1995), who studies the transition into disability retirement, finds a strong impact of health and the degree of disability on the hazard for disability retirement, but potential retirement incomes are not significant. A possible interpretation can be that disability pensions in Germany do not offer a strong incentive to look actively for this option or that criteria for eligibility are severe enough to discourage people who are only looking for a possibility to leave the labour market earlier.

The institutional framework in the UK is such that retirement cannot be modelled as a well-defined labour market state distinct from other spells out of work. Studies analysing the labour market exit in the UK, generally take this into account (see e.g. Blundell, Johnson 1997 or Disney, Meghir, Whitehouse 1994) and model transitions from employment into non-employment and back. Most of these studies rely on data for men from the UK Retirement History Survey 1988-89, one uses the BHPS (Miniaci, Stancanelli 1998). They all find that the flat rate state retirement pension systems offer no incentives to retire early. For those with private provision, state benefits are likely to be relatively unimportant in understanding retirement behaviour (Blundell, Johnson 1997). Rather, the rules of their occpa-

tional or private pension scheme will be more important. There is a large variety of pension schemes which differ according to replacement rates and eligibility.

All studies agree that with an occupational pension right, persons are more likely to withdraw from the labour market early. A large proportion of men and women with those pensions retire at the age of 55 when relatively generous benefits become available. Persons without an occupational pension right experience shorter job spells and a more heterogeneous job exit behaviour (Blundell, Johnson 1997). To study the effects of earnings and potential social security benefits on retirement behaviour, Meghir and Whitehouse (1997) imputed earnings and benefits from the UK Family Expenditure Survey and included only persons without occupational pension rights in the analysis. They find that increased earnings at work delay job exit, while increased social security benefits delay the return to work. In conjunction, the two effects confirm that economic incentives are important determinants of the retirement age.

There has been little research on possible labour market restrictions for older workers and the degree how voluntary the decision to retire is. Exceptions are Riphahn and Schmidt (1995) who examined the question whether older workers are pushed out of their jobs by high unemployment or whether they are pulled into retirement by generous pensions. Estimations based on time-series data provided by the German pension insurance offer no evidence in favour of the "push-thesis", which is not surprising, considering the official unemployment figures underestimate the effect of underemployment in the presence of early retirement.[1] Riphahn (1997) studies the determinants of transitions from work into disability retirement and unemployment and finds that they can not be treated as "substitute pathways" for early retirement.

This might support the hypothesis that some workers are restricted in their labour supply choices and that disability and sickness not only affect the individual preference for leisure. The same might be true for people who become unemployed: It is unlikely that all early retirees give up work voluntarily, accept a "golden handshake" and chose early retirement as an option. Modelling a state of involuntary exit from the labour market empirically is nevertheless difficult, because of the limited information available from the datasets.

Non economic factors influencing the timing of retirement include marital status or household size. To look at individuals without considering their family context is maybe appropriate for the labour force behaviour of males or single women. Empirical evidence (Allmendinger 1994, O'Rand, Henretta, Krecker 1992), however, shows that the partners' status plays an important role for the behaviour of couples, who often favour a synchronisation of retirement. For married women, the family background not only has an impact on their labour supply during the child rearing years but also for their labour supply at the age of retirement. They tend to exit more frequently to a state of economic inactivity and family care (see figure 1).

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[1]   A part of the unemployed over 58 are not included in the official unemployment figures, see section 2.1.1.

To explore labour markets exits other than retirement, I have to extend the neoclassical labour supply theory by theories allowing for unvoluntary exits from the labour market, especially via unemployment. In a lack of a unique economic theory, I apply a combination of the Human Capital Theory and the theory of segmented labour markets (see also Aarts, de Jong 1992, 190ff.). According to Human Capital Theory, persons who have invested more in their education and training are likely to earn higher wages and to remain in the labour market for longer. From the labour demand side, highly skilled people are seen as more productive and do not only earn higher wages but also are less likely to lose their jobs.

Segmented labour market theory considers market opportunities to be primarily determined by the segment of the market in which a person finds himself. The initial concept of dual labour markets (Doeringer, Piore 1971) differentiates between two main segments[2]: jobs in the first segment offer higher wages, employment security and better career prospects whereas jobs in the second segment do not have all these qualities. The mobility between the two sectors is very low, especially persons who have been working in the secondary segment are not likely to get employment in the primary sector. Workers in the primary sector, on the other hand, are supposed to get a chance to acquire more skills and experience within the firm. These achievements increase their productivity and their wages and reinforce their job security.

Dual labour market theory pays more attention to the employer or the job and is less explicit on why people find themselves in a particular segment. Human capital theory, in comparison, concentrates more on personal characteristics and less on the job the person actually has. In respect to an involuntary exit from the labour market, the theory of segmented labour markets suggests that people working in the second sector of the labour market should have a higher probability of becoming unemployed. Since their jobs are often considered dangerous or health damaging, they are also more likely to stop work because of sickness or disability. For the transition to retirement, it is more difficult to form a hypothesis. Workers in the privileged segment earn higher wages which makes them more likely to remain in the labour force. On the other hand, they expect better pensions and have higher assets which makes them less dependent on earned income and more likely to retire early.

3 Institutional background of early retirement

3.1 Social security legislation and pension incentives to retire early

3.1.1 Early retirement in Germany

The German statutory pension scheme is a mandatory pay-as-you-go public pension insurance for all workers. Permanent civil servants and certain groups of self-employed, who are covered by their own pension systems are exempt. It is mainly contribution-based and supplemented by federal grants. Private pensions and company pensions are only of minor im-

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[2] This simple segmentation model has been extended for Germany to a tripartite labour market differenciating between unstructured, professional and internal labour markets (Sengenberger 1987).

portance, the latter are concentrated in the public sector and with large employers in special sectors. The public pension system is designed to maintain the standard of living after retirement. Benefits depend on the average relative earnings of all insured and the number of individual contribution years. They are adjusted regularly to the net average earnings of all employees. For the so-called "standard pensioner"[3] replacement rates aim at 70 per cent of former net earnings. There are also benefits for surviving spouses and children. Besides old age pensions, pension insurance provides disability pensions without age limits. The share of disability pensions in the German pension system is relatively important: in 1993, 30 per cent of all new male pensioners claimed disability benefits.

The normal retirement age in Germany has been 65 for men and women, but until recently, there several possibilities allowed to claim an unreduced old age pension before this age. Persons with long insurance records (35 years or more) could retire at the age of 63; women with insurance records of 10 years within the last twenty years, unemployed with an unemployment duration of at least one year or disabled or chronically ill persons could retire at the age of 60. As pensions were not reduced for retiring early, only few people worked until the age of 65, in 1994 only 13.6 per cent of men and 5.5 per cent of women (Mikrozensus 1994). In 1992 and 1996, two major reforms changed the conditions of claiming an old age pension: Regular retirement age has been raised to 65 for everybody except for sick and disabled persons.[4]

Several studies show that, even after these reforms, the German public pension system is not age neutral. The system is critised for setting strong incentives to retire earlier, because persons who postpone their retirement subsidise the persons who retire as early as possible (see e.g. Siddiqui 1997, Viebrok 1997, Börsch-Supan, Schnabel 1997).

A large proportion of persons stops working even before the age of 60. They normally rely on one of the following benefits:

- General disability benefits and occupational disability benefits have no age limits but require that a person has contributed to the pension insurance for at least five years. The acceptance not only depends on health but also on the labour market opportunities of a person with health impairments (Riphahn 1997).

- From 1984 until 1988, there was a public pre-retirement scheme financed by the former employers and supplemented by the Federal Labour Office up to 70 per cent of former net earnings until the age of 60.

- The most frequent early retirement path was the use of extended periods of unemployment benefit combined with the possibility of early retirement at the age of 60 for long-

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[3] The standard pensioner according to the German pension system is a person who has earned the average wage for 45 years.

[4] In the course of these reforms, it is possible to draw state pensions from the age of 62 instead of 65, but actuarial reductions of the pension of 3.6 per cent per year have to be accepted. For an overview over the pension reforms see Schmähl (1992, 1998).

term unemployed.[5] Older employees agreed to contracts of voluntary redundancy at the age of 59 or earlier and became unemployed. In exchange, their unemployment benefits were supplemented by the employer. These redundancy payments were not statutory and varied across industries and according to company size. In large chemical and automobile companies they often reached approximately 90 per cent for the period until pension, but in other sectors replacement rates were lower.

- Company-based early retirement schemes were only popular in the insurance and banking sector until the beginning of the 1990s and offered benefits paid by the former employers and reached replacement rates up to 100 per cent of former net earnings until eligibility for old age pension (Schmähl, Gatter 1994).

Reforms of the unemployment legislation since the mid 1990s make early retirement less attractive: employers, under certain conditions, have to refund the Federal Labour Office for paid out unemployment benefits. Unemployment benefits can be suspended, if voluntary redundancy is practised. The new law of "Part-Time Work in Old Age" seems to be the successor of the former regulations. This law provides the option of consolidating the part-time work period before early retirement into a period of full time work over two and a half years and is used de facto as early retirement.

3.1.2 Early retirement in the UK

The United Kingdom operates a two-tier pension system. The first tier consists of a basic flat rate social security pension which is payable to everyone with a complete record of contributions. If a man has made contributions for less than 44 years and a women less than 39 contribution years, the pension is reduced [6].

The second tier is the State Earnings Related Pension Scheme (SERPS) which provides an additional pension based on a person's lifetime earnings. Employers operating an approved occupational pension scheme are allowed to contract out of the state scheme. Since 1988, individuals making sufficient contributions to a personal pension plan are also allowed to opt out of the state scheme. Also since 1988, it has been possible to contract out of SERPS into money purchase (defined contribution) schemes.

The earliest statutory pension age for men is 65, for women it has been 60, but will be changed gradually to 65 until 2020. In 1993, the replacement ratio of the basic and additional pensions combined, as a percentage of earnings, was 33 per cent for a person with average earnings. About 30 per cent of the UK workforce are only members of the state pension scheme (basic and SERPS); 20 per cent are in the state scheme and have a private pension; 48 per cent are members of company schemes (the majority of them have opted out of SERPS and some may also have a personal pension) (Taylor, Walker 1996).

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[5] From the age of 58 on, unemployed persons do not have to look actively for work to get unemployment benefit. These unemployed workers are not included in the official unemployment figures.

[6] Dilnot et al. (1994: 14 ff.) give an overview over the various state pension schemes in Britain.

During the recessions of the mid 1970s and early 1980s, when the UK experienced simultaneous contraction of full-time employment and historic high points in the numbers of young people entering the labour market, youth unemployment was given a high priority by government and older people were actively encouraged to take early retirement. This was possible through the following options which promoted an early withdrawal from the labour force (Laczko, Phillipson, 1991, p. 46 ff.):

- During the 1970s and the 1980s, government operated public schemes to promote worker deployment or replacement such as the Job Release Scheme and the Redundancy Payments Act. The Job Release Allowance was not earnings related, but paid at a flat rate. This explains in part why participation in the scheme was low and why the overwhelming majority of recipients were low-paid semiskilled and unskilled workers force (Laczko, Phillipson, 1991, p. 50).

- Unemployed men aged 60 and over who have been out of work for over a year and who are entitled to supplementary benefit (now called Income Support) have been able to claim the long-term rate of supplementary benefit and no longer have to register as unemployed. Thus, although these older men appear in the official UK unemployment figures, they regard themselves as being sick, disabled or retired rather than unemployed.

- In the UK labour market opportunities are not explicitly taken into consideration when disability benefit is awarded to older workers. But judgements of doctors for the relevant medical certificate "incapable of working" vary according to the labour market situation.

- The growth of the labour force is covered by occupational and private pension schemes which offer financial provision for early retirement and higher replacement rates than the public pension provision. Coverage is greater in the public sector in comparison with the private sector and there are important class and gender divisions.

The expansion of the economy in the late 1980s, coupled with the so-called "demographic timebomb" (Taylor, Walker 1996, p. 99) of falling numbers of young labour market entrants, let the government to introduce several measures aimed at encouraging older people to remain in or to re-enter the labour market. These include the abolition of the earnings rule for state pensions in 1989, which penalised people who worked beyond the state pension age earning more than £75 a week. Furthermore, in most cases, the pension ages of men and women have been equalised at 65.

As can be seen, there are important differences in the institutional factors determining the retirement decision in Germany and the UK. If UK pensioners have to rely solely on public pensions, they are in general worse off than pensioners in Germany. Private pensions partially compensate for this gap, but it seems that more income inequality results from private pension provision which lacks the redistributive elements of a statutory pension system like in Germany. Whereas in Germany, only around 3 % of all persons in pension age claim means-tested benefits (Bundesministerium für Sozialordnung 1998 p. 91), in Britain, this is the case for almost a third of all pensioners. For the "richer" pensioners in the UK, social security incomes contribute less than 50 per cent to their total incomes (Johnson, Disney, Stears 1996 p. 16).

3.2 Labour relations and the labour market situation of older workers

Labour demand factors are strongly related to older workers' cost to the employer, especially in comparison to younger workers. To protect older workers from being fired, in Germany as well as in the UK, they are covered by expanded protection against dismissals by labour law, collective or company agreements[7]. In case of staff reductions, seniority prevents them from being chosen for redundancy. Nevertheless, "socially acceptable" workforce reduction normally means early retirement via "voluntary redundancy". Employers who do not want to lose their good reputation or do not want to risk to being taken to court because of unfair dismissal will offer a severance payment to persuade older workers to quit their jobs on their own behalf. This can be interpreted as a "trade with protection rights" of the older workers (Hartmann 1992).

An important reason for the use of early retirement instead of "last in, first out" policies is that it is less conflict-ridden than redundancies of younger workers. Individuals at the end of their working lives have the option of the "alternative role of early retiree" (Laczko, Phillipson 1991, OECD 1995). This role is related with fewer financial responsibilities and access to more generous compensation payments or income replacement benefits than their younger colleagues (OECD 1995). Older workers often approve of such measures, but the attractiveness of early retirement programs strongly depends on the level of the related non-labour income consisting of public transfers, pension benefits and redundancy payments. Therefore, the main subject of negotiations between employers and trade unions (and in Germany, works councils) is less the question whether to use early retirement or not but the financial conditions of these programs.

A study by Casey and Wood (1994) shows that in the UK voluntary redundancy and particularly early retirement have been used especially in large organizations, in organizations with strong trade union presence, in manufacturing and in the public sector. By contrast, in small firms, in service sector organizations, in the private sector, and in organizations with little or no trade union presence, compulsory redundancies were practised more frequently. Employers have to pay statutory redundancy payments if they make workers redundant, (as opposed to dismissal). These payments depend on the number of years in employment and can reach up to 30 weeks pay for 20 years of service. The severance payments normally rise when voluntary redundancy agreements are made reaching up to four times the statutory provision (Bercusson 1993, p. 313). However, a survey of British employers in 1992 (Spilsbury, McIntosh, Banerji 1993) finds that 60 per cent of employers only provided the statutory minimum. The exact amounts of lump sum redundancy payments are normally treated as confidential and are not accessible to researchers in panel data sets.

In Germany, the redundancy payments are often conceived in a way that they offer compensation up to a certain percentage for the income loss after the exit from work until the payment of pensions (Brühl 1997). These protection measures and regulations, which safeguard older workers employment status in the company, make older workers less attractive to

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[7]   In Germany works councils at the company level play a very important role concerning staff reductions and labour relations within a firm (Frick, Backes-Gellner,Sadowski 1995).

potential employers. Therefore, when older workers become unemployed, they have a disadvantaged position in finding a new job compared to younger workers. Beside the lack of flexibility caused by labour law, seniority payment schemes and qualification requirements offer further explanations for the unfavourable labour market situation of older people.

Lazear (1979) explains mandatory retirement as a consequence of deferred compensation schemes. Since the workers' productivity does not necessarily rise with their payment, older workers can become more costly to the employer than their younger collegues. Taylor and Walker (1996) asked British employers which factors might discourage them from recruiting older people. The overwhelming factor discouraging recruitment and employment of older workers in the eyes of employers was a lack of appropriate skills. Formal qualification is better among younger workers and in times of quick technological change, work experience is not as valuable as it used to be. Many employers have become discouraged to train older workers by shorter payback periods. In addition, almost half of the respondents thought that occupational pension schemes rules acted to discourage the employment of older people.

4   Own findings based on the GSOEP and the BHPS

4.1   Descriptive analysis of labour market exit

With the British Household Panel Study (BHPS) and the German Socio Economic Panel (GSOEP) broadly comparable longitudinal datasets are available for the UK and for Germany. In the descriptive analysis of modes of exit, I use event history data on retrospective biographical information from the individual work-life histories.[8]

As mentioned earlier, the status of "retirement" is difficult to define using household panel datasets. In the UK, the flat rate state pensions are not available before the age of 65 for men and 60 for women[9] and they only provide a small part of the total retirement income in any case. In Germany, as there are several retirement ages, a person could be described as retired when he or she is receiving benefits from the statutory pension scheme. In both countries, however, many people declare themselves as retired before they qualify for state pensions. One can suppose that these people will not actively look for a job, either because it is in accordance with their preferences not to work or because they are too discouraged to look for a job. Casey and Laczko (1989) show that there is a discrepancy between benefit status and labour market status. Therefore, it might be useful to rely on self assessment when defining the labour force status offering also a comparable base for the different working states in the UK and in Germany.[10]

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[8]   The German sample only includes households of the GSOEP A and B sample; East German households and households of the immigrant sample are omitted. The German dataset for descriptive analysis consists of biographical information from the GSOEP "BIOSCOPE" (Ernicke 1997), the British dataset of the combined retrospective worklife history files (Halpin 1997). Thanks to Nikolei Steinhage for the permission to use his TACOS programme for the correction of spells.

[9]   Womens' retirement age will have been raised to 65 by the year 2010.

[10] For other alternatives see the references mentioned in section 2.

The sample includes men and women who were working at the beginning of the sampling period. They are 50 and are observed until the age of 65 for Germany and 70 for the UK. The spell length under consideration is the duration from the age of 50 until the exit from the labour market. The origin state is always a state of "working", either part-time or full time, self-employed or employed. The destination state is a status of economic inactivity. Individuals who do not stop working within the sampling period or continue working after the age of 65 (70 for the UK) are treated as right censored.
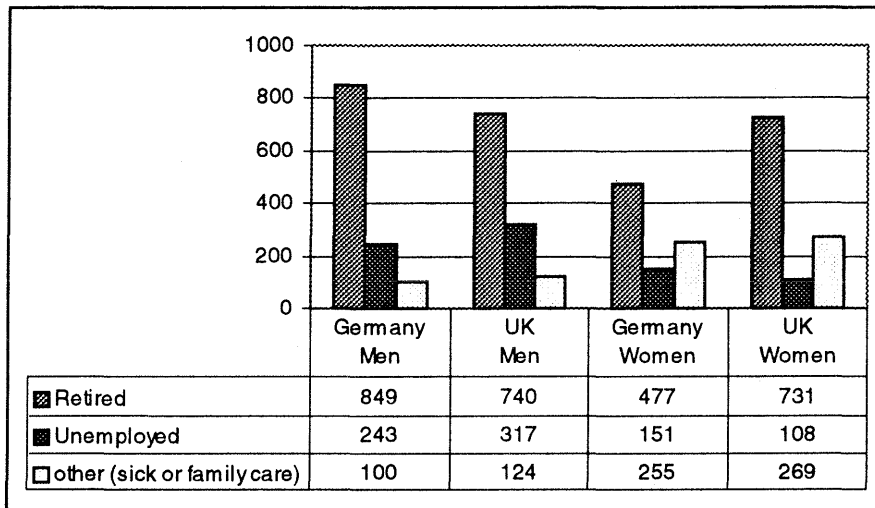
Unlike temporary breaks in an individual's work career, the retirement decision is usually assumed to be irreversible and duration analysis regards it as an absorbing state. However, according to the data used and because of the possibility of earlier exit into unemployment, this assumption is not true. Around 6% of the German sample and 9% of the British sample go back at least once from economic inactivity into work after the age of 50. Most of them (around 50% of those re-entering the workforce) come back to work after a spell of unemployment. In the UK, changes from a status of retirement are more common than in Germany. One possible explanation for this behaviour might be the possibility of drawing a full occupational pension together with labour income as long as the pensioner changes the employer. Another reason might lie in the low replacement rates of state pensions in the UK which make earned income at pension age necessary. On the labour demand side, the British labour market is assumed to be more flexible causing employers to be less reluctant to hire older workers than in Germany.

In the subsequent analysis, the sample only includes individuals until their first observed exit from the labour market into a state of "not working". This is a strong simplification, because re-entries into work and several exits out of work after the age of 50 are neglected. The alternative of choosing the last exit from a state of work into inactivity could also be misleading, because jobs that start after the age of 50 can to a large extent considered to be "bridge jobs". These jobs help to finance the time between the end of the main job until occupational or state pensions are paid. They are often less qualified than career jobs and on a part-time basis. I am interested in the occupational background of the persons in the sample and therefore concentrate in "lifetime career jobs" and their influence on exit behaviour.

Including spells that end after 1975 and before 1994 (Germany) or 1995 (UK), around 2,000 individual labour market spells for each country are available after this selection. Unfortunately, the German data are truncated at the age of 65. Different models are estimated for men and women. Retirement ages both in Germany and the United Kingdom have been different in the sampling period and women exit into other states out of the labour force than men (e.g. family care instead of unemployment or disability).

Figure 1 gives an overview of the labour market transitions for uncensored spells that end after the age of 50 in the worklife-history samples used. Retirement is the most frequent form of exit. 21% of German men exit into a state of unemployment in comparison with 301% of British males. Women of both countries exit to a considerable extent into the residual category "family care or disabled".

Figure 1: How do spells of workers over 50 end?

	Germany Men	UK Men	Germany Women	UK Women
▨ Retired	849	740	477	731
▩ Unemployed	243	317	151	108
☐ other (sick or family care)	100	124	255	269

Non-parametric duration analysis using Kaplan-Meier estimates can give a first impression of the survival functions in work of older workers in both countries. The survival curves in figure 2 differentiate between the labour market states after transition into non-employment.

Basically, the results of the earlier mentioned studies can be confirmed: statutory retirement ages are important determinants of the exit from the labour force. This is not surprising for Germany, where pensions from social security form by far the most important part of incomes in old age for both men and women. For men, the survival rates for those persons exiting to retirement drop at 60 and 63. For British males, occupational pensions have a much higher impact on retirement behaviour, but their age limits seem to be similar to those in the statutory pension scheme in Germany. Women are covered to a smaller extent by occupational and personal pension schemes than men. In both countries most of them retire at 60, the earliest age, when they can draw a state pension. Persons who leave the labour force before the statutory retirement ages exit to a large extent to unemployment or other labour market states. These include sick or disabled persons as well as persons (especially women) who stop work because of family duties.

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Figure 2: Survival functions in work with different destination states:

Men

Women
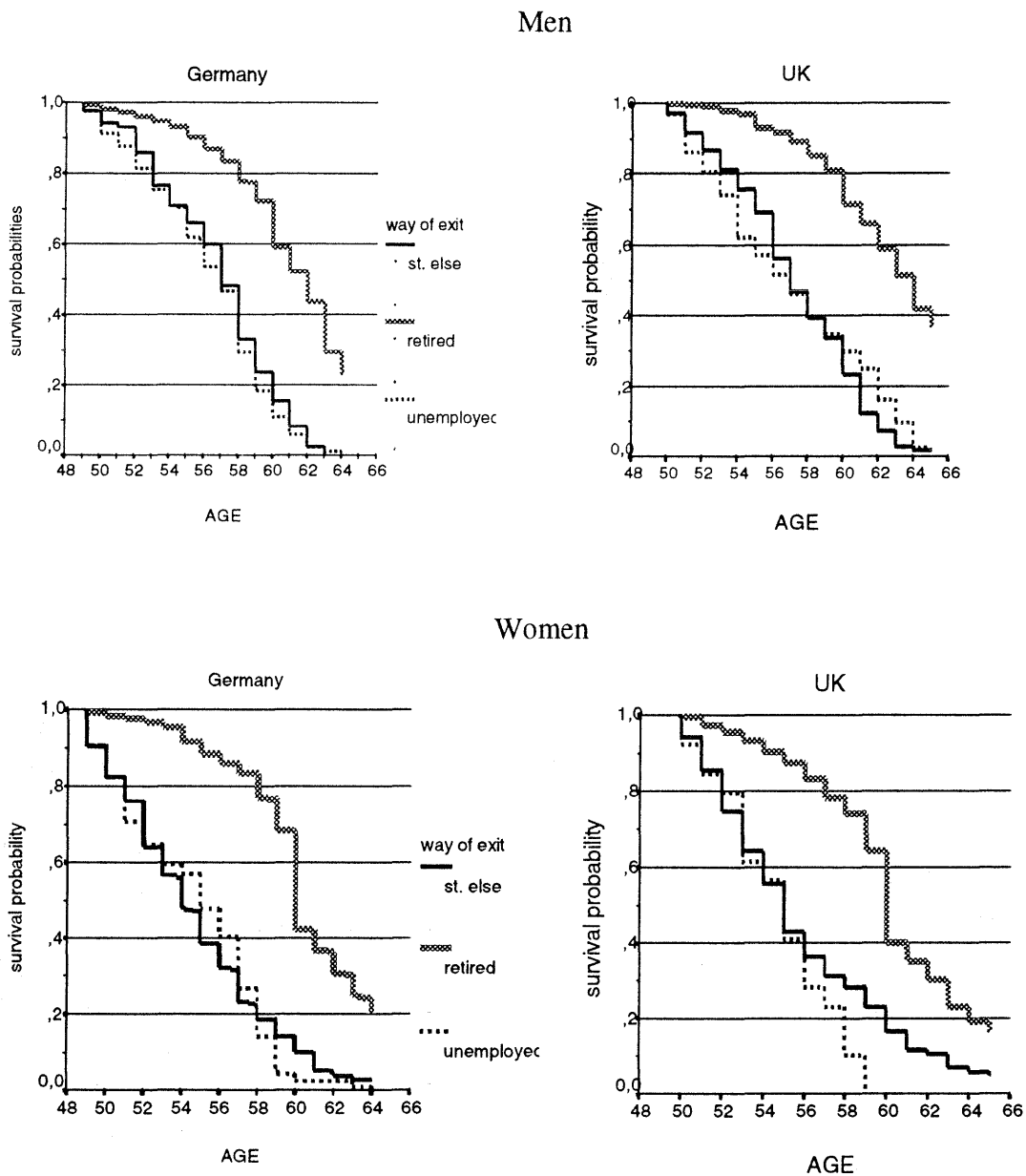
Figure 3 displays survival probabilities in work for several age cohorts. Younger cohorts tend to leave the labour market earlier than the older cohorts in the sample. For British males, the importance of the statutory retirement age of 65 has lost much of its importance for younger cohorts, similar for German males. For women in both countries, the retirement at the age of 60 becomes more popular for birth cohorts after 1910. For Germany, this can be explained by the rising labour force participation of women which makes more of the younger female cohorts eligible for the – early – old age pension for women. For the UK, it seems that womens' own pension rights seem to gain more importance for younger cohorts.

Figure 3: Survival functions in work for different birth cohorts
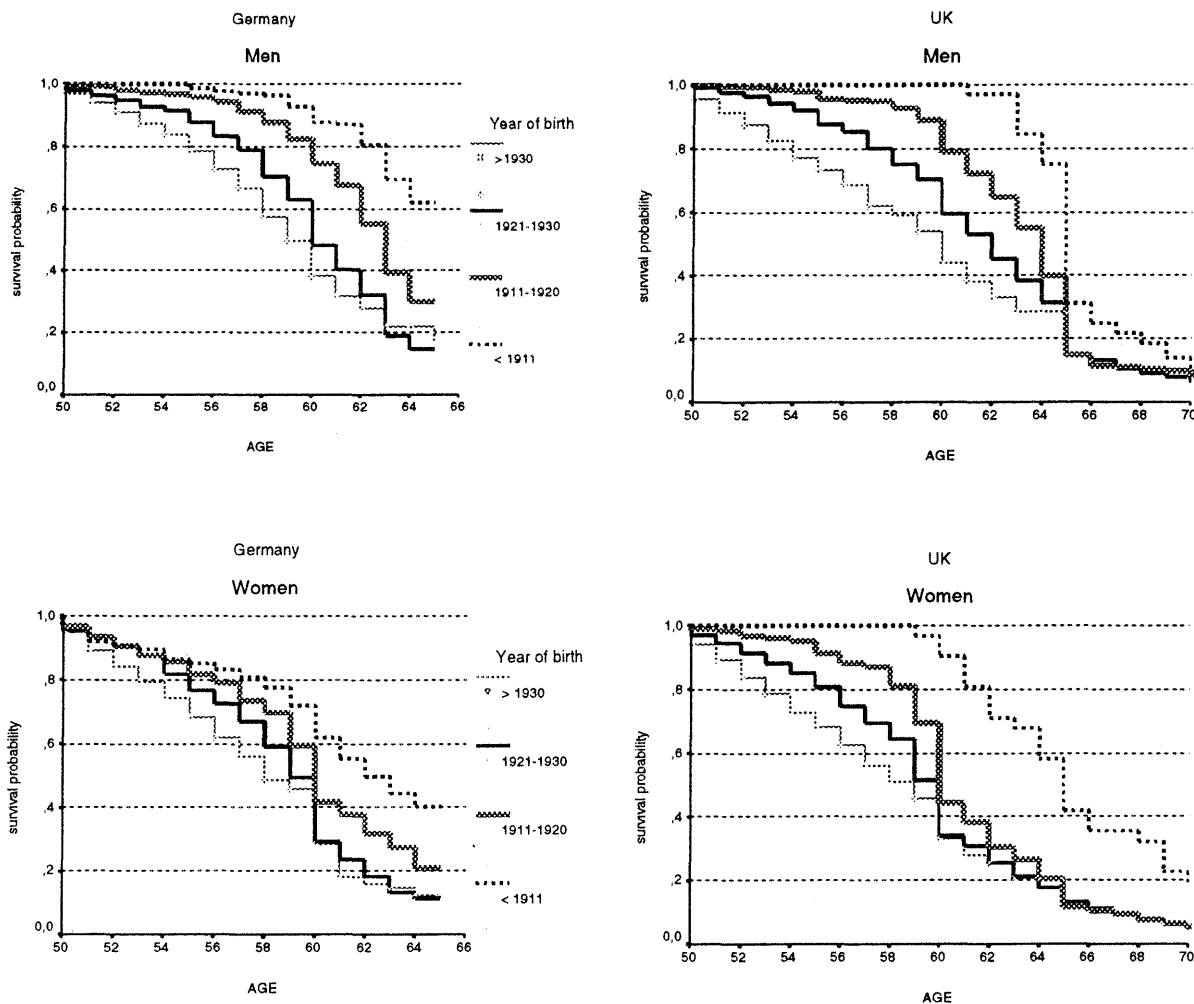
The use of retrospective data and descriptive analysis is well suited to give an idea of effects of demographic variables, social security regulations and reforms for different age cohorts. Still, in order to include time-variant covariates like job characteristics, family context or health status, the multinomial logit models in the next section use current information from the panel data sets.

4.2   Multinomial logit models of labour market exit

In addition to pure economic variables such as wages and potential pension benefits, in using hazard rate models to describe the labour market exit a number of other factors can be considered, including job characteristics, the individual health status and the family circumstances. Moreover, the duration model approach permits the updating of information as the individual ages (Antolin, Scarpetta 1998, p. 6).

I use multinomial logit models as approximations for discrete time hazard rate models with different destination states. Discrete time analysis seems more appropriate because most of the variables from the panel data are only available on a yearly basis, which is a fairly large time interval. Moreover, statutory retirement ages and the tendency to retire as early as pos-

sible make many people retire at the same age. These "ties" (see e.g. Yamaguchi 1991, p. 16) can cause problems when methods of continuous event history modelling are applied. I organise the data into person-period files because they offer an easy way to include time variant covariates from the panel datasets. The time dependence of the hazard rate is estimated using age dummies. This makes the model equivalent to a piecewise constant exponential model (see e.g. Blossfeld, Rohwer 1995, p. 114).

Using panel data instead of the retrospective worklife history files leads to a trade-off as only those spells which end in the sampling periods can be considered. BHPS data is available for the years from 1991 until 1997 and GSOEP data for the years from 1984 until 1997. The sample includes individuals in a status of work from the age of 50 (or the first appearance in the sample) until the age of 68 and is restricted to persons who are working at the beginning of the period under consideration. As in the Kaplan-Meier estimations, different models are estimated for men and women.

As in the descriptive analysis, the self-assessed labour status market serves as dependent variable. I use the information given at the time of the interview. This allows for a better synchronisation with the independent variables. The BHPS data offer a special status for "disabled" or "long term sick" or "family care", which is not available for the German sample. For Germany, I only consider two possible non-working states: "unemployed" and "retired or out of the labour force". For the British data, I have three different destination states: "retired", "unemployed" and "other" including disability, sick and family care.

The models were estimated on two samples for both countries. The first sample includes all workers except workers in farming and forestry. The second sample also drops self-employed and civil servants (only Germany).[11] The short period of observation for the British sample and a relatively small number of cases only allow for a limited number of covariates. In order to take into account the time dependence of the transition into non-employment, I include dummy variables for 5 age categories. The other covariates help to test the hypotheses derived from human capital theory and the theory of dual labour markets as well as the hypothesis of the joint retirement of spouses. Table A1 in the appendix gives an overview of the covariates and their means.

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[11] Since the results of the employees do not differ much from the results of the larger samples, they are placed in the appendix (see table A2 Germany, table A3 for the UK).

Table 1: Results of multinomial regression models, German sample

Sample I: incl. self employed and civil servants (excluding workers in farming and forrestry)

Women	Unemployed		Retired or other states	
	Coef.	Std. Err.	Coef.	Std. Err.
Age 50-54	-0.413	0.291	-2.248	0.293 ***
Age 55-57	0.331	0.274	-2.090	0.298 ***
Age 58-59			-1.213	0.296 ***
Age 60-62			0.469	0.281 *
Self employed			-0.081	0.208
Civil servant			-0.169	0.413
Job tenure 10 years or more	-0.421	0.224 *	0.059	0.157
Job in a large firm	0.604	0.321 *	0.176	0.184
Job in a small firm	0.636	0.280 **	-0.049	0.154
Job in service sector	-0.985	0.217 ***	-0.117	0.144
Disabled	-0.275	0.475	0.601	0.206 ***
Academic degree	-0.721	0.740	-0.304	0.331
No job qualification	-0.418	0.228 *	0.285	0.139 **
Not of German nationality	0.322	0.262	-0.443	0.191 **
Serious health problems	0.742	0.216 ***	0.785	0.144 ***
Partner is working	-0.260	0.245	-0.349	0.152 **
Lives with Partner	0.252	0.286	0.363	0.170 **
Part time job	0.041	0.236	0.670	0.139 ***
constant	-3.136	0.453 ***	-1.479	0.364 ***
Number of events	104		330	

Log Likelihood   = -1351.855
Number of obs   = 3684 (765 individuals)
$\chi^2(32)$ = 440.87
Pseudo R²   = 0.1402

Men	Unemployed		Retired or other states	
	Coef.	Std. Err.	Coef.	Std. Err.
Age 50-54	0.491	0.725	-4.184	0.199 ***
Age 55-57	1.437	0.720 **	-3.327	0.178 ***
Age 58-59	1.876	0.724 ***	-2.353	0.172 ***
Age 60-62	1.869	0.729 ***	-1.356	0.155 ***
Self employed			-0.623	0.179 ***
Civil servant			0.644	0.178 ***
Job tenure 10 years or more	-0.459	0.157 ***	-0.257	0.150 *
Job in a large firm	0.523	0.163 ***	0.285	0.135 **
Job in a small firm	0.091	0.158	-0.055	0.126
Job in service sector	-1.135	0.174 ***	0.020	0.117
Disabled	0.307	0.200	1.048	0.133 ***
Academic degree	-0.357	0.258	-1.001	0.180 ***
No job qualification	0.074	0.157	0.020	0.143
Not of German nationality	0.255	0.153 *	-0.239	0.148
Serious health problems	0.409	0.148 ***	0.840	0.115 ***
Partner is working	-0.105	0.134	-0.268	0.112 **
Lives with Partner	-0.049	0.201	0.210	0.178
constant	-4.150	0.753 ***	-0.249	0.256
Number of events	280		513	

Log Likelihood   = -2578.268
Number of obs   = 8198 (1547 individuals)
$\chi^2(32)$ = 1082.79
Pseudo R²   = 0.1735
(*. **. ***: significant at 10. 5. 1 percent. respectively)

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Table 2: Results of multinomial regression models, British sample

Sample I: including self employed (excluding workers in farming and forrestry)

Women	Unemployed		Retired		Other states	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Age 50-54	0.975	0.475 **	-2.723	0.355 ***	0.737	0.429 *
Age 55-57	0.848	0.508 *	-2.267	0.324 ***	0.514	0.449
Age 58-59			-1.433	0.297 ***	0.227	0.514
Age 60-62			-0.151	0.209	-0.468	0.576
Self employed	-0.799	0.755	-0.112	0.290	0.766	0.349 **
Occupational pension right	-0.814	0.423 *	0.453	0.201 **	-0.056	0.324
Job with fixed term contract	0.728	0.634	0.623	0.267 **	1.607	0.337 ***
part time job	-0.394	0.379	0.022	0.194	0.914	0.315 ***
Academic degree			0.187	0.262	-1.069	0.544 **
Serious health problems	0.609	0.749	0.664	0.393 *	1.406	0.425 ***
Partner is working	0.320	0.511	-0.512	0.207 **	-0.534	0.304 *
Lives with Partner	-0.123	0.619	0.033	0.222	0.904	0.440 **
constant	-4.297	0.595 ***	-1.320	0.266 ***	-5.025	0.586 ***
Number of events	33		167		66	

Log Likelihood = -893.554
Number of obs = 2041 (567 individuals)
$\chi^2(33)$ = 269.87
Pseudo R^2 = 0.1312

Men	Unemployed		Retired		Other states	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Age 50-54	0.609	0.399	-3.550	0.389 ***	-0.832	0.618
Age 55-57	-0.163	0.454	-2.501	0.278 ***	0.035	0.550
Age 58-59	-0.227	0.520	-2.354	0.322 ***	0.262	0.576
Age 60-62	0.420	0.443	-1.543	0.241 ***	0.392	0.558
Self employed	-1.363	0.356 ***	-0.980	0.275 ***	-0.473	0.464
Occupational pension right	-0.793	0.268 ***	0.451	0.218 **	-0.085	0.386
Job with fixed term contract	0.820	0.376 **	0.820	0.286 ***	-0.928	1.034
Job tenure 10 years or more	-0.077	0.256	0.305	0.190	0.217	0.312
Academic degree	-0.816	0.474 *	-0.083	0.258	-1.309	0.740 *
Serious health problems	0.012	0.741	1.792	0.377 ***	2.819	0.366 ***
Partner is working	-0.143	0.274	-0.425	0.193 **	-0.635	0.325 **
Lives with Partner	-0.001	0.388	-0.002	0.270	0.380	0.521
constant	-2.741	0.475 ***	-1.076	0.297 ***	-3.870	0.692 ***
Number of events	77		164		48	

Log Likelihood = -991.000
Number of obs = 2480 (698 individuals)
$\chi^2(36)$ = 365.25
Pseudo R^2 = 0.1556

Potential benefits of the German statutory pension scheme mainly depend on the lifetime average income position and on years of service. I control for these economic effects by age dummies and human capital variables. In preliminary analysis, observed information on labour income had a small negative effect on the probability to retire. The construction of potential benefits would be even more complicated for the UK because of the variety of different public, occupational and private pensions. Personal pensions, life insurances and

wealth are not included, rather I include time invariant dummy variable indicating whether the person has an occupational pension right. This variable takes into account that – in general – occupational pension schemes are more generous than the additional state pension (SERPS) and can be drawn at a younger age than the state pensions (Meghir, Whitehouse 1997).

Workers with an occupational pension right are more likely to retire, although the effect is not significant for employed men (see Table 2). This variable also seems to offer a useful test for a hypothesis derived from dual labour market theory: persons with an occupational pension tend to belong to the favourable segment of the labour market and they are less likely to become unemployed. Although the link between an occupational pension right and a "good" job may have changed with the increased introduction of personal pensions since the late 1980s, this is still true for the cohorts in this sample.

In Germany (see Table 1), self-employed and civil servants are to a large extent covered by special or private pension arrangements. Civil servants in Germany are almost without exception not subject to unemployment yet they seem to make earlier exits into retirement than normal employees. Their pension incomes are very generous and special pre-tirement programs and more generous rules regarding disability pensions are in operation. Self-employed in both countries tend to remain longer in the labour market. One possible explanation would be that they are more content with their work and cannot be laid off by their employers or forced into early retirement programs. Self employed, however, are a heterogenous group. A part of them also remain longer in the labour market, because they do not have collected enough pension claims to afford early retirement.[12]

Human capital theory suggests that highly qualified people stay longer in the labour market because they have a longer payback period on their investments into human capital. Here, they do not have an important impact on the job exit behaviour. For German men, only an academic degree provides an effect in favour of a postponement of retirement. German women without a job qualification tend to retire earlier but seem to become less often unemployed than women with an occupational qualification, which is surprising as it contradicts human capital theory. For the British sample, an academic degree reduces the probability of entering a state of unemployment, disability or family care.

Job characteristics are included to represent the impact of labour demand on the exit from work. I aggregated industrial sectors to rather coarse categories and omitted workers in farming and forestry. In Germany, workers in the service sector have a lower probability of becoming unemployed than workers in the manufacturing and energy sector. During the period under consideration, the manufacturing sectors experienced a major restructuring and a decline of employment whereas the service sector grew. This may have changed recently, when e.g. German banks started to reduce their staff just as the manufacturing sec-

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[12] For Germany, self employed claimants of full and partial pensions in 1995 often mentioned "lack of money" when they were asked, why they would not take early retirement (George, Oswald 1997).

tors did in the 1980s and early 1990s. For the British sample of employees (see Table A3), this effect is much weaker.[13]

In Germany, men and women working in large firms are more likely to become unemployed than workers in medium-sized firms. Large firms often expanded significantly during the sixties and seventies and now suffer from unfavourable age structures. They also have the financial means to pay high redundancy payments and thereby make their employees agree to voluntary redundancy. Strikingly, women working in small firms are also more likely to become unemployed. This might be due to labour law: in small firms, protection against dismissal is less strict.

Many employers seem to practice "last in first out" policies. When staff is reduced, older workers with a long tenure normally profit from better protection from dismissal than their newly hired colleagues. In Germany, a tenure for 10 years or more in the same job seems to be a kind of insurance against unemployment, but those persons also seem to retire later. In the UK, a long work tenure only has a significant effect in the sample of employees (Table A3). Not surprisingly, in Britain, workers with a fixed term contract are more likely to enter retirement or unemployment.[14]

Since there are very few male part-time workers in career jobs, the variable is only included for women. It has a significant effect towards an early exit into retirement or family care in Germany and an effect on the exit into family care for the UK. This could support the hypothesis that part-time working women are less inclined to work than female full-time workers.

Looking at the non-job characteristics, health and disability (Germany) seem to have a very high influence on the labour force behaviour. Disabled people exiting the labour market earlier than others is not surprising since disability pensions can only be claimed if a person is severely disabled or chronically ill. In Germany, the subjective health satisfaction augments the risk of unemployment and retirement significantly; in Britain, it has a strong effect only on the probability to retire or to exit into disability or family care. Nevertheless, it has to be kept in mind that the self-reported health satisfaction may be biased in the sense that people who want to stop their work report worse health because they want to justify their withdrawal from the labour market.

Household characteristics like household size and household income did not have significant effects and were excluded from the estimations. Therefore, family relationships concentrate on the partnership status of the individual. Married or cohabiting people are assumed to have a higher preference for leisure and therefore a higher probability of retiring early. Only for women, some evidence can be found in favour of this hypothesis. Another hypothesis suggests, that couples want to synchronise their retirement. This can be is confirmed by the estimation results, because the trend towards early retirement is reversed, if the partner is

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[13] When I distinguished between different parts of the service sector, employees of the state, education or the health sector on average tend to retire earlier. This variation cannot to be found in the tables in the appendix.

[14] The tenure variable was not included for women because of the small sample size.

still working. This is the case for men as well as for women and is in accordance with the findings of Allmendinger (1994).

5   Summary and Outlook

This paper offers a comparative analysis of early retirement patterns for Germany and the UK using panel and retrospective worklife history data. The retrospective data allows a comparison of the job exit behaviour of various birth cohorts. In both countries, younger cohorts tend to leave the labour market earlier than older cohorts. The survival curves also emphasise the strong impact of statutory pension ages for retirement exits in Germany as well as in Britain indicating that most individuals retire as soon as they can claim a pension. In Britain, however, returns to gainful work after a late period of unemployment and even retirement are more common than in Germany. These "bridge jobs" are often on a part-time basis or self-employed.

The results of the multinomial logit models provide similar estimations for both countries. In the UK, occupational pension rights play an important role in early retirement and can be used as indicators for jobs in the first labour market. Health-related factors seem to play a major role for all exit routes, family circumstances escpecially influence womens' retirement process. The estimations show that the factors influencing the exit into retirement are much different from the factors that influence the exit into unemployment in both countries. While pensions play an important role for the retirement process, labour demand factors mainly influence the exit into unemployment or other states of work.

These differences should be accounted for when a prolongation of working life is discussed. If it is true that some of the older workers make an involuntary exit from the labour market, it is not sufficient to set financial incentives to work longer. Improving health and working conditions, on the one hand, is necessary to keep the older workers "able for work". On the other hand, the demand for older workers can only be raised if they are not too costly for the employers and if their qualifications are up-to-date.

6   References

Aarts, L.J.M.; de Jong, P.R. (1992): Economic Aspects of Disability Behavior, Amsterdam: Elsevier Science Publishers B.V.

Allmendinger, Jutta (1994): Lebensverlauf und Sozialpolitik – Die Ungleichheit von Mann und Frau und ihr öffentlicher Ertrag, Frankfurt a. M./New York: Campus.

Antolin, Pablo; Scarpetta, Stefano (1998): "Microeconometric Analysis of the Retirement Decision: Germany", OECD: Working Paper AWP 1.6 .

Bercusson, Brian (1993): "Employment Protection and Labor Relations: The Regulatory Model of Job Security in the United Kingdom", in: Buechtemann, Christoph F. (Ed.): Employment Security and Labor Market Behavior, Ithaca, N.Y.: ILR Press: 305-319.

Blundell, Richard; Johnson, Paul (1997): "Pensions and Retirement in the UK", NBER Working Paper 6154.

Börsch-Supan, Axel; Schnabel, Reinhold (1997): "Social Security and Retirement in Germany", Universität Mannheim: Arbeitspapier Nr. 97/020 Sfb504.

Brühl, Norbert (1997): Personalabbau und Altersstruktur: Eine betriebswirtschaftliche Analyse, München und Mehring: Rainer Hampp Verlag.

Bundesministerium für Arbeit und Sozialordnung (1998): Alterssicherungsbericht 1997, Bonn.

Casey, Bernard; Laczko, Frank (1989): "Early Retired or Long Term Unemployed? The situation of Non-working men Aged 55-64 from 1979 to 1986", Work, Employment and Society 3: 509-526.

Casey, Bernard; Wood, Stephen (1994): "Great Britain: Firm Policy, State Policy and the Employment and Unemployment of Older Workers", in: Naschold, Frieder; de Vroom, Bert (Eds.): Regulating Employment and Welfare: Company and national policies of labour force participation at the end of working life in industrial countries, Berlin/New York: de Gruyter: 363-394.

Dilnot, Andrew; Disney, Richard; Johnson, Paul; Whitehouse, Edward (1994): Pensions Policy in the UK: An Economic Analysis, London: Institute for Fiscal Studies.

Disney, Richard (1996): Can We Afford to Grow Older?, Cambridge et. al.: MIT Press.

Disney, Richard; Meghir, Costas; Whitehouse, Edward (1994): "Retirement Behaviour in Britain", Fiscal Studies 15: 24-43.

Doeringer, Peter B.; Piore, Michael J. (1971): Internal Labor Markets and Manpower Analysis, Lexington: Heath.

Ernicke, Beate (1997): Datenaufbereitung aus dem Sozio-ökonomischen Panel: Erwerbsverlauf und Familiendaten. Sfb 186 der Universität Bremen: Arbeitspapier Nr. 44.

Frick, Bernd; Backes-Gellner, Uschi; Sadowski, Dieter (1995): "Work Councils: Barriers or Boosts for the Competitiveness of the German Firms?", British Journal of Industrial Relations 33: 493-513.

George, Rainer; Oswald, Christiane (1997): "Der Weg vom Erwerbsleben in den Ruhestand in der Bundesrepublik Deutschland: Chancen für schrittweise Übergänge?", Arbeit und Sozialpolitik 51: 36-44.

Halpin, Brendan (1997): "Unified BHPS work-life histories: combining multiple sources into a user-friendly format", University of Essex: ESRC Research Centre on Micro-Social Change, Working Paper.

Hartmann, Brigitte (1992): "Workforce Reduction in Germany. Some Empirical Findings", Universität Bremen: ZeS – Arbeitspapiere Nr. 14/92.

Johnson, Paul; Disney, Richard; Stears, Gary (1996): Pensions 2000 and beyond. Volume 2: Analysis of Trends and Options, London: Institute of Fiscal Studies.

Killingsworth, M.R. 1983: Labor supply, Cambridge University Press.

Laczko, Frank; Phillipson, Chris (1991): Changing work and retirement: social policy and the older worker, Milton Keynes, Philadelphia: Open University Press.

Lazear, Edward P. (1979): "Why is there mandatory retirement?", Journal of Political Economy 87: 841-864.

Meghir, Costas; Whitehouse, Edward (1997): "Labour Market transitions and retirement of men in the UK", Journal of Econometrics 79: 327-354.

Miniaci, Raffaele; Stancanelli, Elena (1998): "Microeconometric Analysis of the Retirement Decision: United Kingdom", OECD: Working Paper AWP 1.8.

O'Rand, Angela; Henretta, John C.; Krecker, Margaret L. (1992): "Family Pathways to Retirement", in Szinovacz, Maximiliane; Ekerdt, David J.; Vinick, Barbara H. (Eds.): Families and Retirement. Newbury Park et al.: Sage.

OECD (1995): "The Transition from Work to Retirement", Organization for Economic Cooperation and Development, Paris: OECD Social Policy Studies No. 16.

Riphahn, Regina (1995): "Disability Retirement among German Men in the 1980s", Universität München: Münchener Wirtschaftswissenschaftliche Beiträge Nr. 95-20.

Riphahn, Regina (1997): "Disability Retirement and Unemployment – Substitute Pathways for Labor Force Exit. An Empirical Test for the case of Germay", Applied Economics: 551-561.

Riphahn, Regina; Schmidt, Peter (1995): "Determinanten des Ruhestandes: Lockt der Ruhestand oder drängt der Arbeitsmarkt? Beschreibung und Analyse altersspezifischer Verrentungsarten und ihrer langfristigen Determinanten", Universität München: Münchener Wirtschaftswissenschaftliche Beiträge Nr. 95-23.

Schmähl, Winfried (1992): "Changing the Retirement Age in Germany", Geneva Papers on Risk and Insurance 17: 81-104.

Schmähl, Winfried (1998): "Recent Developments of Pension Schemes in Germany: Present and Future Tasks in Conflict", Labour 12: 143-168.

Schmähl, Winfried; Gatter, Jutta (1994): "Options for extending the working period and flexibilising the transition to retirement in German insurance industry. Current situation and assessment for the future", Geneva Papers on Risk and Insurance 19: 433-471.

Schmidt, Peter (1995): Die Wahl des Rentenalters: Theoretische und empirische Analyse des Rentenzugangsverhaltens in West- und Ostdeutschland, Frankfurt a. M.: Lang.

Sengenberger, Werner (1987): Struktur und Funktionsweise von Arbeitsmärkten: Die Bundesrepublik Deutschland im internationalen Vergleich, Arbeiten aus dem Institut für Sozialwissenschaftliche Forschung e.V., München, Frankfurt/Main et a.: Campus,

Siddiqui, Sikandar (1997): "Early Retirement in West Germany: A Sequential Model of Discrete Choice", Zeitschrift für Wirtschafts- und Sozialwissenschaften 117: 391-415.

Spilsbury, David; McIntosh, Andrew; Banerji, John (1993): "Redundancies and the Statutory Redundancy Payments Scheme: results from a survey of employers", Employment Gazette: 313-325.

Taylor, Philip; Walker, Alan (1996): "Gradual Retirement in the United Kingdom", in: Delsen, Lei; Reday-Mulvey, Geneviève (Ed.): Gradual Retirement in the OECD Countries. Macro and Micro Issues and Policies, Aldershot: Dartmouth Publishing Company: 94-111.

Viebrok, Holger (1997): Das Arbeitsangebot im Übergang von der Beschäftigung in den Ruhestand, Frankfurt a. M.: Peter Lang.

Yamaguchi, Kazuo (1991): Event History Analysis, Newbury Park: Sage .

Appendix

Table A1: Means of Covariates

Germany: including self employed and civil servants

Status in next spell:	Women			Men		
	Working	Unemployed	Inactive*	Working	Unemployed	Inactive*
Age categories						
Age 50-54	0.493	0.365	0.224	0.452	0.229	0.092
Age 55-57	0.294	0.433	0.170	0.291	0.371	0.146
Age 58-59	0.131	0.173	0.182	0.129	0.236	0.185
Age 60-62	0.060	0.019	0.352	0.097	0.157	0.320
Age 63-68	reference category			reference category		
Job characteristics						
Self employed	0.104	0.010	0.133	0.120	0.014	0.113
Civil servant	0.036	0.019	0.030	0.099	0.011	0.144
Job tenure 10 years or more	0.729	0.654	0.788	0.830	0.779	0.864
Job in a large firm	0.220	0.231	0.221	0.303	0.346	0.341
Job in medium sized firm (201-2000 workers)	reference category			reference category		
Job in a small firm	0.511	0.596	0.512	0.401	0.396	0.388
Job in service sector	0.679	0.442	0.694	0.371	0.157	0.444
Part-time job	0.348	0.317	0.464	0.005	0.004	0.045
Highest educ. attainment						
Academic degree	0.054	0.019	0.055	0.129	0.064	0.105
Vocational training	reference category			reference category		
No job qualification	0.511	0.490	0.545	0.258	0.336	0.222
Demographics						
Not of German nationality	0.219	0.317	0.161	0.280	0.389	0.212
Serious health problems	0.194	0.365	0.306	0.161	0.239	0.310
Disabled	0.059	0.048	0.130	0.076	0.114	0.224
Partner is working	0.493	0.471	0.382	0.440	0.379	0.316
Lives with Partner	0.717	0.760	0.733	0.898	0.879	0.906

* *including retired, family care and disabled*

UK: including self employed

Status in next spell:	Women				Men			
	Working	Unempl.	Retired	Other*	Working	Unempl.	Retired	Other*
Age categories								
Age 50-54	0.343	0.485	0.066	0.409	0.313	0.442	0.049	0.146
Age 55-57	0.257	0.303	0.084	0.258	0.263	0.169	0.116	0.292
Age 58-59	0.136	0.212	0.108	0.121	0.149	0.091	0.079	0.208
Age 60-62	0.145	0.000	0.377	0.076	0.148	0.182	0.177	0.250
Age 63-68	reference category				reference category			
Job characteristics								
Self employed	0.094	0.061	0.108	0.212	0.302	0.169	0.165	0.208
Occupational pension right	0.387	0.273	0.365	0.242	0.553	0.481	0.616	0.583
Job in service sector	0.840	0.727	0.826	0.879	0.562	0.506	0.591	0.437
Job with fixed term contract	0.060	0.091	0.150	0.258	0.082	0.130	0.146	0.021
Job tenure 10 years or more	0.398	0.212	0.443	0.333	0.416	0.351	0.512	0.521
Highest educ. attainment								
Academic degree	0.130	0.000	0.138	0.061	0.140	0.065	0.140	0.042
Vocational training	reference category				reference category			
No job qualification	0.596	0.758	0.569	0.667	0.565	0.558	0.591	0.604
Demographics								
Serious health problems	0.038	0.061	0.054	0.121	0.023	0.026	0.067	0.292
Partner is working	0.574	0.667	0.347	0.561	0.624	0.571	0.415	0.438
Lives with Partner	0.777	0.818	0.713	0.879	0.886	0.857	0.848	0.896
Part-time job	0.510	0.455	0.611	0.758	0.092	0.066	0.201	0.063

* *including family care and disabled*

Table A2: Results of multinomial regression models, German sample

Sample II: only employees (excluding workers in farming and forrestry and civil servants)

Women	Unemployed		Retired or other states	
	Coef.	Std. Err.	Coef.	Std. Err.
Age 50-54	-0.591	0.297 **	-2.669	0.375 ***
Age 55-57	0.203	0.277	-2.496	0.378 ***
Age 58-59	-	-	-1.668	0.378 ***
Age 60-62	-	-	0.444	0.368
Job tenure 10 years or more	-0.337	0.229	0.115	0.175
Job in a large firm	0.508	0.321	0.224	0.202
Job in a small firm	0.617	0.285 **	0.081	0.182
Job in service sector	-0.995	0.223 ***	0.262	0.168
Disabled	-0.336	0.476	0.702	0.225 ***
Academic degree	-0.952	1.029	-0.518	0.385
No job qualification	-0.426	0.231 *	0.275	0.157 *
Not of German nationality	0.208	0.269	-0.186	0.207
Serious health problems	0.732	0.220 ***	0.792	0.161 ***
Partner is working	-0.177	0.250	-0.321	0.168 *
Lives with Partner	0.247	0.289	0.276	0.188
Part time job	0.038	0.243	0.695	0.158 ***
constant	-2.921	0.461 ***	-1.559	0.452 ***
Number of events	101		275	

Log Likelihood   =   -1146.66
Number of obs   =   3133 (676 individuals)
$\chi^2(30)$ =   443.56
Pseudo R^2 =   0.1621

Men	Unemployed		Retired or other states	
	Coef.	Std. Err.	Coef.	Std. Err.
Age 50-54	0.039	0.728	-4.500	0.233 ***
Age 55-57	1.053	0.723	-3.617	0.209 ***
Age 58-59	1.504	0.728 **	-2.650	0.204 ***
Age 60-62	1.541	0.733 **	-1.599	0.183 ***
Job tenure 10 years or more	-0.365	0.162 **	-0.236	0.167
Job in a large firm	0.454	0.166 ***	0.254	0.155 *
Job in a small firm	0.187	0.163	-0.043	0.148
Job in service sector	-0.853	0.179 ***	-0.016	0.132
Disabled	0.247	0.208	1.222	0.155 ***
Academic degree	0.041	0.259	-0.620	0.259 **
No job qualification	0.157	0.161	0.134	0.160
Not of German nationality	0.148	0.156	-0.299	0.161 *
Serious health problems	0.357	0.155 **	0.976	0.136 ***
Partner is working	-0.059	0.138	-0.256	0.133 *
Lives with Partner	0.014	0.210	0.256	0.207
constant	-3.838	0.760 ***	-0.165	0.293
Number of events	269		376	

Log Likelihood   =   -2098.86
Number of obs   =   6374 (1242 individuals)
$\chi^2(30)$ =   856.06
Pseudo R^2 =   0.1694

Table A3: Results of multinomial regression models, British sample

Sample II: only employees (excluding employees in farming and forrestry)

Table A4: Women	Unemployed		Retired		Other states	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Age 50-54	0.740	0.489	-2.954	0.380 ***	0.906	0.512 *
Age 55-57	0.744	0.510	-2.404	0.337 ***	0.383	0.543
Age 58-59			-1.888	0.344 ***	-0.035	0.636
Age 60-62			-0.209	0.226	-0.209	0.628
Occupational pension right	-0.838	0.427 **	0.521	0.217 **	0.222	0.344
Job with fixed term contract	0.404	0.758	0.457	0.306	1.626	0.407 ***
Part time job	-0.341	0.396	-0.055	0.214	1.056	0.369 ***
Academic degree			0.472	0.284 *	-2.156	1.039 **
Job in service sector	-0.706	0.424 *	-0.237	0.258	0.499	0.541
Serious health problems	0.020	1.032	0.956	0.407 **	1.626	0.480 ***
Partner is working	0.597	0.562	-0.427	0.223 *	-0.778	0.337 **
Lives with Partner	-0.347	0.660	0.127	0.240	1.261	0.498 **
constant	-3.544	0.645 ***	-1.108	0.346 ***	-5.868	0.818 ***
Number of events	31		147		51	

Log Likelihood   = -765.945
Number of obs   = 1809 (501 individuals)
$\chi^2(33)$ = 249.92
Pseudo R^2 = 0.1403

Table A5: Men	Unemployed		Retired		Other states	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Age 50-54	0.523	0.434	-3.437	0.403 ***	-0.657	0.756
Age 55-57	-0.393	0.515	-2.525	0.314 ***	0.058	0.699
Age 58-59	-0.220	0.565	-2.404	0.363 ***	0.643	0.698
Age 60-62	0.403	0.481	-1.412	0.266 ***	0.328	0.716
Occupational pension right	-0.886	0.282 ***	0.537	0.247 **	-0.111	0.414
Job with fixed term contract	0.839	0.480 *	1.038	0.360 ***		
Job tenure 10 years or more	0.150	0.284	0.508	0.214 **	0.129	0.373
Academic degree	-0.808	0.532	0.198	0.283		
Job in service sector	-0.224	0.264	0.324	0.206	0.103	0.368
Serious health problems	-0.444	1.033	2.011	0.410 ***	3.184	0.419 ***
Partner is working	-0.135	0.301	-0.335	0.218	-0.701	0.374 *
Lives with Partner	-0.118	0.417	-0.032	0.309	0.745	0.674
constant	-2.441	0.542 ***	-1.535	0.382 ***	-4.311	0.935 ***
Number of events	63		134		37	

Log Likelihood   = -757.814
Number of obs   = 1725 (523 individuals)
$\chi^2(36)$ = 305.22
Pseudo R^2 = 0.1676