

# **The future of the welfare state: paths of social policy innovation between constraints and opportunities**

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## **Dynamics of social assistance receipt in 21st century Sweden**

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# Dynamics of Social Assistance Receipt in 21<sup>st</sup> Century Sweden

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## *Abstract*

The aim of the paper is to analyse temporal patterns of social assistance receipt in Sweden in the 2000s by looking at what circumstances that facilitate vs. reduce the possibilities to exit social assistance spells. The following questions guide the analyses: What conditions make people terminate periods of social assistance receipt? Which factors are central for exits to different exit states, i.e. to situations with a varying degree of self-sufficiency and integration? Throughout, we study how the likelihood of exits varies in relation to different socio-economic circumstances with special focus on income maintenance prior to social assistance spells. We use event history data of monthly social assistance take-up covering the total adult Swedish population the years 2002-2004. We adopt a gamma mixture model to control for unobserved heterogeneity. The results suggest that previous experience of both employment and social assistance receipt are important determinants for all exits. A negative duration dependence is found and this result is discussed in relation to results from analyses on similar data in neighbouring Norway.

## **Introduction**

Like in most welfare states, social assistance in Sweden provides a last tier safety net for individuals and households in economic hardship. During the major parts of 20<sup>th</sup> century, the levels of social assistance receipt were largely characterised by stability, and fluctuations merely followed the variations in unemployment rates and the business cycle. But when economic recession hit Sweden in the beginning of the 1990s, with unemployment peaking at levels unknown in Sweden since the depression in the 1930s, household economy and general living conditions displayed an unprecedented downturn where groups already in an unfavourable positions, such as immigrants, single mothers or young adults, were hit harder than others in many respects (Fritzell and Lundberg, 2000; Palme et al., 2002). Public finances deteriorated sharply and a growing national deficit eroded the financial base for income-maintenance programs and welfare services alike. The extent of the economic downturn represented a challenge not only to Swedish welfare as such, it also aroused speculations as to what extent the comprehensive “Scandinavian type” welfare state model –characterised by universalism, high taxation and a comparatively effective income-redistribution (Esping-Andersen 1990) – was facing the final curtain. In the latter part of the decade, however, Swedish economy started to recover, with restored public finances and improved living conditions as a consequence. Among the groups hit hardest by the economic decline, immigrants and, to some extent, single mothers benefited from the better times in terms of employment and household economy, while young adults have experienced a somewhat less positive development (Fritzell et al 2007).

Social assistance is an area where the economic up- and downturns in Swedish economy have been distinctively reflected. In the first half of the 1990s overall costs for the benefit rose, more people qualified and the periods on aid became longer. As times improved at the end of the decade, both expenditure and the proportion of recipients in the population declined, while duration of receipt kept increasing for a number of years. Today, long-term receipt of social assistance has established itself at considerably higher levels than ever before in modern times. Before 1990, the average time on social assistance during a year was just over four months, in 2008 it had reached 6,1 months which is the highest level in modern times in Sweden (NBHW, 2009).

This proves that not all have shared in the increased prosperity and indicates that new and widened social cleavages may be a reality. This development is at odds with the fundamental values of advanced Scandinavian welfare regimes where an explicit goal by tradition is to prevent the formation of an excluded underclass (Baldwin, 1990). From that perspective, the expansion of long-term social assistance receipt does not only, or even foremost, represent a problem in terms of public expenses. When summing up the heritage of the turbulent 1990s, it stands out as a major challenge to the solidary qualities of the Swedish welfare state and its ability to include the citizens at the margin of income distribution in society. The legitimacy of welfare states rests heavily on their capacity to prevent poverty and exclusion, and shortcomings in this respect is apt to decrease popular support. Since Sweden in many contexts provides a role model for how to organise an effective welfare state, failures to meet its own standards could have significant impact on the social policy debate on a wider scale.

Thus, Sweden enters the present economic crisis with a still vivid heritage from the 1990s. Although public finances are in better shape than at the entry of the former crisis, the average level of living in the population is now in many respects lower. This is not least reflected by the higher levels of long-term social assistance receipt. Using this development as a back-drop, the aim of this article is to analyse temporal patterns of social assistance receipt by looking at what circumstances that facilitate vs. reduce the possibilities to exit social assistance spells. By using event history data of social assistance spells in the Swedish population 2002-2004, our intention is to answer the following questions: What conditions make people terminate periods of social assistance receipt? Which factors are central for exits to different exit states, i.e. to situations with a varying degree of self-sufficiency and integration. Throughout, we will study how the likelihood of exits varies in relation to different socio-economic circumstances or life-phases. In order to answer the second question we will also look at what kinds of incomes that replace social assistance when a welfare spell ends. Choosing this strategy for analysis puts a focus on individual factors of relevance for socioeconomic integration. Thereby we will be able to identify clues for the shaping and targeting of social policy measures (Ellwood 1998; Walker 1998; Leisering and Leibfried, 1999).

## **Duration – perspectives and empirical findings**

Introducing a dynamic perspective on social assistance receipt implies a shift of focus from the state of receiving social assistance to the length of time for which people remain recipients. This not only opens up widened analytical possibilities, it also represents a view where long periods of receipt are considered essentially different from short ones with respect to individual as well as societal consequences. For most analysts, enduring social assistance receipt represents a more fundamental problem than short-term needs created by temporary hardship. This is the case regardless of whether we view welfare duration as an indicator of welfare system performance, or whether we look at the consequences in terms of marginalisation or exclusion for the recipients as individuals (Leisering and Leibfried 1999).

A prevailing idea in the political debate is that long periods of social assistance take up themselves constitute a cause of extended duration. This is sometimes referred to as “negative duration dependence” or “state dependence”, implying that prolonged experience of social assistance may have a negative effect on preferences and behaviour of recipients (Contini and Negri 2007). The perspective has also gained ground among academics (Blank 1989; Mead 1997), but has been criticized for being founded on incomplete, incoherent or absent behavioural models (Bane and Ellwood 1994). The dependency discourse has also been fuelled by empirical evidence revealing that the likelihood to exit welfare receipt declines with the length of the welfare spell (Gottschalk and Moffit 1994; Andrén and Gustafsson 2004), while critics of these findings argue that the decreasing exit rates are likely to be an effect of selection processes and unobserved heterogeneity among recipients (Dahl and Lorenzen 2003; Contini and Negri 2007). Further, in a comparative study of eight European cities, no general pattern of negative duration dependence was found (Gustafsson et al 2002). However, one important exception was Swedish Gothenburg where the negative duration pattern was found. The authors explain the Gothenburg case by referring to unobserved heterogeneity and claim that where activation policies are strong social assistance receipt is likely to be very dynamic for the majority of recipients while a smaller hard core group who is insensitive to such measure tends to remain in long term spells. This could have been a plausible explanation if it were not for the fact that in the other Swedish city in the study,

Helsingborg, no pattern of negative duration dependence was found. Although there is a substantial scope for local discretion as far as activation measures are concerned, the “activation imperative” is so strong in Sweden that it is unlikely that policy variation can explain the difference between these two cities. A more plausible explanation is the disparate labour market and socio-economic structures that these two cities exhibit and which are not controlled for in the analyses. Instead of a declining hazard rate Helsingborg, as well as a number of other cities in the study, shows a pattern where the hazard rate first increase and then decline. This is also what Dahl and Lorentzen (2003) found in Norway with respect to exit to work. In some instances this pattern is influenced by administrative rules and restrictions of how long benefits can be upheld, but this does certainly not provide an exhaustive explanation. Most likely, there is a selection process at work (Gustafsson et al 2002; Dahl and Lorentzen *ibid.*). As is described below, the analyses we perform in this article aim at revealing the effect of such unobserved selection.

A dynamic perspective on receipt does not, however, merely put the focus on the capability to get off welfare, but also on more extended time patterns. The temporal structures over time do not only include probability for exits, but also relapses back into receipt (recidivism) and the structure of welfare spells over several years and, in some cases, even life-courses (Duncan and Caspary 1997; Bergmark and Bäckman 2004). Here, research reveals two dissimilar tendencies: one of social exclusion, i.e. groups becoming more or less permanent recipients of social assistance and one of temporalisation of poverty, i.e. that economic hardship is more transient than previously believed and that a majority of people are in need of aid mainly during certain life-phases (Leisering and Leibfried 1999). These time-patterns are by no means incompatible or conflicting, but rather reflections of different existing trajectories exposed by the dynamic approach.

The focus in this article, however, is directed towards predictors of the likelihood to exit social assistance. The reasons for why some people have difficulties to exit are normally divided into two categories: structural or individual. Structural factors may either point to the development of the market (labour market demand, decrease of unqualified jobs etc.) or to the character of welfare institutions (generosity and coverage rates in financial

benefits, active labour market measures etc.). Individual factors refer to human capital resources in a very broad sense, demographical characteristics and to attitudes and behaviour among the recipients (Shaw and Walker 1996; Walker and Shaw 1998).

A number of studies have brought evidence on structural and individual circumstances that are key predictors of the likelihood to exit. International research points at factors as a weak labour market, male sex, high age, single adult, ethnic minority, low education, substance abuse, low employability and poor physical and mental health as predictors of low exit rates (Bane and Ellwood 1994; Walker and Shaw 1998; Bosco et al 1999; Gustafsson et al 2002; Dahl and Lorenzen 2003; Nam 2005; Ayala and Rodriguez 2006; Valetta 2006; Cappellari and Jenkins 2008). Swedish studies, although not based on dynamic analyses, display similar results with respect to labour market, age, ethnicity, education, labour market relation and physical and mental health (Isaksson and Svedberg 1989; Halleröd 1991; NBHW 1999; Bergmark and Bäckman 2001). The overall impression is that most studies point in the same direction with respect to structural conditions and human capital resources. To some extent this is also the case for demographic characteristics, but comparative data indicates that the impact of these may vary between different countries (Valetta 2006).

In order to evaluate the significance of ended spells of social assistance, it is crucial to distinguish different types of exits from each other, i.e. what you leave social assistance *for*. While some exits represent a step towards self-sufficiency and integration others may denote a more multifaceted or even negative development (Nam 2005). Examples of the former are exits to work, studies and even marriage. Of the latter category we may include exits to due to death, imprisonment or early retirement pension. Moreover, it is necessary to make a distinction between definite or more stable exits from transitory ones, i.e. taking the issue of recidivism into account. Re-entries may follow regardless of reason for exit although some types – especially exits for work – are associated with a significantly lower risk for recidivism (Gleason et. al. 1998; Bergmark and Bäckman 2004; Nam 2005).

Most previous studies do not discriminate between different types of exits, mostly due to lack of data. In those cases exits to work has been specified in the analyses, education and professional skills significantly increase exit rates, while such factors have very limited

predictive power in relation to other types of exits (Harris 1993; Pavetti 1993; Bane and Ellwood 1994; Dahl and Lorenzen 2003). However, in the Swedish context Bergmark and Bäckman (2001) found that a higher educational level increase the chance of leaving long-term social assistance both to any destination and to work although the effect is stronger in the latter case.

In the present article we focus primarily on the effects of acquired resources up to the time of entry into social assistance receipt. This is done by assessing the impact of labour market attachment the year before entry and social assistance experience in a ten year period prior to entry.

### **Measuring welfare duration**

With respect to theoretical debate and empirical attempts, there is no consensus on how duration should be conceptualised or empirically operationalised. There is a variety of approaches to the matter, which affects attempts to estimate the extent of receipt, the length of individual spells and how concepts like exits or recidivism should be understood (Bane and Ellwood, 1999; Snel and Karyotis, 1999).

Nevertheless, we may identify four basic ways to measure social assistance persistency. The first is to look at consecutive periods – i.e. monthly take-up – of social assistance, which has sometimes been referred to as *cash episodes* (Kazepov, 1999). A second, intimately related, way is to permit limited periods with no take-up between periods of social assistance and to sum up all periods into *dependency episodes* (ibid.), which needless to say results in comparatively longer periods of receipt. A third approach is to register *reoccurring receipt* over a number of defined time periods and identify long-term receipt with respect to how many consecutive time periods (e.g. years) social assistance has been received (without considering the number of months within each period) (Bane and Ellwood, 1994). Last, we may speak of *net duration* where duration is measured by the total number of social assistance months or years within a given time frame, without any distinctions being made as to how consecutive periods are distributed (Snel and Karyotis, 1999). Throughout these measurements allow for more or less arbitrary classifications of what is to be regarded as long-term receipt and what is not, but they might also be used as continuous variables in various analyses.

All these conceptualisations embrace different qualities of welfare duration and their relevance must hence be assessed according to the object of the analysis. While dependency episodes and recurrent receipt offer an account of the extent at which people manage to more permanently stay out of social assistance, cash episodes and net duration to a higher extent allow for assessment of density.

However, there is no doubt that for dynamic analyses of temporal patterns and critical events information based on monthly take up – that is: cash and dependency episodes – is far better fitted than the alternative measurements. Data aggregated by year usually contain information of the number of months on social assistance each year. This type of information was the only one available from public records in Sweden prior to 2002. With such data we can never be confident that ten months during a year actually represent ten consecutive months. Likewise, we can never know if one month during a year actually means a spell of one single month or if that month was the first or the last month in a longer spell. Another difficulty with such data arises if the researcher is interested in analysing longer spells. Besides these problems, many researchers are also inclined to make more or less arbitrary decisions of how many months is to be treated as a long-term spell. In Sweden this cut-off has usually been set at ten months within a calendar year (NBHW 1999; Bergmark and Bäckman 2004). By analysing monthly take-up these difficulties are circumvented. We analyse actual spells, and it allows for using techniques (i.e. event history modelling) where instead of deciding on a cut-off we analyse the whole set of spell lengths and where exiting social assistance is modelled as a function of time in that spell.

### **Social assistance in Sweden**

In a system where universalism normally is a cherished cornerstone for welfare provision, social assistance – based on the principle of means-testing – represents an inconsistent arrangement. It is frequently referred to as “the last safety net”, set up for individuals that for various reasons lack financial means to maintain their daily living. It is designed to be a temporary solution and an explicit goal is that no one should have to rely on the benefit on a more permanent basis. When costs for social assistance peaked in the middle of the 1990s, social assistance expenditure represented only two per cent of Swedish social expenditures (Statistics Sweden, 1998).

The right to social assistance is regulated in the Social Services Act, which provide relatively general guidelines concerning eligibility standards and somewhat more detailed regulations with respect to compensation levels. The responsibility for financing and providing the benefit rests with the municipalities. Social assistance is granted to citizens under the condition that they lack sufficient financial resources and that other alternatives first are explored (and found unattainable). The level of the benefit is set to elevate the applicant above a minimum standard of living, covering expenses for food, housing, childcare etc. No maximum period for eligibility is specified, but recipients must make full-time efforts to find a job (if they are unemployed) or find other solutions in order to become independent of social assistance.

Applications are normally assessed at the social services office and distributed on a monthly basis. A social worker is in charge of the assessment process. Although the legislation defines some minimum standards, social workers enjoy a considerable degree of discretion in their decisions on eligibility and the level of the benefit. In order to harmonize standards across the country, the National Board of Health and Welfare provide (non-binding) guidelines for assessments. Applicants who are discontent with the decisions taken by the social services may appeal to an administrative court.

In relation to other European countries, Sweden display comparatively short consecutive periods of social assistance receipt but relatively less shorter periods if dependency episodes are compared (Gustafsson and Voges, 1998; Kazepov, 1999).<sup>1</sup> As noted above, however, average annual duration has increased over the last decade and are today higher than ever in modern times.

## **Methodological considerations**

The analysis aims at depicting how resource deficits and resource availability structure the duration of social assistance spells in the Swedish population and thereby also how they affect the chances of leaving social assistance receipt. But not only the hazard of leaving social assistance is analysed; we also discriminate between different destinations of income maintenance after the social assistance spell. The analysis proceeds in several

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<sup>1</sup> The latter is true at least for the city of Gothenburg. The most detailed comparative analysis of social assistance dynamics this far is being carried out within the ESOPPO-project, where a number of cities, not entire countries, are studied (Gustafsson and Voges, 1998)

steps. First we examine the population average hazard of leaving social assistance. Secondly, we fit a model in which we examine the effect of various determinants on the chance of leaving social assistance. Particular attention is given to the effects of previous labour market position and social assistance experience.

We use event history analysis (a.k.a. intensity regression) to estimate these hazards. In event history analysis we analyse the risk (hazard) for transition from a state of origin to a state of destination at a point in time, conditional on that this transition has not yet been made (Blossfeldt, Golsch and Rohwer 2007). The risk for transition is modelled as a function of time under risk. In our study we analyse the transition from social assistance spells to various destinations, thus time under risk is defined as time in a social assistance spell. We use the “piecewise constant exponential model” to estimate the hazard rate. As compared to most other forms of modelling hazard rates the piecewise constant model is very flexible. We assume only that the hazard is constant in time periods defined by the user. No other shape is assumed. In practice time is included as dummy variables for each time period. Since we use a large data set we can define each month—the smallest time unit available in data—as a time period up until two years. Thereafter we assume it to be constant. We analyse three destination states. Firstly, we analyse exit to any destination, i.e. we are only interested in whether or not social assistance spells are ended. Secondly, we analyse exit to self maintenance by labour market income, and thirdly, we analyse the hazard of leaving a social assistance spell only to be back in extensive social assistance take-up shortly thereafter. In the latter two analyses other destinations are deleted from data so that the exit in focus is compared only to not exiting at all. The maintenance status that these two destinations denote concerns the situation in the year following that in which the spell is ended. Since we analyse different destinations and since one of these is continued social assistance take up we analyse only single episode data. So, the risk set consists of the first social assistance spell during 2002-2004 for the Swedish population at ages 20-59.<sup>2</sup> We use data from 1992 to 2001 to determine individual histories of social assistance receipt. The analyses produce effect estimates of the covariates included in the models and the hazard rate for leaving social assistance.

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<sup>2</sup> The reason we draw an age limit at 59 is because in January 2003 a maintenance support for the elderly was introduced. This new benefit virtually eradicated social assistance receipt among people at 65 years of age and older. To avoid artefacts produced by this reform we exclude people at 60 years of age and older.

The third and final step aims at examining the effect of unobserved heterogeneity on the results presented that far. Unobserved heterogeneity is a term denoting the phenomenon that an observed result in e.g. a regression analysis may be an artefact produced by some unobserved differences in the sample. In event history analysis it is particularly important to account for the effect of unobserved heterogeneity since the shape of the hazard rate across time is very sensitive to this effect. In this context models accounting for unobserved heterogeneity are often referred to as *frailty models* (cf. Cleves, Gould and Gutierrez 2004). The term frailty is used because in some of the early studies using this technique the study object was mortality. It was suggested that due to some individual characteristic not captured by data some subjects ran a higher mortality risk than others and would thus exit the risk set earlier than subjects without that characteristic, i.e. they were more *frail* than the others. The aggregated population hazard rate estimated from such data would show a declining hazard rate across time although the individual hazard rates could be constant or even positive. By including relevant covariates in the regression models parts of the heterogeneity can be controlled away, but nevertheless we can never be totally confident that we have included all relevant factors.

Thus, a negative hazard rate can have two interpretations: either the effect of time under risk is negative, i.e. there is a state dependence in the population making people less likely to leave a state the longer they stay in that state. In our case this could mean that social assistance receipt traps people in unemployment and poverty. The alternative explanation says that people enter the state at a certain risk level and will leave the state at a rate corresponding to this initial risk level independent of how long they stay in that state. Of course the truth may also be a combination of these two.

Obviously, there are great difficulties in trying to control for something unobserved. There are strong assumptions about the distribution of the unobserved characteristics involved in such regression models and as a result they can never be perfect. Still, when the results of these models deviate from those without frailty it shows that there is frailty present, but we can never be completely confident that the representation we use is correct. With these restrictions in mind, frailty models can produce important results that would remain unknown using regular models only. In particular, plots of the individual specific hazard rate can reveal important information of what the population aggregate

hazard rate is composed of, but also changes of parameter estimates at the introduction of frailty are essential results (Cleves, Gould and Gutierrez 2004).

Frailty is included in the regression model as an unobserved observation specific effect with a positive quantity, mean zero, a distribution set by the user, and a variance that is estimated from data. It can be shown that when the variance ( $\theta$ ) approaches zero the aggregated population hazard function and the individual hazard function become identical (ibid.). Thus, the variance can be used to test for the presence of frailty. If the individual frailty is less than unity it decreases the hazard, i.e. these subjects are less frail than others, and if greater than unity the subjects are more frail. In the models below we assume a gamma-distribution of the frailty.

The questions we ask the frailty models are: Do parameter estimates change? Does the population hazard only reflect a composition effect or does there seem to be any true state dependence? If we find unobserved heterogeneity in the empty model can we control it away by including observed covariates?

## **Data and operationalisations**

The data we use in the analyses are derived from a new data set consisting of data from the Social Assistance Register at the National Board of Health and Welfare and from the longitudinal database LISA at Statistics Sweden. The Social Assistance Register contains annual information of all social assistance recipients in Sweden. For the years 2002-04 we have access to information of monthly take-up. For 1992-2001 the information summarizes number of months of take up each year. This means that we can analyse actual durations from 2002. LISA contains information of incomes, education, demographic background factors, and employment for the total Swedish population at age 16 and older. In total the data consists of 7.5 million individuals. In the analyses presented below we include only those between 20 and 59 years of age who ever received social assistance benefits in the period 2002-04. When those with missing data on variables used in regression models are excluded the sample consists of 243,046 persons of which 120,035 are men and 123,011 are women.

In line with the discussion above concerning the importance of accounting for various exits the “dependent variables” in our models are the hazard of leaving a social assistance

spell to: i) any destination, ii) the core work force and iii) a situation where new extensive social assistance continues shortly after the exit. To define the two latter exits and also one of the focal explanatory factors “Maintenance status” we use a model for labour market attachment developed by Kindlund and Biterman (2002) and Bäckman and Franzén (2007). The model uses a core-periphery approach to labour market attachment and the operationalisation is based on income data. By taking into account the income sources that dominate during a year we can classify people according to their position in the labour market in relation to a core consisting of those in full employment. We define eight categories: core workforce, insecure workforce, unemployed entitled to unemployment insurance benefits, long term sick, early retirees, students, extensive social assistance receipt (> 6 months), and alternative means of support. When used as an explanatory factor the two last categories are collapsed. Detailed definitions are reported in Table 1.

Note that the unemployment category consists of those who have qualified for unemployment insurance, which denotes a certain labour market attachment. Unemployed who are not qualified for unemployment insurance end up in the social assistance category or in alternative maintenance.

The second focal explanatory factor indicates individual experience of social assistance receipt prior to the spell in focus. It is a four level categorical variable covering the period 1992-2001, based on quartile distribution of months. The first category consists of those with no experience of social assistance during this period, the second received assistance for 1-6 months, the third 7-44 months, and those in the fourth category received social assistance for 45-120 months during this period.

In the multivariate analyses we also control for sex, age, educational level at entry, family status at entry, residential time for immigrants and country of origin. The definitions of these variables are found in Appendix alongside descriptive statistics for all variables used in the study.

Table 1. Maintenance status. Labels and definitions.

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<i>Core workforce</i>	Persons with an annual earning of at least 3.5 price base amounts (PBA) <sup>i</sup> during the year.
<i>Insecure workforce</i>	Persons with an annual earning above 0.5 PBA but less than 3.5 PBA.
<i>Unemployed</i>	Persons with an annual earning of 0.5 PBA at the most and who have received unemployment insurance benefits.
<i>Long term sick leave</i>	Persons with incomes from the sickness cash benefit insurance amounting to at least 25 percent of annual earnings <sup>ii</sup> or if on part time disability pension.
<i>Students</i>	Persons with an annual earning less than 1.75 PBA and student loans and benefits amounting to at least 0.87 PBA <sup>iii</sup>
<i>Early retirement</i>	Persons with an annual earning of 0.5 PBA at the most and who have received disability pension.
<i>Extensive social assistance receipt</i>	More than 6 months of social assistance receipt.
<i>Alternative maintenance</i>	Persons who do not fit into any of the categories above.

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<sup>i</sup> The price base amount is a sum set by the government used to calculate e.g. old age pensions. The amount usually follows the consumer price index and is for 2009 set to SEK 42,800 ( $\approx$  € 3,800). A gross annual income of 3.5 price base amounts corresponds approx. to the minimum gross income from one year of full time employment.

<sup>ii</sup> Adjusted for changes in the sickness cash benefit insurance.

<sup>iii</sup> Approximately the highest amount for one semester of full time studies.

## Results

As described in the methodological section the analysis proceeds in three stages, the first of which is to study the shape of the population aggregated hazard rate. In Figure 1 these hazard rates for the three destinations in focus—exit to any destination (Exit), exit to the core work force (CWF), and exit which soon switches back to social assistance (SA)—are presented.

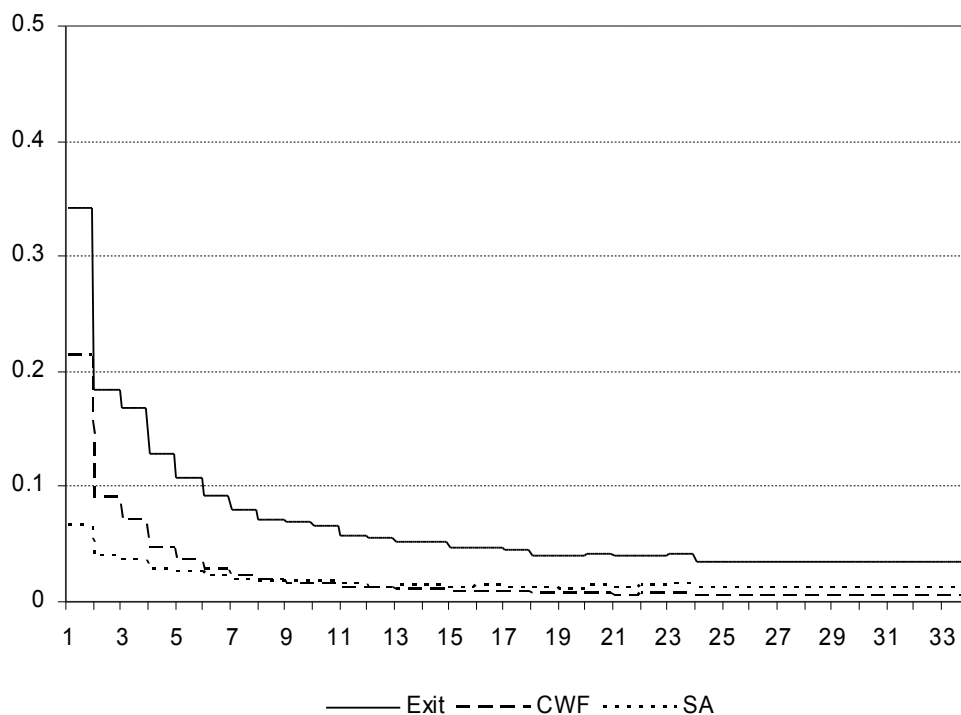


Figure 1. Population aggregate piecewise constant exponential hazard rate of exiting means tested social assistance benefits to any destination (Exit), to the core work force (CWF) and to a new extended period of social assistance benefits (SA). Exposure time in months. First spells 2002-2004 in the Swedish population at 20-61 years of age.

The graph shows a monotonically declining hazard rate for all exits. The decline is steepest for exit to any destination and quite modest for SA-exit. For all exits the curve levels out quite quickly and from about 12 months it is virtually constant. Thus, a majority of those who exit a social assistance spell do so quite quickly, and the longer the spell the smaller the chance of leaving. However, after 12 months duration the chance stops declining and from that point on further duration does not seem to decrease the chances of leaving. On the other hand, for this period the chance of leaving is very low.

As was discussed above a declining hazard rate can either be caused by a true state dependence or by a selection process where people enter social assistance at different risk levels and as time goes by those with the highest chances of exiting do so, while those with lower chances remain “stuck in welfare”. To get closer to a conclusion on which of these explanations seem more appropriate we first try to explain away the declining hazard rate by adding a number of explanatory factors to the regression models. On top of that, we include frailty terms with the aim of controlling for unobserved heterogeneity. In

these models we also examine the effect of labour market attachment prior to the social assistance spell and of previous social assistance experience. Not least do we inspect the extent at which the effects of these factors are influenced by the introduction of frailty. Thereafter we investigate the shape of the mean individual hazards after control for explanatory factors and frailty.

*Table 2.* Estimates from piecewise constant hazard regressions on the rate of leaving social assistance benefits to any destination (Exit), to the core work force (CWF) and to at least 6 new months of social assistance receipt (SA). Relative hazard ratios. Estimates where  $p > .05$  in parenthesis. Swedish men and women 20-59 years of age at entry, 2002-04. With control for sex, age, educational level, family status at entry, country of origin and residential time of immigrants. Models 4-6 include gamma frailty.

	1: Exit	2: CWF	3: SA	4: Exit	5: CWF	6: SA
<i>Maintenance status<sup>i</sup></i>						
Core workforce	1	1	1	1	1	1
Insecure workforce	0.66	0.54	0.38	0.72	0.56	0.81
Unempl.	0.64	0.38	0.35	0.70	0.40	0.79
Sickness	0.70	0.36	0.39	0.76	0.38	0.87
Early ret.	1.04	0.05	0.56	1.10	0.04	(1.11)
Student	0.53	0.28	0.35	0.56	0.29	0.70
Alt. maintenance <sup>ii</sup>	0.45	0.22	0.31	0.48	0.23	0.63
<i>SA 1992-2001</i>						
None	1	1	1	1	1	1
1-6 months	0.90	0.90	0.65	(0.99)	(0.98)	1.37
7-44 months	0.83	0.78	0.73	0.90	0.85	1.53
45-120 months	0.67	0.52	0.64	0.73	0.56	1.44
N	243,046	76,358	48,368	243,046	76,358	48,368
Events	211,759	45,071	17,081	211,759	45,071	17,081
-LL	350,134	93,664	51,260	349,167	93,400	48,771
$\theta_0$ <sup>iii</sup>				0.15	0.45	1.19
$\theta_1$ <sup>iv</sup>				0.07	0.11	1.15

<sup>i</sup> Year before entry.

<sup>ii</sup> Including > 6 months SA.

<sup>iii</sup>  $\theta_0$  denotes the frailty variance in the empty model.

<sup>iv</sup>  $\theta_1$  denotes the frailty variance in the full model.

If we first consider the effect of maintenance status in the first three models of Table 2 we see that for all exits all categories (except Early retirement in Model 1) have a lower hazard of exiting as compared to the reference category with core work force experience. Thus, the human capital acquired up to the time of entry is of crucial importance to the chance of leaving a social assistance spell. This is an indisputable interpretation for the first two exits, whereas for SA-exit it is less obvious. However, it must be kept in mind that we analyse SA-exits as compared to not leaving at all. And even though this exit only leads to new social assistance receipt it indicates a step away from the permanent

exclusion that not exiting at all implies. The lowest rate of leaving a spell to any destination is found for the alternative maintenance category that also includes social assistance recipients. This deviation is even more pronounced in the second model where exit to the core work force is analysed. Still the greatest deviance from the reference category in this model is found for the early retirement category. This reflects the very low likelihood that early retirees in general will return to the labour market. In Model 1 and 3 on the other hand early retirees show the smallest deviance from the reference category. This is because this group has a steady (although low) income, and social assistance receipt in this group tends to be short periods where temporary needs are sustained (Bergmark and Bäckman 2007).

In Model 1 and 3 the effect of having previously been in the insecure workforce, the unemployment, and the sickness categories are quite similar, whereas in Model 2 those coming from insecure workforce have a higher hazard than the other two categories. This reflects the slightly stronger labour market attachment of this group as compared to the other two.

Throughout the models without frailty (Model 1-3), those with previous experience of social assistance receipt have a lower hazard of leaving as compared to those who are first time recipients. In Model 1 and 2 there is a nearly linear decline of the hazard as the number of previous months in social assistance decreases. This is hardly surprising since it is likely that social assistance experience is linked to a more complicated social situation. The pattern in Model 3 is slightly different. Here there is a more dichotomous pattern where those without experience deviate from the other categories that in turn have similar hazards.

In models 4-6 gamma frailty has been included. At the bottom of the table we see the frailty variance of both the empty model ( $\theta_0$ ) and of the model with covariates ( $\theta_1$ ). The variance is substantively reduced when we control for all factors, but it remains significant in all models. This means that there is unobserved heterogeneity in the population and that we are not able to fully control it away by including covariates. Still, the introduction of frailty has some strong implications for the results of our focal factors. The overall impression is that the effects are reduced in Model 4-6. The most important exception to this pattern is the effect of previous maintenance status on exit to work

(Model 5), where the parameter estimates remain unaffected by the introduction of gamma frailty. This should come as no surprise as we expect previous work experience to be particularly important for future chances in the labour market. As a result, other unobserved factors should have none or only limited effect on this relationship.

The most pronounced reduction of effects in the frailty models is observed for previous social assistance experience, where the hazard rates for those with such experience approaches those for the category without – for exits in general and to the core work force. A more remarkable shift takes place for exits including a return to social assistance receipt, where the introduction of gamma frailty turns the relative risks over to a higher hazard rate for all three categories of recipients with prior experience of social assistance. One plausible explanation to this effect could be that among those with social assistance experience there is stronger concentration of social problems such as mental ill-health and/or drug and alcohol abuse. If such factors are captured by the inclusion of gamma frailty, there remains only the “cyclers effect” implying that other things equal those who have returned once tend to do so again for various reasons. For instance, there could be a threshold effect where the social stigma many people attach to social assistance receipt becomes less important when you have visited the local social service office more than once. This interpretation also fits the dichotomous pattern that, although reversed, remains in Model 6.

By labour market status year before entry

By SA experience

Destination

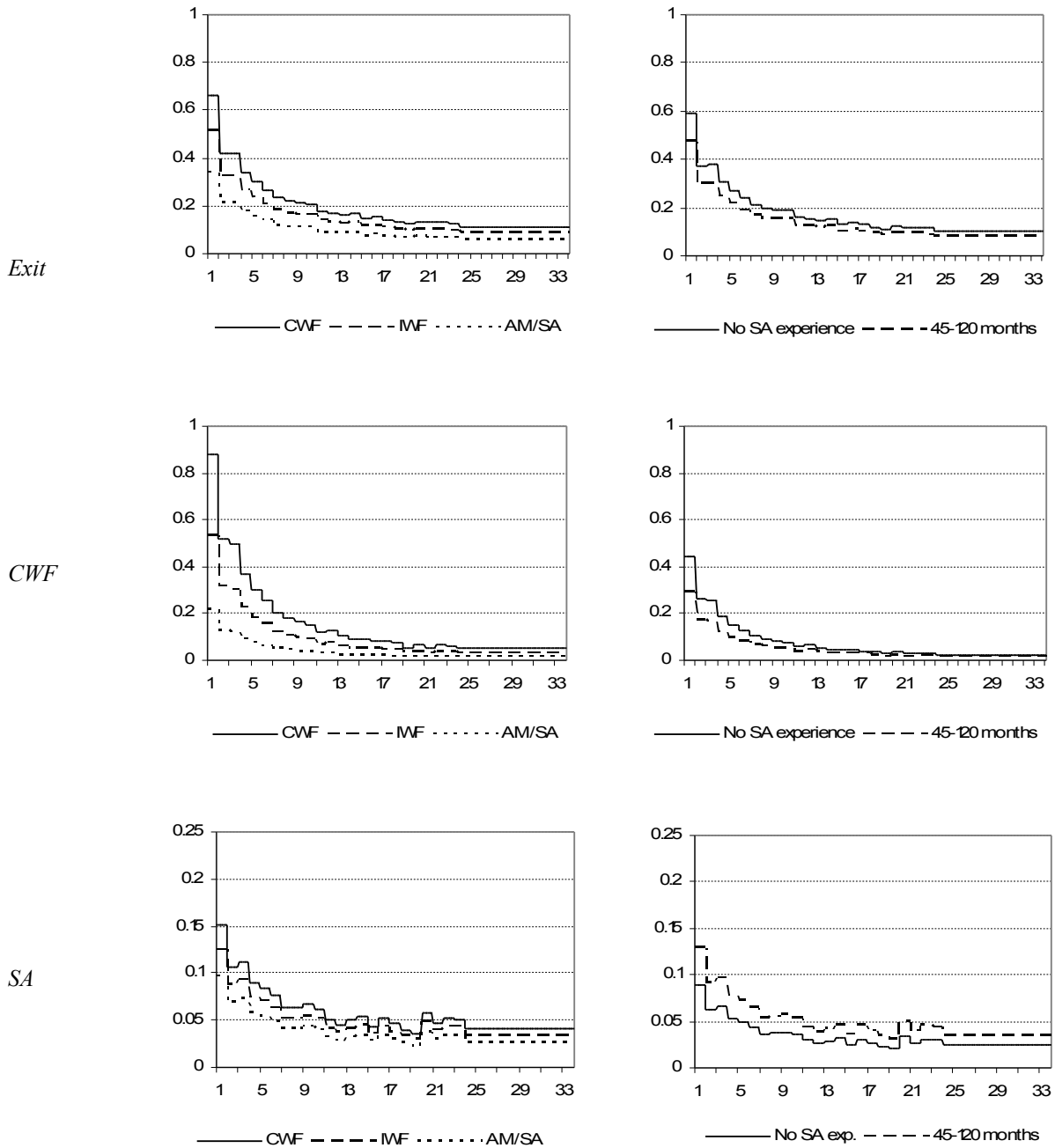


Figure 2. Individual average piecewise constant exponential hazard rate of exiting means tested social assistance benefits to any destination (Exit), to the core work force (CWF) and to a new extended period of social assistance benefits (SA) by labour market status (IWF=insecure workforce; AM/SA=alternative means of maintenance/ social assistance) at time of entry and social assistance experience 1992-2001. Exposure time in months. First spells 2002-2004 in the Swedish population at 20-61 years of age. From Model4-6 in Table 2.

Figure 2 shows the hazard rates across time in social assistance receipt for the three different exits in relation to earlier labour market status and previous social assistance receipt. Throughout gamma frailty is included. As opposed to the population aggregate hazard rates in Figure 1, the rates in Figure 2 are individual average hazard rates derived from Model 4-6 in Table 2 for a few selected categories in those models. Such rates have the potential of revealing patterns explaining a declining population aggregated hazard rate by composition of individual hazards that are constant or even increasing across time but at different levels. Obviously no such pattern can be observed. Instead each of the individual average hazard rates in Figure 2 are declining across time. This lends some support to the notion of state dependency, but as emphasised above a frailty model provides no final solution to the problem of unobserved heterogeneity because of the strong assumption associated with the technique.

The differences between categories of course reflect parameter estimates reported in Table 2. Important to note though is that even in the models with the greatest initial differences between categories such as among previous maintenance status categories in the model for exit to work, the differences are virtually eradicated after approximately 18 months. This suggests that the categories become more and more equal with respect to the chance of exiting the longer they remain in social assistance receipt.<sup>3</sup>

## **Conclusions**

In this article we have analysed predictors of the likelihood to exit social assistance, the temporal patterns of receipt and likelihood of exiting and how this varies with respect to different types of exits. All over, we have found declining hazard rates for all exits, a pattern that essentially remains when frailty is controlled for but with altered significance of individual predictors. The most evident reduction of effects in the frailty models is noted for previous social assistance experience, where the hazard rates for those with prior receipt approaches those for the category without – for exits in general and to the core work force.

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<sup>3</sup> The results presented here are insensitive to the use of an inversed-gaussian frailty distribution.

Using previous maintenance status as a predictor of likelihood of exiting, core work experience stands out as the most positive individual predisposition, while alternative maintenance is associated with lower chances of leaving a social assistance spell. The differences is also most pronounced for exits to the core work force, which further underlines the vital effect of human capital acquired up to the time of entry.

Our results do not reject the notion of state dependency, although it is somehow reduced in certain aspects by the frailty models. How should this be interpreted in a wider context? One way is to seek a point of reference in patterns found in other studies in similar contextual settings. It is suggested by Dahl and Lorentzen (2003) that the population of social assistance claimants in social democratic welfare states like Norway and Sweden are more heterogeneous than in other types of welfare states. They also claim that there is a strong dynamism in welfare receipt in these two countries. These authors analyse exit to work in Norway and find a “bell-shaped” baseline hazard rate, where the rate starts at a very low level and then increases up to approximately one year when it starts to decline. At the introduction of control for unobserved heterogeneity both the baseline hazard and parameter estimates change quite substantively, although the bell-shaped pattern remains. Evidently, this does not happen in the exit to work models presented here. Both the baseline hazard and the parameter estimates are quite insensitive to the control of unobserved heterogeneity. This also implies that the monotonically declining pattern of the baseline hazard is robust as well. Thus, the Norwegian and the Swedish patterns diverge in ways that we would not have expected considering the socio-political similarities between the countries: Firstly, the pattern of duration dependence differs. Secondly, the effect of controlling for unobserved heterogeneity differs. As was discussed above the bell-shaped pattern described by Dahl and Lorentzen dominates the picture internationally, at least with regard to exits to any state. The pattern found for Sweden as a whole in this study and for Gothenburg (but not for Helsingborg) by Gustafsson et al. (2002) is, in fact, quite rare. Does this mean that there is a stronger state dependency in Sweden? This could be the case, but there may be other explanations as well. The most obvious of these is that the technique used here does not fully capture unobserved heterogeneity. In fact this is quite plausible, but as was noted above, the difference to a model with inversed Gaussian frailty is modest. If anything gamma frailty seems to perform better. Dahl and Lorentzen use the Heckman and Singer mass-point

technique for controlling for unobserved heterogeneity (Heckman and Singer 1984), but sensitivity analyses with gamma frailty do not produce any substantively different results. However, it could be that the threshold of entering social assistance is higher in Sweden making the Swedish social assistance population more socially deprived than its Norwegian counterpart. But if that is the case, the pattern in Norwegian data should change into a monotonically declining hazard rate when unobserved heterogeneity is controlled for, which does not happen.

With a more policy oriented approach we could instead argue that since activation policies are stronger in Sweden those with the best prospects of returning to work do so much faster/immediately in Sweden whereas in Norway this process is more prolonged. However, also this should have been revealed in the frailty models.

The most plausible explanation instead refers to the labour market situation. The Norwegian study covers the period 1995-1999, a period when the Norwegian labour market was improving. The unemployment rate went down from five percent in 1995 to three in 1999. During the period in focus in the present study the Swedish unemployment rate went up from five percent in 2002 to 6.3 percent in 2004. Since we know that those at the margins of the labour market fare worse during economic downturns these different trends could, despite the rather small changes, explain the patterns that prevail in both studies. To test this hypothesis we obviously need data that covers both countries during both economic upswings and downturns.

As already noted, the declining hazard rate in our analyses is, although slightly reduced in the frailty models, fairly robust. We suggest that one important explanation in this particular context could be the slackening of the labour market during the period in focus. However, if this in fact does reflect a true negative duration dependence does this necessarily represent a negative effect of time in social assistance? When such effects are to be explained many researchers refer to mechanisms at the individual level, such as reduced levels of self-efficacy and self-esteem, and moral short-comings among recipients – problems assumingly created by too generous welfare systems (cf. Bane and Elwood 1994). However, it is important to note that even though we find negative duration dependence this does not necessarily mean that this is due to being on social assistance per se and even if we would claim that low self-esteem and morals etc. are part

of that problem it does not necessarily imply that this must be an effect of social assistance benefits. It could just as well be a result of being outside the labour market for a prolonged period. Thus, a negative duration dependence has very little to say about potential disincentive effects of social assistance receipt.

We would claim that in order to more fully explore the effects social assistance benefits might have on e.g. the self-esteem of recipients the quantitative adopted in this study is poorly suited. Rather, qualitative data from interviews are needed to achieve such understanding. Thus, triangulating findings from qualitative studies and from the quantitative approach adopted here, preferably across whole business cycles, seems to be the most promising approach.

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## Appendix

Table A.1. Descriptive statistics for variables in regression models. Swedish population 20-59 years of age, 2002 and regression sample.

		Population 2002		Regression sample	
		Freq.	Percent	Freq.	Percent
<i>Sex</i>	Men	2,367,396	50.7	120,035	49.4
	Women	2,304,560	49.3	123,011	50.6
<i>Family Status<sup>i</sup></i>	Married no children	596,993	12.8	7,320	3.0
	Married w. children	2,053,416	44.0	59,208	24.4
	Single w. children	452,393	9.7	65,608	27.0
	Single no children	1,569,154	33.6	110,910	45.6
<i>Education<sup>i</sup></i>	No complete educ.	242,423	5.2	15,046	6.2
	Compuls. school 9 yrs	536,736	11.5	69,884	28.8
	Secondary school	2,373,454	50.8	125,422	51.6
	Tertiary educ < 2 yrs	328,527	7.0	10,638	4.4
	Tertiary educ ≥ 2 yrs	1,190,816	25.5	22,056	9.1
<i>Residential time<sup>i, ii</sup></i>	Swedish	3,936,010	84.2	162,880	67.0
	0-5 yrs	146,408	3.1	19,348	8.0
	6-10 yrs	133,071	2.8	20,219	8.3
	11-15 yrs	78,187	1.7	11,587	4.8
	16-20 yrs	118,564	2.5	14,896	6.1
	21+ yrs	259,716	5.6	14,116	5.8
<i>Country of origin<sup>i</sup></i>	Swedish	4,069,059	87.1	173,945	71.6
	Other Scand. countries	156,741	3.4	9,194	3.8
	Other west	51,867	1.1	2,116	0.9
	Eastern Europe	152,077	3.3	16,150	6.6
	South America	14,101	0.3	1,257	0.5
	Other world	228,111	4.9	40,384	16.6
<i>Age<sup>i</sup></i>	20-24	501,190	10.7	59,768	24.6
	25-29	551,435	11.8	37,043	15.2
	30-34	596,496	12.8	30,039	12.4
	35-39	651,611	13.9	33,487	13.8
	40-44	575,416	12.3	30,489	12.5
	45-49	576,556	12.3	23,857	9.8
	50-54	598,599	12.8	16,935	7.0
	55-59	620,653	13.3	11,428	4.7
<i>Maintenance Status<sup>i</sup></i>	Core workforce	3,006,044	64.3	37,716	15.5
	Insecure workforce	696,137	14.9	59,337	24.4
	Unempl.	71,166	1.5	9,619	4.0
	Sickness	370,973	7.9	31,954	13.1
	Early ret.	202,945	4.3	19,886	8.2
	Student	123,747	2.6	27,829	11.5
	Alt. maintenance	169,115	3.6	26,705	11.0
	> 6 months SA	31,829	.7	30,000	12.3
<i>SA 1992-2001</i>	None	3,694,414	79.1	50,067	20.6
	1-6 months	416,627	8.9	43,314	17.8
	7-44 months	417,671	8.9	98,848	40.7
	45-120 months	143,244	3.1	50,817	20.9
	N <sup>iii</sup>	4,671,956		243,046	

<sup>i</sup> In the regressions sample the information refers to the year before entry into social assistance receipt.

<sup>ii</sup> The “none-Swedish” categories may include repatriated Swedish born emigrants.

<sup>iii</sup> Listwise deletion of missing data.

Table A.2. Estimates from piecewise constant hazard regressions on the rate of leaving social assistance benefits to any destination (Exit), to the core work force (CWF) and to at least 6 new months of social assistance receipt (SA). Relative hazard ratios. Estimates where  $p > .05$  in parenthesis. Swedish men and women 20-59 years of age at entry, 2002-04. Models 4-6 include gamma frailty.

		1: Exit	2: CWF	3: SA	4: Exit	5: CWF	6: SA
<i>Family Status</i> <sup>i</sup>	Married no children	0.79	0.74	0.64	0.83	0.77	0.83
<i>Ref: Married w. children</i>	Single w. children	0.87	0.82	0.72	0.92	0.85	(1.03)
	Single no children	0.80	0.67	0.58	0.85	0.71	0.89
<i>Education</i> <sup>i</sup>	No complete educ.	0.85	0.68	0.80	0.86	0.68	0.86
<i>Ref: Secondary school</i>	Compuls. school 9 yrs	0.85	0.69	0.83	0.87	0.70	0.94
	Tertiary educ < 2 yrs	1.06	(0.98)	0.76	1.09	(1.01)	(0.93)
	Tertiary educ ≥ 2 yrs	0.96	1.06	0.77	0.98	1.09	0.92
<i>Sex; Ref: Men</i>	Women	(1.00)	0.91	0.84	1.04	0.94	(1.00)
<i>Residential time</i> <sup>i</sup>	0-5 yrs	0.78	0.71	0.73	0.80	0.72	0.84
<i>Ref: Swedish</i>	6-10 yrs	(0.99)	1.09	0.88	(0.99)	1.10	(0.92)
	11-15 yrs	(0.98)	1.09	0.89	(1.00)	1.10	(0.95)
	16-20 yrs	(0.96)	(0.95)	(0.93)	(0.97)	(0.95)	(0.96)
	21+ yrs	0.93	0.87	0.85	0.94	0.88	(0.91)
<i>Country of origin</i>	Other Scand. countries	(1.02)	(0.94)	(1.01)	1.04	(0.97)	(1.12)
<i>Ref: Swedish</i>	Other west	(0.98)	(0.99)	(1.04)	(0.99)	(0.99)	(1.13)
	Eastern Europe	0.87	0.85	0.76	0.87	0.85	0.75
	South America	(0.95)	(0.89)	(0.97)	(0.96)	(0.89)	(1.05)
	Other world	0.79	0.64	0.72	0.80	0.64	0.76
<i>Age</i> <sup>i</sup>	20-24	0.82	0.75	0.66	0.91	0.83	1.29
<i>Ref: 30-34 yrs</i>	25-29	0.84	0.81	0.61	0.92	0.89	(1.03)
	35-39	0.83	0.77	0.61	0.92	0.84	(1.04)
	40-44	0.78	0.71	0.52	0.87	0.79	(0.94)
	45-49	0.78	0.68	0.48	0.87	0.75	0.86
	50-54	0.76	0.60	0.43	0.85	0.67	0.76
	55-59	0.77	0.54	0.40	0.86	0.59	0.71
<i>Maintenance Status</i> <sup>i</sup>	Insecure workforce	0.66	0.54	0.38	0.72	0.56	0.81
<i>Ref: Core work Force</i>	Unempl.	0.64	0.38	0.35	0.70	0.40	0.79
	Sickness	0.70	0.36	0.39	0.76	0.38	0.87
	Early ret.	1.04	0.05	0.56	1.10	0.04	(1.11)
	Student	0.53	0.28	0.35	0.56	0.29	0.70
	Alt. maintenance <sup>ii</sup>	0.45	0.22	0.31	0.48	0.23	0.63
<i>SA 1992-2001</i>	1-6 months	0.90	0.90	0.65	(0.99)	(0.98)	1.37
<i>Ref: None</i>	7-44 months	0.83	0.78	0.73	0.90	0.85	1.53
	45-120 months	0.67	0.52	0.64	0.73	0.56	1.44
	N	243,046	76,358	48,368	243,046	76,358	48,368
	Events	211,759	45,071	17,081	211,759	45,071	17,081
	-LL	350,134	93,664	51,260	349,167	93,400	48,771
	$\theta_0$ <sup>iii</sup>				0.15	0.45	1.19
	$\theta_1$ <sup>iv</sup>				0.07	0.11	1.15

<sup>i</sup> Year before entry.

<sup>ii</sup> Including > 6 months SA.

<sup>iii</sup>  $\theta_0$  denotes the frailty variance in the empty model.

<sup>iv</sup>  $\theta_1$  denotes the frailty variance in the full model.