

# Employment Relationships at Risk

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**A Bad Start? Fixed Term Contracts and the Transition from  
Education to Work in West Germany**

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## Contents

1	Introduction.....	4
2	Fixed-term Contracts: The Institutional Context .....	5
2.1	<i>Labour Market Regulation and Fixed-Term Contracts in Germany.....</i>	5
2.2	<i>The Transition from Education to Work.....</i>	6
3	Theoretical Perspective and Research Hypotheses .....	7
3.1	<i>A Trap: Segmented Labour Markets and Labour Market Adjustment.....</i>	7
3.2	<i>A Bridge: The Screening Hypothesis.....</i>	7
3.3	<i>Research Hypotheses.....</i>	8
4	Fixed-Term contracts and subsequent labour market performance: previous evidence... 9	
5	Data and Methodology.....	10
6	Who gets a temporary contract at the beginning of working life? .....	12
7	How does a fixed-term contract effect subsequent labour market stability? .....	15
7.1	<i>Modelling subsequent labour market status.....</i>	16
7.2	<i>Testing the Robustness of the Findings.....</i>	17
7.3	<i>Different educational groups.....</i>	18
7.4	<i>Quality of subsequent jobs.....</i>	19
8	Discussion .....	20
9	References.....	22
10	Appendices.....	24

## Abstract

Fixed-term contracts in Europe have recently become the subject of both policy and research interest (Booth et al. 2002a), seen as particularly relevant in the transition from school to work (OECD, 1998). Some commentators argue that fixed-term contracts should have an integrative function in the transition from school to work, providing a 'bridge' to the labour market. A contrasting perspective is that they hinder successful integration into the labour market, by leading to a repeating cycle of temporary jobs and unemployment. We choose Germany, a country with a regulated labour market and a 'co-ordinated' education to work transition, to investigate this issue.

We consider who gets a fixed-term contract at the beginning of working life in Germany and how this affects their subsequent labour market career using life history data. Our key findings are firstly, fixed-term contracts are found among those for whom the school-to-work transition is not so co-ordinated, and includes *both* high-skilled and low-skilled labour market entrants. Secondly, after five years the unemployment rates of both groups have converged. Beginning working life with a fixed-term contract does not clearly signal a "bad start" in Germany.

# 1 Introduction

Following their controversial introduction in a number of European countries, fixed-term contracts have recently become the subject of both policy and research debate (Booth et al. 2002a; OECD, 2002). They are seen as particularly relevant in the transition from education to work (OECD, 1998). Some commentators argue that fixed-term contracts should have an integrative function in the transition from education to work, providing a 'bridge' to the labour market. A contrasting perspective is that they hinder successful integration into the labour market, by leading to a repeating cycle of temporary jobs and unemployment.

The focus on labour market entry is important because if, as the title proposes, temporary contracts are indeed a bad start, they could have a damaging effect on the later life course, leading to lower job stability, higher unemployment and lower wage growth. In addition, being in a cycle of temporary contracts may have negative effects on other domains of life like psychological well-being, buying a house, forming independent households and having children (Golsch, 2003). In a recent paper DiPrete et al. (2004), drawing primarily on French findings, suggest that temporary work contracts are a crucial new inequality in European labour markets. While wage inequality may be lower in Europe than the US, temporary contracts are eroding employment protection for low-skilled European workers.

Why Germany? In the context of relatively high labour market regulation, Germany introduced legislation in 1985 to make the labour market more flexible and reduce unemployment. This legislative change proved particularly relevant for young people, where fixed-term contracts are concentrated (Mertens and McGinnity, 2004). In addition, it is well-known from the burgeoning comparative literature on the transition from education to work that German institutions, in particular the vocational training system, facilitate a 'smooth transition' from education to work (Shavit and Müller, 1998; Ryan, 2001; Gangl et al., 2003). Labour market entry is highly regulated by the educational and training system (Hillmert, 2002). What role does temporary employment play in this transition?

It is the aim of the paper to contribute both to the debates and literature on the consequences of fixed-term contracts more generally by focusing on a particular, well-defined phase of the life course and also to contribute to comparative research on the transition from education to work by investigating the role of temporary contracts in a country with a 'co-ordinated transition'. We consider (1) who gets a first job which is fixed-term in Germany and (2) how does this affect their subsequent labour market career.

In section 2 we 'set the institutional scene', first describing the regulation of fixed-term contracts in Germany and then the education system and its role in the transition from education to work. We then present contrasting theoretical perspectives and apply them to our research questions by formulating competing hypotheses in section 3. Section 4 summarises previous relevant work on the topic in Germany and in Europe, and section 5 presents the research design and data used from the German life history study. In section 6 we consider who gets a first job which is fixed-term in Germany and in section 7 how this affects their subsequent labour market careers. Based on our findings, in the conclusion we reflect on whether fixed-term contracts are a 'bad start' in the German labour market.

## 2 Fixed-term Contracts: The Institutional Context

### 2.1 *Labour Market Regulation and Fixed-Term Contracts in Germany*

Dismissal regulations and high firing costs for permanent workers are generally believed to play a key role in the use of fixed-term contracts in Europe (e.g., OECD, 1993). By international standards, German legislation and practice affords a high level of employment protection for permanent employees (Grubb and Wells, 1993). For individual dismissals, dismissal protection regulations stipulate notice periods based on measures such as tenure, age and type of job; the employer needs a specific reason (i.e., misconduct) and the works council (*Betriebsrat*) plays an important role in the decision. If the employee challenges the dismissal, legal proceedings may be protracted, often resulting in high severance payments (Schömann et al., 1998). With the aim of increasing labour market flexibility and reducing unemployment, the Employment Promotion Act of 1985 was introduced to facilitate the use of fixed-term contracts. Under this Act and subsequent extensions, employers can hire employees on a fixed-term contract without a reason for up to two years duration, thus avoiding potential redundancy payments and employment legislation restrictions when the contract runs out (see appendix A for details).

Labour market protection should be seen in the wider context of the German economy, which Hall and Soskice (2001) classify as a "flexibly coordinated economy". There is a strong sense of social partnership, and both employers and employees value long-term employment relationships. Fixed-term contracts present a challenge to this model, and initial reactions to their introduction in Germany were sceptical, fearing the erosion of the standard employment relationship (Bielenski, 1997). However, compared to expectations, the number of fixed-term

employment relationships has risen modestly since 1985 (Rudolph, 2000; Bielski, 1997). By 2002 fixed-term contracts made up 7% of dependent employment in West Germany, though the proportion is higher for young people – 20% of those under 30.<sup>1</sup>

## 2.2 *The Transition from Education to Work*

The education/employment relationship and the transition from education to work has been the subject of substantial research over the last decade (Gangl et al., 2003). Education systems differ substantially as to how they match their outputs with labour market demand. In particular, the extent and nature of vocational training is thought to be salient in determining the matching process in the labour market. There is strong vocational orientation in the German system of education and training, and this training is segmented along occupational lines (Müller et al., 1998). Vocational training may be viewed as a way of improving matching between individuals and employers by providing individuals with specific skills which they can use on the job, and by sending a very clear signal to employers about the potential productivity of a given jobseeker. Indeed many German apprentices are retained in the firm in which they did their apprenticeship, suggesting that employers may use apprenticeships to screen future personnel.<sup>2</sup> As many authors have noted, in this way the German system facilitates a smooth transition from education to work and stable occupational careers (Müller et al., 1998; Hillmert 2002). Indeed the risk of not being employed after leaving the education system is higher for university graduates or those with no qualifications than for labour market entrants with apprenticeship training (Winkelmann, 1996).

The co-ordinated nature of the transition, i.e. that young people get a job in the same occupation as they were trained in and tend to stay in this occupation, leads to low occupational mobility and authors have characterised the German labour market as highly "credentialed" (Müller and Shavit, 1998). This is still true, though the transition has become less co-ordinated in recent years (Konietzka, 1999; Ryan, 2001). With such close co-ordination between skills acquired in the training system and first job in Germany, who gets temporary contracts and why? How does it affect their employment stability? Note that for this paper the transition from education to work is defined as post-apprenticeship: as is common practice in

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<sup>1</sup> Estimates from the German Microcensus (Breiholz et al., 2003).

<sup>2</sup> For example, in 2001 just under 60% of West German apprentices were retained in the firm where they did their apprenticeship (BMBF, 2003).

Germany, apprenticeships are counted as part of the training system and not as employment contracts.<sup>3</sup>

### 3 Theoretical Perspective and Research Hypotheses

Different approaches to the use of fixed-term contracts generate rather different predictions about who gets a fixed-term contract and the consequences for subsequent labour market stability. These predictions may be related to why employers use fixed-term contracts, why employees accept fixed-term contracts and how fixed-term contracts fit into the individual's employment history.

#### 3.1 *A Trap: Segmented Labour Markets and Labour Market Adjustment*

A number of approaches see fixed-term employment as having substantially worse employment conditions and poorer career prospects than permanent employment. One of these is segmentation theory (Doeringer and Piore, 1971; Sengenberger, 1987). According to the basic tenets of this theory, the labor market is divided into primary and secondary segments. Primary segment jobs offer long-term stable employment with structured career ladders. Jobs in the unskilled secondary segment—where many fixed-term jobs are found—offer lower wages, no training, few career prospects, and unstable careers. Following this theory, fixed-term contracts will be disproportionately found among low-educated labour market entrants. Individuals who begin working life with temporary contracts will have unstable careers and be at much higher risk of unemployment than similar labour market entrants whose first job was permanent. Likewise, for a perspective that envisages the main purpose of the employers use of fixed-term contracts being to regulate short-term fluctuations in demand, we should expect fixed-term contracts to be associated with low skills: these will be cheap jobs. Employers can hire and fire without incurring the expensive dismissal costs described in section 2.1. Workers found in these jobs will tend to have patchy employment careers and poor prospects of career progression.

#### 3.2 *A Bridge: The Screening Hypothesis*

By contrast from the screening perspective, fixed-term jobs function as an extended probation period (Wang and Weiss, 1998). Employers, with limited information about employees, reduce the risk associated with hiring in the a highly regulated labour market like the German one and

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<sup>3</sup> This is in contrast to, for example, OECD publications where apprenticeships are counted as fixed-term contracts

first hire employees on a fixed-term contract. If the employee performs well, the contract is made permanent. If not, the employer is saved the expensive firing costs. Fixed-term contracts may then be particularly relevant for labour market entrants with no previous experience. It has been argued that probationary contracts are more likely for highly skilled workers, where productivity may be particularly difficult to assess. For low-skilled jobs the cost of the probationary contracts may be too costly for the post under consideration (Mertens and McGinnity, 2003; Gash, 2003).

### 3.3 Research Hypotheses

From these theoretical approaches we can derive a number of competing hypotheses.

- Hypothesis 1a. From segmentation theory: *low educated workers get a temporary contract because their positions are in the secondary segment.* These positions are cheap and the employees are easily exchanged.
- Hypothesis 1b. From the screening perspective: *highly educated workers get a temporary contract because their performance requires longer screening.*
- Hypothesis 1c. In the German institutional context, *fixed-term contracts might be less likely for individuals with apprenticeship training* as for other labour market entrants. In addition, where apprentices are retained by the same employer, the potential screening function has been achieved by the apprenticeship, i.e. the employer knows about the productivity of the employee. Even for apprentices not retained, the clear signalling and specific skills ascribed to apprenticeships should mean that apprentices are less likely to be found in a fixed-term contract.

And what about their future employment prospects?

- Hypothesis 2a. Segmentation theory suggests that fixed-term contracts are a trap in a lower labour market segment and will have damaging effects on employment stability. *We should expect polarisation between those whose first job was fixed-term and those whose first job was permanent.*
- Hypothesis 2b. By contrast, if fixed-term contracts are screening contracts, we should expect that many fixed-term contracts will be converted into permanent contracts and as such represent a 'bridge' into the labour market, particularly relevant for those who 'missed it first time'. *We should expect polarisation between those whose first job was fixed-term and those whose first job was permanent: some years later there may even be no difference in their rates of employment and unemployment.*

#### **4 Fixed-Term contracts and subsequent labour market performance: previous evidence**

As noted in the introduction, fixed-term contracts have become the subject of growing research interest in recent years. This brief review of previous evidence confines itself to subsequent labour market transitions, other research has looked at wages and wage growth (Booth et al, 2002b; Mertens and McGinnity, 2004); health and pension benefits (Kalleberg et al, 2000); satisfaction (Booth et al., 2002b; OECD, 2002) and first marriage and parenthood (Golsch, 2003).

Most research to date examining subsequent labour market transitions centres around the question is fixed-term employment a bridge or a trap by examining transitions to unemployment and/or permanent work immediately afterwards. This work tends to examine the entire labour market, not just labour market entrants. For example Giesecke and Groß (2003) find that, compared to permanent employees, fixed-term employees in Germany are more likely to enter a second fixed-term job and also more likely to become unemployed. From this they conclude that those on fixed-term contracts are part of the secondary labour market, with relatively poor prospects. For Britain Booth et al. (2002b) consider transitions from temporary employment in Britain using a proportional hazard model. They find some evidence to suggest that fixed-term contracts are a stepping stone to permanent work. By contrast Amuedo-Dorantes (2000), in her analysis of transitions of temporary workers in Spain, finds that temporary workers have little opportunity for advancement, and often remain trapped in a repeating cycle of temporary jobs. Additional comparative work includes OECD (2002), which stresses that "good transitions", i.e. from temporary work to permanent work, are much more likely among high-skilled workers for all countries considered. Gash (2003), using more sophisticated analysis, finds that temporary contracts can and do act as a stepping stone into permanent employment but to a greater extent in Britain than in France.

Two articles which focus specifically on temporary employment and the transition from education to work in Germany are Kurz and Steinhage (2001) and Scherer (2004). Kurz and Steinhage (2001) conduct a similar analysis to examine who gets a fixed-term contract to that presented here, though they use a different data set from this paper, and for about 25% of labour market entrants they cannot identify contract status. They then examine the effect of fixed-term contracts on becoming unemployed immediately after the first job. They find that beginning working life with a fixed-term contract raises the probability of becoming unemployed after the first job, though this finding is not confirmed by Scherer (2004) using

somewhat different methodology on the same data.<sup>4</sup> The paper by Kurz and Steinhage (2001), together with other previous work on the impact of temporary contracts on employment stability, focuses on employment status immediately after the temporary contract.<sup>5</sup> We take the analysis further by examining unemployment rates five years later. Are those who began working life with a temporary contract still disadvantaged?

## 5 Data and Methodology

The data in this paper are taken from the German Life History Study in which retrospective data was collected for a variety of life domains (Hillmert et al., 2003). The detail and high quality of the data make this an excellent source for analysing labour market entry from a longitudinal perspective. This sample is of West Germans and foreigners with good language skills.<sup>6</sup> The cohorts in the analysis were born in 1964 and 1971 and entered the labour market around the time of the key reform of temporary employment legislation in Germany in 1985. The focus on the labour market entrants is particularly fruitful as fixed-term contracts are concentrated among young people in Germany (Mertens and McGinnity, forthcoming, 2004). In addition, this group is more homogenous in terms of previous labour market experience and phase of the life course.

We are interested in whether the first job is temporary or permanent and then subsequent labour market trajectories. For most of the material presented we take the first job after the highest educational qualification recorded for which contract status information is available. This excludes those whose first job was self-employment, we also exclude those under 16 at the time of labour market entry, yielding a sample of around 2,500 young people.<sup>7</sup> The sample excludes a small number who are still at university at the time of the survey and have no other

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<sup>4</sup> Scherer (2004) finds that those with a fixed-term contract at labour market entry are *less* likely to become unemployed after their first job relative to making a lateral move than those with a permanent contract. This finding is unexpected and somewhat counterintuitive, given that fixed-term contracts are time-limited by definition.

<sup>5</sup> An exception to this is Scherer (2004), but she looks at the development of occupational prestige, not subsequent employment stability. These findings are reported in section 7.4.

<sup>6</sup> The language of the survey was German. East Germans are excluded from the analysis as labour market entry was particularly turbulent for these cohorts (see Matthes, 2002). In addition, temporary contracts are rather different in East Germany (Mertens and McGinnity 2004).

<sup>7</sup> Agency workers cannot be identified in this survey. Agency workers may or may not classify themselves as having a temporary contract. While agency work has risen steadily in Germany in the last decade, it was still only 1.2% of dependent employment in June 2000. Hence, this is not expected to affect the results here (Bundesanstalt für Arbeit, 2001).

qualifications.<sup>8</sup> Those who return to the education system after attaining a qualification and entering the labour market, an increasing phenomenon in Germany (Jacob, 2003), are coded as further education spells.

For the first question of interest in this paper we estimate a simple logit model of the log-odds of having a fixed-term contract on starting their first job, introducing firstly individual characteristics, like age, gender, education, months since leaving education and nationality, and then job characteristics like skill level (*Stellung im Beruf*), and occupational grouping in a second specification (Aldrich and Nelson, 1984).

In our second question, we are not just interested in the very next job following the initial job, but more medium term employment chances. Thus we compare those who started with a fixed-term contract with those who started with permanent contract 1, 3 and 5 years after the beginning of the first job. We distinguish the following labour market categories<sup>9</sup>:

1. Employment
2. Unemployment
3. Education
4. Other (mostly either national service or home duties)

We model the probability of being in one of these states using a multinomial logistic regression, once again introducing a number of covariates expected to influence subsequent labour market chances, such as age, gender, nationality, birth cohort, family status, education, skill level, working hours, firm size and industrial sector.<sup>10</sup>

$$\text{Log} [\text{Prob} (y=j)/\text{Prob} (y=J)] = a + b_{ji}X_i + u_j$$

Civil servants are afforded a special status by the German state, both in terms of employment security and welfare provision (Kocka, 1981). They are included in the analysis of who gets a temporary contract at the beginning of working life, as we would argue that the increasing propensity for the government to hire people on fixed-term contracts is an important part of the story. However, they are excluded from what happens later as they have exceptionally high rates of being retained after their fixed-term contract has expired.

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<sup>8</sup> This is more relevant for the 1971 cohort where the individuals were 27 at interview. This point is discussed further in footnote 12 below.

<sup>9</sup> In a few cases the labour market states overlap. Where this is so, employment spells have priority over education spells, unemployment and other statuses.

<sup>10</sup> A full list of covariates is presented in appendix table B2.

There is a risk that the sample of first jobs includes very short, insignificant, 'stop-gap' jobs, which arguably should not be counted as 'the beginning of working life'. To test whether very short jobs are influencing the analysis, we estimate all the models with a sample of all first jobs lasting longer than six months. We prefer base the discussion on the models taking all first jobs, as otherwise we risk excluding important fixed-term jobs, but report the findings of these additional models in the text. We also re-ran the models distinguishing employment into same firm and different firm as an alternative categories in the multinomial models.

A common problem of duration data of this kind is right censoring. Five years after beginning their first job a considerable proportion of the sample is no longer observed. This could be problematic if, for example, the sample remaining is a positive selection of all those entering employment for the first time. To test whether right censoring affects our substantive results, we re-estimate the models for labour market status one year later using the smaller sample of those remaining after 5 years. This is a similar strategy to that followed by Fitzgerald et al. (1998) in their tests for the effects of attrition.

## **6 Who gets a temporary contract at the beginning of working life?**

We first model the effect of personal characteristics on the log odds of getting a first job which is fixed-term. The results are presented in table 1 - in column 1 the results from the model with all first jobs; in column 2 for all jobs lasting 6 months or longer. From column 1, taking all jobs, the key finding is that compared to those with apprenticeship training, both those with no qualifications and those with university degrees are more likely to have a fixed-term contract. Thus fixed-term contracts are found among the high-educated and among the low educated, in support of both the screening and segmentation perspectives (hypotheses 1a and 1b). They are also least likely among apprentices, this is consistent with expectations from the school-to-work literature, and with previous findings (Kurz and Steinhage, 2001; Giesecke and Groß, 2003; McGinnity and Mertens, 2004). Is this because these apprentices are retained with the same employer? In an extension of this model we distinguish apprentices according to whether they were retained by the same employer. The results are presented in table B1. We find that it is indeed those who are retained are very unlikely to get a fixed-term contract. This supports the screening perspective and hypothesis 1c: these apprentices have already been screened during their apprenticeship.

Table 1 The effect of personal characteristics on the probability of having a fixed-term contract at the beginning of working life. Logistic Regression Estimates.

Covariates	All first jobs after leaving education (Exp(B))	First jobs of six months or more (Exp(B))
Constant	0.036***	0.020***
Age	1.005*	1.005*
Women	0.843	0.933
<i>Cohort Reference: 1964 Cohort</i>		
1971 Cohort	1.253*	1.215
<i>Educational Qualifications Reference:</i>		
<i>Apprenticeship</i>		
No qualifications	1.958***	1.878**
Vocational school-based training ( <i>Fachschule</i> )	1.670**	1.752***
University or other Third Level	3.229***	4.159***
Months since leaving education	1.004	1.004
Partner	0.971	0.982
Number of children	0.916	0.947
Foreigner	1.545*	1.925**
Number of Observations	2500	2443
Log Likelihood Test (model chi square) (d.f.)	151.31 (10)	172.95 (10)

Source: German Life History Data, Cohorts 1964/1971.

Notes: \*  $p \leq 0.05$ ; \*\*  $p \leq 0.01$ ; \*\*\*  $p \leq 0.001$ .

Other findings of note from table 1 are that there are no gender differences in the propensity to get a fixed-term contract at the beginning of working life nor are there clear effects of family status.<sup>11</sup> German-speaking foreigners are clearly more likely to get a fixed-term contract, even controlling for education. And as one would expect given the legislative changes described in section 2.1, the 1971 cohort is somewhat more likely to be found in a fixed-term contract than the 1964 cohort.<sup>12</sup> The number of months it took to find the first job does not have a significant effect on the odds of getting a fixed-term job.<sup>13</sup> These findings for all jobs are confirmed using the sample of jobs lasting longer than 6 months (column 2).

<sup>11</sup> Bear in mind that there is no so much variation in family status among labour market entrants, i.e. most are single.

<sup>12</sup> Though this effect only just reaches statistical significance and becomes insignificant in the sample of jobs lasting longer than 6 months. As the 1971 cohort was younger at the time of the survey, we tested the cohort effect by limiting the 1964 cohort to those under 28 at the start of their first job. The 1971 cohort is still more likely to get a fixed-term contract. We also checked whether the education findings (particularly the effect of university degrees) were being influenced by the 1971 cohort being younger by estimating the model with just the 1964 cohort. The coefficients remain unchanged, except for school-based vocational training which is now no different from apprenticeship training.

<sup>13</sup> There is also no significant difference in the duration of unemployment between those who got a fixed-term contract and those with a permanent contract at labour market entry

Table 2 The effect of personal and job characteristics on the probability of having a fixed-term contract at the beginning of working life – Logistic Regression Estimates.

Covariates	All first jobs after leaving education (Exp(B))	First jobs of six months or more (Exp(B))
Constant	0.005***	0.002***
Age	1.011***	1.012***
Women	0.963	1.078
<i>Cohort Reference: 1964 Cohort</i>		
1971 Cohort	1.251*	1.226
Months since leaving education	0.998	0.997
Partner	0.901	0.916
Number of children	0.832	0.862
Foreigner	1.760*	2.237***
<i>Skill level Reference: Skilled manual worker</i>		
Civil servant	5.620***	9.115***
High-skilled white collar	1.012	1.143
Low-skilled white collar	2.247**	2.343*
Unskilled blue collar	3.205***	3.794***
<i>ISCO Occupational Groups Reference:</i>		
Manufacturing and transportation		
Professional	1.994**	2.300**
Management	(see notes)	0.035**
Office staff and related occupations	0.792	0.618
Trade	0.607	0.536
Other service occupations	1.304	1.363
Agriculture and forestry	0.453	0.448
Number of Observations	2480	2425
Log Likelihood Test (model chi square) (d.f.)	289.33 (17)	351.80 (17)

Source: German Life History Data, Cohorts 1964/1971.

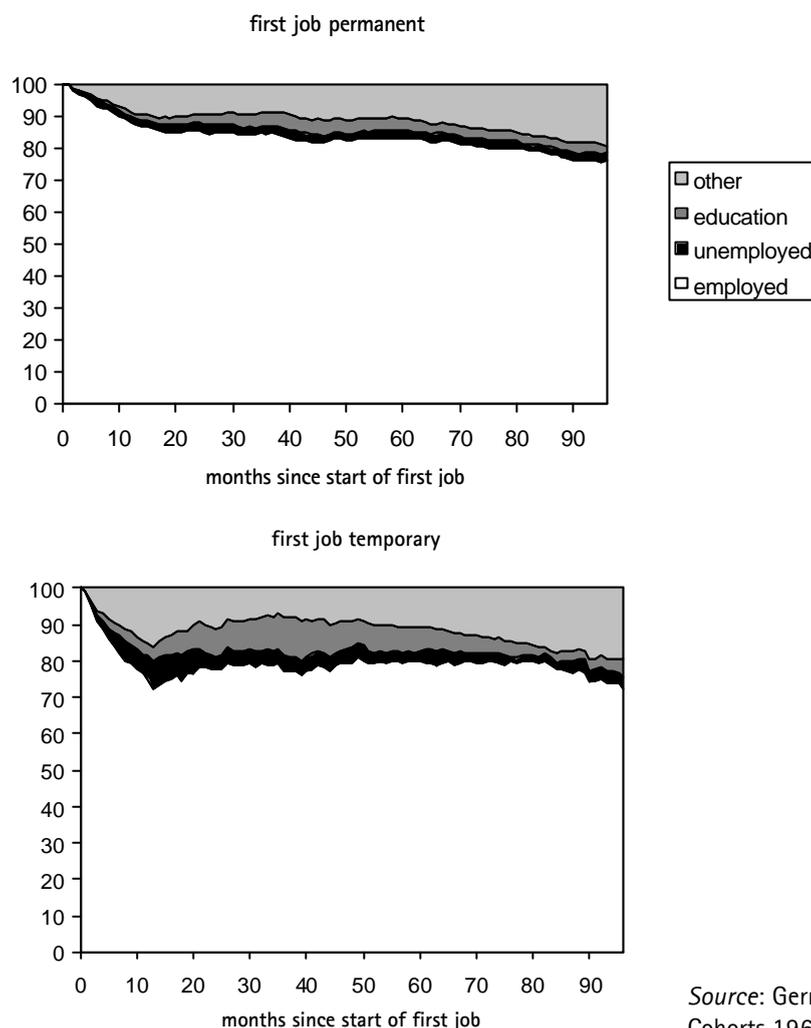
Notes: \*  $p \leq 0.05$ ; \*\*  $p \leq 0.01$ ; \*\*\*  $p \leq 0.001$ . In the management category the estimates for the first model are not reliable due of the small number of cases and not reported.

Turning to job characteristics of the first jobs, the results are presented in a similar way in table 2. In this model we omit the education variable because of correlation with skill level. These findings largely confirm the pattern found in table 1. Low-skilled jobs (low-skilled white collar, unskilled blue collar) are more likely to be fixed-term, consistent with segmentation theory. However, so too are civil service jobs, a high skilled position. Skilled blue collar jobs and highly skilled white-collar jobs, which almost always require apprenticeship training, are not fixed-term. Professional jobs are more likely to be fixed-term than manufacturing jobs, management jobs less likely to be fixed-term. Overall a rather heterogeneous picture emerges: first jobs which are fixed-term are both low-skilled (unskilled blue and white collar workers) and high-skilled (professionals). Both the hypotheses from segmentation and screening find support in this German data for labour market entrants.

## 7 How does a fixed-term contract effect subsequent labour market stability?

How do fixed-term contracts at the beginning of working life affect subsequent employment stability? For this we compare the subsequent employment status of individuals who began with a fixed-term contract with those who immediately got a permanent contract. Figure 1 presents the distribution of labour market entrants in the four employment states (employed, unemployed, in education, other) for the first 8 years after starting their first job.

Figure 1: Proportion of labour market entrants in each employment status



Employment rates are high among those who started with a permanent contract: consistent with the discussion in section 2.2, unemployment is low among German labour market entrants. Those who started with a temporary contract have lower levels of employment, particularly 12 months after labour market entry. Overall this group show somewhat more unemployment and further education spells than those with a permanent job.

### 7.1 Modelling subsequent labour market status

But the composition of these two groups may be rather different. To introduce a variety of additional factors expected to affect labour market status we estimate multinomial logistic regression models at a number of time points after the beginning of the first job, namely 1, 3 and 5 years later. While selecting time points is by definition somewhat arbitrary, we have no reason to suspect that this will substantially bias the results. Note that this analysis clearly focuses on the job at labour market entry, not intervening jobs, to answer the question “a bad start?”. It is not clear that examining intervening jobs would change the overall conclusion, but it should be borne in mind. The results for the coefficient on fixed-term contract are presented in table 3; additional results are presented in appendix table B2.

Table 3: Modelling odds of being in employment, unemployment, education or other out of the labour market 1, 3 and 5 years later.

Dep. Variable (Ref.:Employed)	Key covariates:	1 year later (Exp(b))	P- value	3 years later (Exp(b))	P- value	5 years later (Exp(b))	P- value
Unemployed	Fixed-term at lab. mkt entry	6.205	0.000	2.278	0.009	1.167	0.706
Education	Fixed-term at lab. mkt entry	2.826	0.004	2.638	0.000	1.403	0.246
Other	Fixed-term at lab. mkt entry	3.123	0.000	1.119	0.634	1.322	0.250
N (cases)		2253		2146		1960	

Source: German Life History Data, Cohorts 1964/1971.

We find that an initial fixed-term contract is clearly associated with higher unemployment one year later: these individuals are more six times more likely to be unemployed than those who got a permanent contract initially. This finding is statistically significant and in keeping with most previous research (Giesecke and Groß, 2003; Kurz and Steinhage, 2001). Three years after the start of the first job the difference between the groups is not so great: here those with a fixed-term contract initially are just over twice as likely to be unemployed. And a key finding for this paper is that five years after the start of the first job there is no difference between the groups. This had not been previously investigated. We observe convergence in rates of unemployment of those who began working life with a fixed-term contract and those who began with a permanent contract. This supports the hypothesis from screening (2b). We find no clear evidence to support the segmentation hypothesis (2a) that fixed-term contracts at labour market entry are a ‘trap’.

While we cannot test directly what proportion of temporary jobs are converted to full-time jobs with the same employer, the fact that 35% of those with a fixed-term contract of at least six months are with the same employer 3 years later in a country where the maximum duration of most temporary contracts is legally restricted to two years suggests that a significant proportion are indeed retained by the employer.<sup>14</sup>

Looking at the coefficients for education, we find some evidence that workers with a fixed-term contract initially are more likely to engage in further training, this tendency is particularly marked in the early years of working life (1 and 3 years after the beginning of the first job). Further training is a phenomenon which has become increasingly widespread in Germany in recent years (Jacob, 2003). Apprentices either go on to university, retrain in a different occupation or engage in further training in their initial occupation (Jacob, 2003). A number of explanations have been proposed, but it is difficult to establish whether people do further training because they cannot get a suitable permanent job, or whether they took a fixed-term job because they had always planned to further training. In some cases the respondents do not know themselves (Jacob, 2003). In addition, those who began working life with a fixed-term contract are also more likely to be in another status – like national service– one year later, but not five years later. Both sets of results (on transitions to another status and education) suggest that some fixed-term contracts are being used as 'stop-gap jobs' and as such may not be the 'true' labour market entry.<sup>15</sup> This is in keeping with the general trend described by Konieczka (1999) that the phase of labour market entry becoming less systematic and more protracted in Germany.

## 7.2 *Testing the Robustness of the Findings*

In addition we conduct a number of tests on the robustness of the model. First, it is obvious from the falling number of cases between 1 and 5 years after the start of the first job that there is a drop in the number of observations between the beginning of the first job and five years later due to right censoring (see table 3). In order to control for this we repeat the models for one year after the start of the first job using only a sub-sample of individuals who remained in the sample five years later and compared the results to the model described above using the whole sample. We find the results presented in table 3 are not affected: results from a Hausman

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<sup>14</sup> Temporary contracts longer than the maximum two years are permitted in universities and for several legally defined reasons.

<sup>15</sup> The results are very similar using only the sample of jobs 6 months and over indicating that these jobs are not necessarily short.

(1978) test provide strong evidence that there is no difference between the model using the full sample and the model using the reduced sample.<sup>16</sup> Our concern had been that the individuals with a fixed-term contract 5 years later were a positive selection of labour market entrants who remained in the sample thus giving the convergence result. In fact, results from this right censoring test suggest that those who remained in the sample after five years were even more likely to be unemployed one year later (8 times more likely) than the whole sample. The convergence story remains.

In a second test we re-estimate the multinomial logistic regression models using a sample of all jobs lasting six months or longer, as in section 6. For the effect of having a fixed-term contract the findings are basically maintained: after one year, labour market entrants are much more likely to be unemployed; after 5 years this is not the case.<sup>17</sup> There is no indication that the findings depend on the definition of the first job. In a further model we distinguish the category of employment into jobs with the same employer and jobs with a different employer. While there is no difference in the overall odds of being in employment, labour market entrants with a fixed-term contract were more likely to be employed with a different employer 5 years later than labour market entrants with a permanent contract.

### *7.3 Different educational groups*

But how do these results differ for different educational groups? Are graduates who get a fixed-term contract the source of the convergence in employment rates? Following the findings in section 6, we divide the labour market entrants into 3 groups: those with no qualifications, those with vocational training and those with third level education. The number of cases is too small for a multinomial model, so we simply present descriptive statistics of the proportion employed 1,3 and 5 years later (see table 4). We apply a simple statistic to test whether the differences between those whose first job was fixed-term and those whose first job was permanent are statistically significant.<sup>18</sup> We find that those with no qualifications are a very select group and have relatively low employment rates five years later (Solga, 2002). This is true regardless of whether or not they begin with a temporary contract. In the highly credentialised German labour market, where there are very few labour market entrants with no formal

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<sup>16</sup> The test proposed by Hausman (1978) is used to test the difference between an estimator that is known to be consistent with an estimator that is efficient under the assumptions being tested. Detailed results for these models, the test and other robustness tests are available from the authors on request.

<sup>17</sup> Just for three years later the differences between the groups in their unemployment risk is not significant.

<sup>18</sup> This is a standard test for comparing proportions. It uses information on the difference between the proportions divided by their standard error to determine significance. The standard error is calculated using information on the

qualifications, a fixed-term contract initially does not have a significant impact: formal qualifications are the decisive factor in subsequent labour market outcomes. For labour market entrants with an apprenticeship, those with a permanent contract are more likely to be employed 1 year later, but 5 years later there is no difference between the groups. Interestingly, for graduates, the lower employment rates are maintained for those who entered the labour market with a fixed-term contract compared to the group who entered the labour market with a permanent contract.<sup>19</sup> This suggests that, if anything, it is university graduates who are most disadvantaged by starting their career with a fixed-term contract, contradicting the idea that it is the fixed-term university graduates driving the convergence finding.

Table 4: Proportion employed 1,3 and 5 years later for different educational groups

1 <sup>st</sup> job:	Proportion employed 1 year later			Proportion employed 5 years later		
	Temp	Perm	Sig diff?	Temp	Perm	Sig diff?
All	0.75	0.88	***	0.80	0.83	n.s.
Noqual	0.72	0.83	n.s.	0.62	0.67	n.s.
Voc.	0.70	0.87	***	0.82	0.84	n.s.
Training						
Uni	0.87	0.95	**	0.81	0.92	**

Source: German Life History Data, Cohorts 1964/1971.

#### 7.4 Quality of subsequent jobs

While we have established convergence in employment rates, this is arguably a crude indicator of labour market performance. Is there any evidence of difference in the quality of jobs between fixed-term and permanent workers? Two measures of job quality are wages and occupational prestige. Here we discuss findings from other analysis for Germany using German socio-economic panel data, as the retrospective data used in this paper are not suitable for collecting detailed wage data.

Mertens and McGinnity (2004) find that while fixed-term workers tend to earn less than those with a permanent contract at any point in time, West German fixed-term workers also experience somewhat higher wage growth, on average than permanent counterparts, both in the short term and in the longer term. At least this is the case for those who are employed 1, 5

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pooled estimate and the number of cases in each category. See Agresti and Finlay (1997: 216-220).  
<sup>19</sup> Though note graduates who enter the labour market with a permanent contract have very high employment rates indeed, over 90% (see table 4). In a detailed longitudinal study of graduates, Minks and Schaeper (2002) stress differences between the public and the private sector. They find that graduates working in the public sector with fixed-term contracts tend to earn more than their permanent counterparts, while those working in the private sector tend to earn less. They suggest that certain significant occupational groups like doctors and academics who have high earnings and often a series of fixed-term contracts account for these findings. In these high-skilled

and 10 years later: wages are not observed for those not in employment. Extending this analysis to examine wage differences at different parts of the wage distribution, Mertens and McGinnity (2003) find that low earning fixed-term contract workers suffer a much greater wage penalty than the highly-skilled high earners. However, these findings are counteracted by the wage growth findings: many fixed-term employees with low initial earnings experience relatively high wage growth. Some individuals may have low initial earnings and low wage growth, but they did not identify a general trend in this direction. Summarising then is the idea that while those with fixed-term contracts may earn less than permanent counterparts at any point in time, their career development, at least in terms of wage growth, compares favourably to those with a permanent contract.

An alternative measure of job quality is occupational prestige. Scherer (2004) compares the effect of having a temporary contract at the beginning of working life on the prestige of subsequent jobs. After controlling for education, labour market experience and social origin, she finds no negative effect of temporary contracts on subsequent occupational prestige. Following the findings in section 7.1 that employment rates converge, this additional evidence on wages and occupational prestige suggests that while fixed-term jobs may carry lower wages initially than comparable permanent jobs, there is some indication that this convergence in employment rates is accompanied by higher wage growth. There is no indication that fixed-term contracts damage future occupational positions.

## 8 Discussion

The two research questions in this paper were who gets a fixed-term contract in Germany at labour market entry and how does this affect subsequent labour market stability. Our key findings are firstly, fixed-term contracts are found among those for whom the education-to-work transition is not so co-ordinated, and includes *both* high-skilled and low-skilled labour market entrants. Secondly, beginning working life with a fixed-term contract does not clearly signal a "bad start". Unemployment rates between the two groups have converged after 5 years. If anything, it seems that university graduates are more adversely affected than other groups: those with no training fare have low employment rates regardless of whether they start working life with a fixed-term contract. In addition, the finding that the later cohort, born in 1971, is more likely to get a first job that is fixed-term suggests that the 1985 legislation has had an

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occupations fixed-term contracts are a part of career progression at the beginning of working life.

impact on the proportion of fixed-term contracts at labour market entry.

Our research strategy has been to clearly focus on the first job, this is point we are most interested in. One question one might ask is how does the story develop, i.e. what happens the individuals later, 10 years after the start of the first job. On the one hand this might seem more salient in assessing life chances. However the impact of intervening factors will surely be greater with a longer time frame, and it is not clear that the key findings will be undermined. In particular, it is not clear that the employment rates, having converged after 5 years, would diverge for the two groups after 10.

Another clear avenue for future research is to ask whether the findings will differ in countries with different institutional settings. What about the function of temporary contracts at labour market entry in countries without a "co-ordinated transition from education to work" like in Germany, for example Spain and France? What about in countries with school-based vocational training like Sweden, and the Netherlands? Do temporary contracts play the same role in countries with lower levels of labour market regulation like Britain or Ireland?

Here we can only draw conclusions for Germany, which is that that the function of fixed-term contracts is more to integrate than exclude young people into the German labour market. As such, this overall conclusion tend to concur with that of Gangl et al. (2003) "the evidence suggests that in more tightly regulated systems, the use of flexible regulated forms of employment contract (like fixed-term contracts...) is particularly widespread as a regulated market means fostering the integration of young people into the labour market, rather than regulation that represents a genuine impediment to integration itself" (p. 287).

## 9 References

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## 10 Appendices

### Appendix A

The Employment Promotion Act (1985): Introduction, Extensions and Amendments.

- Pre-1985 - fixed-term contracts only permitted for special reasons. Fixed-term contracts were limited to 6 months, and the employer had to demonstrate that the work was temporary by nature.
- The "Employment Promotion Act" (*Beschäftigungsförderungsgesetz*) of 1985, removes the need for a reason under certain conditions. New employment contracts or employment contracts immediately following vocational training are now permitted for a duration of up to 18 months. In small, new firms the contract can be for 24 months. Valid until December 1989.
- 1990, 1994 Extensions of the Employment Promotion Act, finally until December 2000.
- 1996 - Extension of the maximum duration of fixed-term contract to 24 months for new contracts; 3 continuous extensions within the maximum period allowed; unlimited temporary contracts for employees over 60.
- 2001 - The new law on part-time employment and fixed-term contracts, extends the previous legislation on fixed-term contracts for an unlimited period.

Source: Schömann and Hillbert (1998), Rudolph (2000).

### Appendix B

Table B1: Effect of personal characteristics (Logit estimates, odds). Influence on the odds of having a fixed-term contract, apprenticeship test.

Covariates	All first jobs after leaving education (Exp(B))
Constant	0.067***
Age	1.004
Women	0.836
<i>Cohort Reference: 1964 Cohort</i>	
1971 Cohort	1.265*
<i>Educational Qualifications Reference: apprenticeship training, not retained</i>	
apprenticeship training, retained in same firm	0.626***
No qualifications	1.528*
Vocational school-based training ( <i>Fachschule</i> )	1.278
University or other Third Level	2.609***
Months since leaving education	1.002
Partner	0.960
Number of children	0.960
Foreigner	1.475
Number of Observations	2487
Log Likelihood Test (model chi square) (d.f.)	160.28 (11)

Source: German Life History Data, Cohorts 1964/1971.

Notes: \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

Table B2: Probability of being in employment, unemployment, education and other labour market status 1, 3 and 5 years after entrance to the labour force (multinomial logistic regression).

Dep. Var.: labour market status Unemployed (Ref. = employed)	Model 1: one year later		Model 2: three years later		Model 3: five year later	
	Exp(B)	p-value	Exp(B)	p-value	Exp(B)	p-value
Age	1.002	0.975	1.049	0.436	0.837	0.079
Female	0.923	0.806	0.955	0.897	1.111	0.790
<b>Birth cohort</b> (Ref. = 1964)						
1971	0.847	0.536	1.250	0.428	2.420	0.006
Not German	0.420	0.186	1.851	0.193	0.842	0.761
Lives with husband or partner	1.931	0.022	1.348	0.319	0.840	0.612
No. of children	0.826	0.672	1.335	0.373	1.713	0.048
<b>Education</b> (Ref. = vocational training)						
No training	1.581	0.301	1.887	0.141	5.905	0.000
University degree	1.026	0.962	0.230	0.077	3.040	0.247
<b>Fixed-term contract</b>	6.205	0.000	2.278	0.009	1.167	0.706
<b>Occup. level</b> (Ref. = skilled blue collar worker)						
Skilled white collar worker	0.642	0.267	0.785	0.568	0.568	0.236
Unskilled white collar worker	2.083	0.152	1.020	0.974	0.353	0.171
Unskilled blue collar worker	1.163	0.741	1.623	0.308	0.957	0.936
<b>Working hours</b> (Ref. = full-time)						
Part-time	0.545	0.426	0.298	0.255	1.455	0.590
Hours missing	1.422	0.446	2.176	0.064	0.610	0.513
<b>Firm size</b> (Ref. = medium)						
Small	2.405	0.004	1.265	0.451	1.473	0.281
Large	0.877	0.770	0.446	0.150	1.251	0.635
Size missing	0.457	0.307	1.077	0.880	0.504	0.383
<b>Industry</b> (Ref. = manufacturing)						
Primary sector	1.529	0.521	0.567	0.591	2.228	0.250
Construction	0.996	0.993	1.106	0.850	0.956	0.942
Transport	1.052	0.939	0.387	0.367	0.584	0.620
Non-market services	0.409	0.092	1.694	0.268	1.816	0.320
Market services	0.834	0.624	1.019	0.964	1.545	0.324
<b>constant</b>		0.001		0.000		0.652

Table B2 (continued).

Dep. Var.: labour market status Education (Ref. = employed)	Model 1: one year later		Model 2: three years later		Model 3: five year later	
	Exp(B)	p-value	Exp(B)	p-value	Exp(B)	p-value
Age	1.241	0.001	1.322	0.000	1.313	0.000
Female	0.451	0.030	0.976	0.925	0.504	0.028
Birth cohort (Ref. = 1964)						
1971	6.920	0.000	5.457	0.000	3.113	0.000
Not German	0.255	0.094	0.774	0.599	0.643	0.446
Lives with husband or partner	0.315	0.039	0.659	0.088	0.673	0.121
No. of children	0.508	0.472	0.376	0.052	0.718	0.294
<b>Education</b> (Ref. = vocational training)						
No training	1.551	0.384	1.289	0.526	1.466	0.432
University degree	0.172	0.033	0.178	0.002	0.133	0.005
Fixed-term contract	2.826	0.004	2.638	0.000	1.403	0.246
<b>Occup. level</b> (Ref. = skilled blue collar worker)						
Skilled white collar worker	4.512	0.015	0.599	0.081	0.377	0.003
Unskilled white collar worker	8.515	0.007	0.833	0.702	0.593	0.344
Unskilled blue collar worker	8.670	0.001	1.047	0.904	0.575	0.204
<b>Working hours</b> (Ref. = full-time)						
Part-time	2.996	0.090	2.113	0.120	1.823	0.323
Hours missing	0.810	0.784	0.965	0.933	1.541	0.318
<b>Firm size</b> (Ref. = medium)						
Small	0.802	0.565	0.933	0.780	0.637	0.129
Large	0.840	0.729	1.333	0.352	1.381	0.295
Size missing	1.099	0.873	2.221	0.017	1.048	0.908
<b>Industry</b> (Ref. = manufacturing)						
Primary sector	2.295	0.318	0.996	0.995	0.749	0.704
Construction	3.282	0.057	2.950	0.002	1.095	0.835
Transport	0.441	0.463	0.315	0.130	1.203	0.724
Non-market services	0.949	0.927	1.359	0.401	3.576	0.001
Market services	1.344	0.526	1.322	0.347	1.354	0.365
<b>constant</b>		0.000		0.000		0.000

Table B2 (continued).

Dep. Var.: labour market status Other status (Ref. = employed)	Model 1: one year later		Model 2: three years later		Model 3: five year later	
	Exp(B)	p-value	Exp(B)	p-value	Exp(B)	p-value
Age	0.977	0.516	0.894	0.008	0.980	0.677
Female	0.233	0.000	1.333	0.198	13.403	0.000
Birth cohort (Ref. = 1964)						
1971	2.044	0.000	1.626	0.003	0.990	0.958
Not German	0.251	0.003	1.854	0.053	1.198	0.658
Lives with husband or partner	1.147	0.480	1.269	0.191	1.304	0.225
No. of children	1.719	0.006	4.055	0.000	5.187	0.000
Education (Ref. = vocational training)						
No training	1.154	0.659	0.684	0.270	1.433	0.280
University degree	0.424	0.031	0.395	0.075	0.540	0.178
Fixed-term contract	3.123	0.000	1.119	0.634	1.322	0.250
Occup. level (Ref. = skilled blue collar worker)						
Skilled white collar worker	0.661	0.046	0.694	0.133	0.829	0.530
Unskilled white collar worker	1.050	0.889	0.630	0.228	0.522	0.125
Unskilled blue collar worker	0.588	0.062	0.812	0.523	0.909	0.819
Working hours (Ref. = full-time)						
Part-time	2.238	0.039	2.454	0.011	0.899	0.784
Hours missing	0.908	0.763	0.980	0.955	1.150	0.693
Firm size (Ref. = medium)						
Small	0.761	0.123	1.057	0.767	1.249	0.285
Large	0.879	0.555	0.602	0.066	0.719	0.298
Size missing	1.202	0.516	0.915	0.785	1.071	0.829
Industry (Ref. = manufacturing)						
Primary sector	1.198	0.644	0.245	0.063	1.876	0.281
Construction	1.275	0.344	0.817	0.552	4.029	0.001
Transport	1.544	0.179	1.476	0.278	0.902	0.860
Non-market services	0.766	0.388	0.804	0.476	1.960	0.031
Market services	1.351	0.142	0.856	0.495	1.113	0.710
constant		0.045		0.675		0.000
N		2253		2146		1960
-2Log-Likelihood		2117.29		2307.39		1870.98
Nagelkerke's R <sup>2</sup>		.217		.213		.345