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Determinants of older people's employment trajectories related to firms

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Contents

1	The employment trajectories of older people as a sociological research topic	1
2	Introduction of the data base	2
3	The employment trajectories of older people as a sequence of changes in their employment state	2
4	The social context of individual employment trajectories as a multi-level structure	3
5	Determinants of the employment trajectories of older people above the firm level	4
6	Determinants of the employment trajectories of older people on the firm level	7
7	Determinants of the employment trajectories of older people on the individual level	12

1 The employment trajectories of older people as a sociological research topic

The goal of this paper is to present the conceptual framework of my doctoral thesis which aims at identifying regulatory factors of older people's employment histories in Germany between 1993 and 2006 empirically. Older people are person between 50 and 64 years of age. Therefore people which have not reached the pensionable age of 65 years of age prescribed by German social law during the time covered by my investigation. My research aims at integrating a perspective related to firms into structuralistic and individualistic explanations of employment trajectories. At the same time it addresses a topic which is currently of high relevance for social policy: The consequences of the ongoing demographic transition of the German labor force. It can be interpreted as a case study for other European national states experiencing similar transitions. The central question of my analysis is: To what extend are the consequences of aging for individual employment trajectories influenced by structures and decisions of firms?

The public and scientific discussion regarding this topic so far can be summarized as referring to two main opinions: On the one hand we observe an argumentation with a pessimistic tendency which focuses on the changes in social security systems deemed necessary (cf. Mendius, 2002). In this context an intensification of conflicts between younger and older generations and between employed and unemployed people is expected. On the other hand we find a position with an optimistic tendency which focuses on the shrinking of the labor force entailed by the demographic development (cf. Reinberg/Hummel, 2004). These authors expect that this process will enhance older people's employment opportunities. A problem arising from this perspective is the expectation of a labor shortage, especially in the sector of qualified employees.

From a point of argument related to firms more differentiated hypotheses can be formulated which help explaining these contradictory evaluations. These can be summarized in form of the following expectations: Employers interpret an individual's advanced age in comparison to the age norm of the labor force as a negative signal regarding the quality of the offer. Only insofar institutional structures on the firm and industry level favor older people we can expect a reduction of the negative effects of these evaluations regarding older people's employment chances. In this social context, older people's employment trajectories are differentiated along two closely related dimensions: First the amount of tenure within a firm and within an occupation and second the strength of internal labor markets and social institution on the firm and industry level. Differences in these characteristics of individuals and firms produce social inequalities during the process of aging. A cutback in macro-institutional structures of social security can be expected to mitigate these inequalities, at the same time aggravating the negative signaling effects of age embedded in the structure of the labor market. A counter-trend enhancing older people's

employment chances can only be expected if the aging of the labor force contributes to an upward shift of the age norm on the labor market. However such a result has to be carefully checked. It could also be explained by a deficit of alternative labor offers in the context of a shrinking labor force.

2 Introduction of the data base

My empirical investigation is based on a longitudinal data, the Linked-Employer-Employee-Data (LIAB) of the Institut für Arbeitsmarkt- und Berufsforschung (IAB) in Nuremberg (cf. Jacobebbinghaus, 2008; Alda et al., 2005). Each wave of this panel consists of two datasets: Firstly a wave of the IAB firm-panel (IAB-Betriebspanel), secondly a wave of the IAB employee sample (IAB-Beschäftigtenstichprobe). The IAB firm-panel is collected on a yearly basis and contains individual information on firms. The IAB employee sample is process generated data containing information on the employees of these firms based on filings of these firms to the German labor-agency obligatory by law. The LIAB are preprocessed as event history data on the employee level and as panel data on the firm level (called "Längsschnittmodell") or as cross section data on both levels (called "Querschnittmodell"), from which a multi-level panel can be constructed.

Cut-off date for the panel and cross section data is the 30th of June of each survey year. Currently, both types of preprocessed data are available for the time span between 1993 and 2006. Upon application they can be accessed through teleprocessing or during stays as visiting scientist. The LIAB contain longitudinal information for approximately 2300 firms and 1.8 million employees during this time span. They are a representative sample of German firms and their employees. Appropriate projection factors are contained. The data therefore is selective regarding the German labor force and the German population. A fact that has to be taken into account when analyzing individual determinants of older people's employment trajectories which potentially influence the decision that labor is offered at all and the probability that such an offer is accepted by a demanding firm.

3 The employment trajectories of older people as a sequence of changes in their employment state

In order to implement a theoretical perspective related to firms empirically, one has to resort on recent methodical developments in quantitative empirical social science research; modeling procedures which are linking elements of event history analysis (cf. Blossfeld et al., 2007) with a multi-level design (cf. Gelman/Hill, 2006). In this context, employment trajectories of older people are conceptualized as processes characterized by six events: Firstly the risk of being disband (**E1**); secondly the

chance to get hired during the state of unemployment (**E2**); thirdly the chance of being financially secured by a social institution when being disband (**E3**); fourthly the chance of changing the employment position directly - as well within as between firms - accompanied by a gain of social status (**E4**); fifthly the risk of such a change happening accompanied by a loss of social status (**E5**); and sixthly the probability of such a change happening without a shift of social status (**E6**).

The social status related to positions of employment can be measured using either the income earned through this employment or using scales for occupational prestige. The first, third, fourth, fifth and six events have to be conceptualized as competing risks related to the state of being employed. From a firm's perspective, all six events are flow figures contributing to changes in the size and the structure of the staff of a firm as a stock figure. However not all flows contributing to this stock are capture by these six events. The same flow figures can be constructed with relation to younger employees. Additionally, transitions into pension funded retirement prescribed by German social law have to be taken into account.

4 The social context of individual employment trajectories as a multi-level structure

While the six events to explain can be assigned to individual employment trajectories their determinants have to be attributed to different levels of the social structure (cf. Brüderl, 1987). Partly these levels form inclusive relations which have to be modeled nested, partly they are not and form distinct relations (cf. Figure 1).

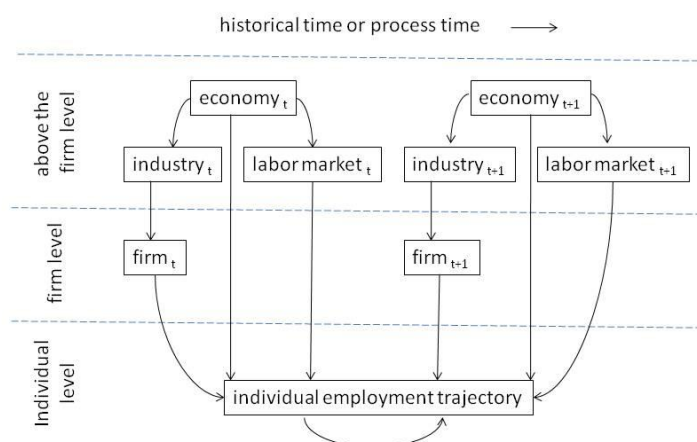


Figure 1: Determinants of employment trajectories as a multi-level structure

On the one hand, individual members of the labor force occupy positions in the structures of firms; on the other hand, they act as suppliers on the labor market. Firms as spatial located sites for constructing and trading goods and services are on the one hand perceived as positional structures; on the other hand, they are conceptualized as collective actors which are active as demanders in different segments of the labor market and as suppliers on a sales market. Furthermore, they are potentially integrated into bigger structures of a corporation that restrict their leeway for decisions. In this analysis, labor market segments are captured using categorizations of occupations for individuals while different sales markets are comprised using categorizations of industries for firms. This concept is in both cases oriented at the supply side of the markets. Further, it has the consequence that firms form an inclusive relation to industries or sales markets and a non-inclusive relationship to occupations or segments of the labor market. Changes in the population of firms - the industries - can influence individual employment trajectories. Additionally, these populations aggregate to macroeconomic structures which are changing over time. These changes as well as changes over time on lower levels of the social structure can also be regarded as determinants of employment trajectories.

5 Determinants of the employment trajectories of older people above the firm level

This study uses two parameters to capture changes in the social structure on the macro level: Time series of the macroeconomic growth rate as an indicator for the development of the sales markets; and the unemployment rate of the whole economy as an indicator for the development of the labor market (cf. Canova, 2007). These parameters can also be used as indicators of change in single sales markets, on the level of industries, and in single labor market segments, on the level of occupations. These time series are split into a trend- and a residual-component that measures deviations from the trend. The trend-component indicates longer-term structural changes. The deviations can be interpreted as shorter term fluctuations of the economic situation. The design of this analysis permits an observation period of 14 years, too short for assessing the effects of longer-term structural changes on individual employment trajectories. Considering the influence of shorter-term fluctuations of the economic situation, the following two hypotheses are formulated:

H1: The more positive the deviation of the economic growth from the longer-term trend, the lower is the risk of being disband; the larger is the chance to get hired during unemployment; the larger is the chance of changing the position of employment directly accompanied by a gain or without a shift of social status; and the lower is the risk of such a change happening accompanied by a loss of social status.

The penultimate event is the most frequent reason of labor force mobility. For older people who have normally already passed through most part of their occupational carrier, it is less frequent than in general. Therefore a decreasing stability of employment trajectories can be expected when the deviation of the economic growth from the longer-term trend becomes more positive. It is also plausible to expect that this effect will be stronger for the labor force in general than for older people in labor force in particular. The formulation of this hypothesis rests on the assumption that the growth of the economy is at least partly driven by intensifying the use of human capital as a production factor (cf. Greiner et al., 2005).

H2: The more negative the deviation of the unemployment rate from the longer-term trend, the lower is the risk of being disband; the larger is the chance to get hired during unemployment; the larger is the chance of changing the position of employment directly accompanied by a gain or without a shift of social status; and the lower is the risk of such a change happening accompanied by a loss of social status.

The expectation of a decreasing stability of employment trajectories and weaker effects for older people extends to this case. A comparatively low unemployment rate in an occupational group is interpreted as an indicator for a comparatively high assertiveness of supplier interests in this segment of the labor market.

Besides changes in the economic systems, the institutional structures providing social security on the macro-level have a potential impact on individual employment trajectories. The strength of these institutions can be estimated by the degree of development of corporate structures within the whole economy or on the industry level (cf. Teulings/Hartog, 1998; Sengenberger, 1987). Indicators for the degree of corporatism are the shares of firms which are member of employer association, have a work council or accept a collective wage agreement. The last indicator can additionally be interpreted as a signal for the effectiveness of these corporate structures in reaching collective agreements acceptable to the parties of the corporate proceedings. In constructing these share measures, the firms are assessed with the number of people they employ. Under the assumption that a higher degree of corporatism implies a stronger prevalence of institutional regulations concerning the closure of labor contracts, the following hypothesis can be formulated:

H3: The bigger the share of firms which are member of an employer association, have a work council or accept a collective wage agreement, the lower is the risk of being disband, especially for older people; the lower is the chance to get hired during unemployment; and the larger is the chance of being financially secured by social institutions when being disband.

Further hypotheses on the relation between older people's employment trajectories and structures above the firm level can be derived from theories of industrial eco-

nomics (cf. Tirole, 2007) and organizational ecology (cf. Carroll/Hannan, 2000). The central determinant for firm behavior following these perspectives is the degree of competition within a shared market or population of firms respectively. In terms of industrial economics, a shared market is defined by a marginal rate of substitution between goods close to one, organizational ecology uses additional criteria, for example a shared set of norms affecting behavior. Starting with an ex ante classification of industries, an estimation of the degree of competition can be measured using for example the Herfindahl-Hirschman-Index (HHI). This parameter is calculated as the sum of the squared shares of single firms of the total turnover within an industry. The smaller this positive value is, the lower is the concentration of market power within an industry and consequently, the tougher is the competition. Posing the assumption that a higher degree of competition constrains the autonomy of decision and forces firms to adapt to changes of the market structure the following hypothesis can be formulated:

H4: The higher the degree of competition, the more sensible firms react to deviations of the economic growth rate and the unemployment rate from the longer-term trend, and therefore the more marked are the effects of these deviations on individual employment trajectories specified in hypotheses 1 and 2 within these industries.

Calculating the HHI for longitudinal data changes over time within populations of firms like foundations, closures and migrations between industries have to be taken into account. Dynamically adapted, this parameter can capture demographic changes on the industry level. Supposing a constant total turnover within an industry over time, the immigration or foundation of a firm causes the HHI to shrink and increases the degree of competition while the emigration or closure of a firm leads to a growth in the HHI which contributes to a lower degree of competition. Demographic changes within the labor force are captured indirectly by the HHI through the correlation between turnover and the number of employees of firms. However, it is plausible to assume more direct relationships between demographic changes within the labor force and individual employment trajectories:

H5: The larger the number of persons within the labor force of the whole economy or a specific occupation, the larger the labor supply of younger people tends to be, and therefore the larger is older people's risk of being disband; and therefore the lower is the chance to get hired during unemployment for older people.

H6: The larger the share of older people within the labor force of the whole economy or a specific occupation, the larger the average age of the employees or norm of age respectively tends to be, and therefore the less marked are the negative effects of upward deviations of the individual age from this average on the employment chances of older people specified in hypothesis 19.

Hypotheses 5 and 6 both suppose a connection between the demographic structure

of the labor force and the evaluation of offers on the labor market. Both imply the assumption that an advanced age in comparison to the age norm of the labor force is evaluated as a negative signal for the quality of the offer by decision makers in firms. In the first case, therefore, demanders resort to the - in absolute terms - more frequent labor offers of younger people. In the second case, the age norm - but not the logic of evaluation - changes and the fact that older people are working becomes more widely accepted or normal. This increases the chances of the labor offers of older people.

6 Determinants of the employment trajectories of older people on the firm level

In this study, firms are conceptualized as positional structures on the one hand and as collective actors on the other. The second case implies the assumption that the behavior of firms is the observable result of reflective action. This assumption is plausible because of the communicative processes that accompany decisions within firms. It does not imply that the behavior of firms cannot be explained by its internal structures and the external structures forming its environment. Rather the question arises to what extend the behavior of firms is explainable by internal and external structures or its situation respectively? The better their behavior can be explained by structures above the firm level, the more adequate it is to speak of selective evolution of firms (cf. Section 5, Hannan/Freeman, 1984). The better it is explainable by their internal structures, the more appropriate it is to speak of adaptive action of firms (cf. Thompson, 1967).

<i>type of labor system</i>	<i>size of staff</i>	<i>complexity of production</i>	<i>labor market orientation</i>
stock-oriented	-	-	internal
tayloristic	+	-	external
professional	-	+	external
internal labor market	+	+	internal

Figure 2: Conceptual framework of a typology of labor systems

Conceptions of organizational theory in line with this assumption and its implications suppose that the personnel decisions of firms are influenced by two central dimensions of their internal structure: Firstly the size of their staff and secondly the complexity of their production processes which in this analysis is operationalized using a classification of industries of the firms. Combining the poles of these two dimensions, a typology of four systems of work can be constructed (cf. Figure 2).

The systems vary in the typical modes of access to labor these firms use resulting in different consequences for the employment trajectories of older people (cf. Goedicke, 2002). Smaller firms using simpler production processes develop stock-oriented labor systems. Larger ones using simpler processes develop tayloristic labor systems. Smaller ones using more complex processes develop professional labor systems. And larger ones using more complex processes develop labor systems with internal labor markets. Stock-oriented labor systems and labor systems with internal labor markets tend to be oriented towards labor offers within their own staff while tayloristic and professional labor systems tend to be oriented to labor offers on the external labor market. The basic logic behind this distinction is a different time perspective for the linkage between the firms and the external labor market (cf. Lutz, 1987). In the first case, the time perspective is shorter implying that a firm's labor demand has to be satisfied immediately by the external labor market, else causing loss to the firm. The shorter time perspective creates dependencies for the firm. In the second case, the time perspective is longer, implying that a firm can resort on labor offers within its staff until a better offer on the external labor market comes along without causing loss. The longer time perspective creates gains of autonomy for the firm. From this logic, the following hypothesis concerning the basic linkage between labor systems and personnel decisions can be deduced:

H7: The more pronounced the orientation towards the external labor market of a firm, the more sensible it reacts to deviations of the unemployment rate from the longer-term trend, and therefore the more marked are the effects of these deviations on individual employment trajectories specified in hypothesis 2.

However, more specific hypotheses concerning firms' personnel decisions can be formulated based on this typology of labor systems. Stock oriented labor systems - as typically used in small handicraft establishments - are characterized by a smaller degree of internal division of labor caused by their small staff. This leads to prolonged times of initial training and higher requirements regarding the employees' communication and team work competences even under conditions of simpler production processes. Tayloristic labor systems - as typically used in large production sites for mass commodities - are marked by a higher degree of internal division of labor because of their large number of employees. Under conditions of simpler production processes, this goes hand in hand with minimal skill requirements of the employees besides the ability to conduct a special task efficiently, resulting in shortened times of initial training. Additionally, the strength of institutional financial securities on the firm level tends to rise with the number of employees in a firm. Employees' entitlement to these securities is mostly linked to the tenure within the firm, resulting in an additional incentive for firms with tayloristic labor systems to exchange their personnel more frequently. Hence follows:

H8: Under the condition of simpler production processes, the risk of being disband, the risk of changing the position of employment directly accompanied by a loss of social status, and the chance of being financially secured by social institution when being disband for older people rise with the number of employees in a firm; while the chance of getting hired for them declines.

Professional labor systems - as typically used in lawyer offices - are not able to provide the whole initial skill adaption training required to carry out complex tasks for their new employees because of their small number of employees. Under such circumstances, initial training is provided beforehand in a form of labor division between firms by internships and functional equivalent phases of initial training. The attendant segments of the external labor market are structured by a seniority rule oriented on tenure within the occupation. This tenure provides a signal for the degree of complexity of tasks a person can perform. Labor systems with internal labor markets (cf. Althauser, 1989) in firms with a large number of employees - as typically used in public bureaucracies - are able to provide adequate initial training for their new employees themselves, even under the condition of more complex production processes. An adequate educational certificate of education is the minimum requirement to access the internal labor market of such a firm. Once this hurdle is taken, one is able to offer labor on the firm's internal labor market which is governed by the seniority rule of tenure within the firm. These last two types of labor systems tend to develop segmentations within their staff that are marked-off by the specific, typically education-based access rules used within these systems. A differentiation between a core and a marginal staff of a firm is consolidated (cf. Köhler/Preisendörfer, 1989). Only the core staff is governed by the seniority rules of these labor systems, the marginal staff tends to be organized by tayloristic principles. Therefore, the members of the core staff of firms with professional labor systems are able to switch comparatively easy between firms while members of the core staff of such firms cannot. Additionally, the members of the core staff of these labor systems tend to develop comparatively strong lobby structures within corporate institutions on the industry level. Hence follows:

H9: Under the condition of more complex production processes, the risk of being disband and the risk of changing the position of employment directly accompanied by a loss of social status for older people declines with the amount of tenure within a firm and within an occupation comparatively stronger than under other conditions of production; while the chance of being financially secured by social institutions when being disband and the chance to get hired for them rises.

H10: Under the condition of more complex production processes, the relevance of tenure within a firm in comparison to the relevance of tenure within an occupation for the employment chances of an individual increases with the number of employees of a firm. Under this condition of production the chance of changing the employment

position directly accompanied by a gain or without a change of social status within a firm for older people rises comparatively stronger with the amount of tenure within a firm than with the amount of tenure within an occupation; while the chance to get hired or of changing the employment position directly accompanied by a gain or without a change of social status between firms for them rises comparatively stronger with the amount of tenure within an occupation.

The differentiation between people working in tayloristic labor systems and the core staff of professional labor systems and such with an internal labor market is the central momentum of the process generating social inequalities during the passage of individual employment trajectories on the firm level. In an individual's perspective, this is perceived as a different appraisal for their tenure. While tayloristic labor systems tend to accumulate negative evaluations of individual aging, the seniority rules of professional labor systems and such with internal labor markets based on tenure create chances for positive evaluations correlated with individual aging.

Beside the different principles of labor organization incorporated in these labor systems, there are a range of further determinants of the employment trajectories of older people on the firm level. As mentioned above, not all flow figures contributing to changes in the size and the structure of the staff of a firm are captured by the events defining older people's employment trajectories. Additionally to them, layoffs, appointments, and changes of the position of employment of younger people as well as transitions into pension funded retirement prescribed by German social law influence the structure of this stock figure. It is plausible to assume that they are also related to the events defining the employment trajectories of older people. But the linkage between these types of flow figures cannot be conceptualized straight forward since their effect has to be evaluated in the context of the parameters a firm uses to measure its success and to orient its decisions (cf. Berger/Bernard-Mehlich, 2006). In most cases it is not plausible to assume that the structure of a firm's staff itself is such a parameter. In this study, the self-assessments of firms regarding their profit situation and the fraction of the turnover used for investments into expansions and upgrading are used as parameters measuring a firm's success. For example the effect of layoffs and transitions into pension funded retirement - leading to a shrinkage in the number of employees of a firm - on older people's employment chances have to be assessed differently in the context of a profit situation perceived as good and a high fraction of the turnover used for investments into expansion and upgrading than if these parameters would be reversed. In the first case, a strong interest of the firm to reoccupy the vacant positions can be assumed. In the later case, the shift in the number of employees probably is part of a plan to downsize the personnel. Based on these considerations the following hypothesis can be formulated:

H11: The more negative the balance between inflow figures of younger people minus outflow figures of people of all ages of the staff of a firm, the better the self-assessment

of the profit situation, and the larger fraction of the turnover used for investments into expansion and upgrading of a firm is, the larger are older people's chances to get hired. The more negative the balance between inflow figures of people of all ages minus outflow figures of younger people of the staff of a firm under the same conditions of the parameters of success of a firm is, the lower is the risk of being disband for older people.

This implies that the employment chances of older people worsen the more positive these balances and the worse the parameters of success of a firm are. Furthermore it has to be taken into account that firms can adapt their demand of labor not only by changing the number of employees but also through changes in working hours, the requested amount of labor per member of the staff respectively. The data used in this study does not contain direct information about the working hours of individual employees. Alternatively, information on the share of part-time positions in the whole amount of positions in the staff of a firm is used as an indicator to estimate the requested amount of labor per member of the staff of a firm. Under worse conditions of the parameters of success of a firm, the expansion of part-time positions can be regarded as an alternative strategy instead of downsizing the personnel. Hence follows:

H12: The larger the growth of the share of part-time positions in the whole amount of positions in the staff of a firm under the conditions of a bad self-assessment of the profit situation and a small fraction of the turnover used for investments into expansion and upgrading of a firm is, the lower is the risk of being disband; and the larger is the risk of changing the position of employment directly accompanied by a loss of social status.

For older people, these effects are stronger in comparison to younger ones because in Germany more institutionally aided opportunities to reduce working hours of older people exist.

In addition, an indirect influence of the ownership structure of a firm on the employment trajectories of older people is assumed. In this analysis, the ownership structure of a firm is captured by a classification of legal forms of German corporations. Depending on the ownership structure, a firm is more or less prone towards the capital market and involved in the competition there. Thus joint-stock companies are most closely linked to the competition on the capital market while statutory bodies are most loosely linked to it (cf. Kornai, 1986). The evaluation criteria used on the capital market are the parameters of success of a corporation but also the parameters of success of an industry or the whole German economy in international comparison. Based on this consideration, the following indirect connection between the ownership structure and the personnel decisions of a firm can be derived:

H13: The more prone towards the capital market the ownership structure of a firm is, the more marked are the effects on older people's employment chances related to the parameters of success on the firm-level specified in hypotheses 11 and 12; and the more marked are the same effects related to the parameters of success above the firm-level specified in hypothesis 1.

Finally a connection between the integration of a firm into corporate structures and the employment chances of older people is expected (cf. Bookmann/Zwick, 2004). It can be conceptualized by transferring the argument proposed above regarding the influence of the degree of corporatism on the employment trajectories of older people (cf. Section 5) and specified in hypothesis 3 from the level of social structures above a firm to the level of structures within a firm:

H14: If a firm is member of an employer association, has a work council or accepts a collective wage agreement, the risk of being disbanded is lower, especially for older people; the chance to get hired during unemployment is lower for older people; and the chance of being financially secured by social institutions when being disband is larger.

7 Determinants of the employment trajectories of older people on the individual level

It is important to incorporate determinants of the employment trajectories of older people on the individual level in this study because it is plausible to assume that the characteristics of an individual and its past life course have influences on his or her employment trajectory that have to be controlled for when analyzing the influences of determinants related to firms. As a starting point to formulate hypotheses specifying these influences, I resort on arguments grounded in signaling theory (cf. Spence, 1973). This version of an individualistic decision theory assumes that certain characteristics of an individual who offers work serve as signals that are changeable by actions of the individual or indices that are unalterable for the quality of the offer. These characteristics are used by firms - the deciding individualistic agent in this theoretical perspective respectively - to evaluate labor offers under conditions of uncertainty or asymmetric information on the labor market. Asymmetric information is a concept of formalizing the problem that the deciding firm cannot be sure about the qualities of the labor offers on the market. Signaling theory proposes that the following individual characteristics are included in a firm's calculation: Level of education, working experience, age and gender. In this study, years of schooling and years of vocational training are used to measure the level of education, while the length of tenure within a firm and within an occupation is used to measure working experience. From this framework, the following hypotheses specifying the influence of parameters attributable to individuals can be derived:

H15-H18: The more years of schooling an individual had, the lower is the risk of being disband; the larger is the chance to get hired during unemployment; the larger is the chance of changing the position of employment directly accompanied by a gain or without a shift of social status; and the lower is the risk of such a change happening accompanied by a loss of social status. Regarding years of vocational training, length of tenure within a firm and length of tenure within an occupation, the same effects are hypothesized. Additionally, it is expected that the chance of being financially secured by social institutions when being disband rises with the amount of tenure within a firm.

As mentioned before, it is assumed that an advanced age in comparison to the age norm of the labor force is evaluated as a negative signal for the quality of the labor offer by decision makers of firms. This signal is parameterized calculating the upward deviation of the individual age from the average age of the labor force, leading to the formulation of the following hypothesis:

H19: The larger the upward deviation of the individual age from the average age of the labor force, the larger is the risk of being disband; the lower is the chance to get hired during unemployment; the lower is the chance of changing the position of employment directly accompanied by a gain or without a shift of social status; and the larger is the risk of such a change happening accompanied by a loss of social status.

Regarding gender, it is assumed to be a negative signal on the labor market in a certain period of women's life course, namely the period in which pregnancies can be expected. This period has no intersection with the period defined as older age in this analysis. But the bearing and bringing up of children tends to influence the employment trajectories of men and women differently. It causes the trajectories of women to be less stable which implies that the unequal employment chances of women and men are socially constructed during their employment carriers (Sørensen, 1990). Therefore it is less likely for a woman to achieve the same amount of tenure as a man. This decreases her employment chances unless tenure is controlled for. Hence follows:

H20: If tenure within a firm and an occupation is controlled for, the risk of being disband; the chance to get hired when starting in the state of being unemployed; the chance of changing the position of employment directly accompanied by a gain or without a shift of social status; and the chance of such a change happening accompanied by a loss of social status are the same for older women and men.

Individual characteristics have to be included into this analysis not only because of their hypothesized direct effects on the employment trajectories of older people but also because of the interactions between them and firm-related determinants. Hypothesis 6 specifies a relationship between the perception of individual age by

firms demanding labor and changes of the average age, the age norm respectively, due to the demographic development of the labor force (cf. Section 5). This perceptual change modifies the effect of the deviation of the individual age from the age norm proposed in hypothesis 19. Hypotheses 9 and 10 are based on the assumption that the lengths of tenure within a firm and an occupation are evaluated unequally in the context of different labor systems practiced in firms (cf. Section 6), thus modifying the generally expected effects of tenure on the employment chances of older people specified in hypotheses 17 and 18.

Last but not least it is important to incorporate individual characteristics because of the attributes of the data used for this study. The LIAB are based on a representative sample of German firms and their employees and hence they are selective relative to the German labor force and the German population as a whole. The chances to offer labor at all during the life course and to close a contract with a firm based on such an offer during the period of observation covered by this study at all are not independent of the above mentioned characteristics of individuals. Based on these characteristics and secondary data representative for the German population, it is possible to implement a Heckman model providing estimations that try to control for this sample selection bias (cf. Heckman, 1979; Sartori, 2003). It is planned to carry out the modeling of such a correction procedure in a later stage of the analysis.

Figure 3 summarizes the determinants of the employment trajectories of older people hypothesized in this study differentiated by the events defining these trajectories:

	<i>above the firm level</i>						<i>firm level</i>								<i>individual level</i>					
	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	H15	H16	H17	H18	H19	H20
E1	X	X		X	X	X	X	X	X		X	X	X		X	X	X	X	X	X
E2	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	X
E3			X					X	X					X			X			
E4	X	X		X		X	X			X			X		X	X	X	X	X	X
E5	X	X		X		X	X	X	X		X	X			X	X	X	X	X	X
E6	X	X		X		X	X			X			X		X	X	X	X	X	X

Figure 3: Determinants of the employment trajectories of older people differentiated by events

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