

DISCUSSION PAPER SERIES

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## ABSTRACT

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# The Motivation of Temporary Agency Workers: An Empirical Analysis

We are investigating the relationship between individual and job-related characteristics and the motivation of temporary agency workers. To do so, we are using a unique dataset from one of Germany's largest temporary work agencies. For 3,000 temporary agency workers, a subjective motivation appraisal is provided by the respective direct manager within the hiring company. It is possible to observe a positive relationship between the decision on transition to regular employment and the motivation of temporary agency workers. Women in temporary agency work demonstrate a higher degree of motivation than men. However, in the case of men a clearer correlation can be observed between project duration and motivation. A change of hiring company with follow-up projects has a negative effect on the temporary agency worker's motivation.

**JEL Classification:** J5, J81, M5

**Keywords:** temporary agency work, atypical employment relation, empirical study, motivation, work morale

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# The Motivation of Temporary Agency Workers – an Empirical Analysis

## 1 Introduction

The temporary agency work sector in Germany has experienced major change processes in recent years. In June 2015, a total of 961,000 workers<sup>1</sup> were employed with a temporary contract which was subject to social insurance obligations. With this figure, the number of temporary agency workers in Germany has tripled in the last ten years. Roughly 11,000 temporary work agencies and personnel service providers employ personnel in Germany who work for customer companies on a temporary basis through personnel leasing. Temporary agency workers now account for almost 3% of the employment positions which are subject to social insurance obligations (BfA, 2016). Temporary agency work in Germany is typically based on a triangular structure. A temporary work agency (also referred to as a personnel service provider or staff leasing agency) concludes an employment contract with a temporary worker. The temporary agency worker performs their work with a hiring company (or customer company of the temporary work agency), is loaned out to this company for a limited period for project work, and works on the premises of the hiring company for this purpose. The precise role is regulated by the terms of the personnel leasing contract, which is agreed between the temporary work agency and the hiring company.<sup>2</sup> A peculiarity of temporary agency work is the contractual arrangement between the temporary work agency and the temporary agency employee. The employment contract agreed between these two parties is often unlimited, whilst the personnel leasing contract between the temporary work agency and the hiring company is limited in the form of a labour or service contract.

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<sup>1</sup> The term “temporary agency worker”, as well as the terms “employee” and “personnel” are gender-neutral in nature.

<sup>2</sup> This work does not contain a detailed description of the institutional framework conditions of temporary agency work in Germany. Refer in this regard to Kvasnicka & Werwartz (2003), Vitols (2003), Burda & Kvasnicka (2006) and Kvasnicka (2009).

The employment motivation of the employees is greatly significant for companies, because this has a positive influence on reliability, punctuality, self-initiative and identification with the company for example, whilst it also reduces absenteeism and fluctuation (Brandstätter & Schnelle, 2007; Siemund, 2013). Many findings regarding the motivation of employees are based on theoretical considerations and empirical studies, which firstly focus primarily on regular employees and are not directly transferable to atypical employment relationships. For temporary agency workers, based on the different employment conditions alternative effect mechanisms may act on their motivation (Siemund, 2013).

An analysis of the motivation of temporary agency workers is therefore of interest to all three parties involved in temporary work, both generally and specifically from their varying perspectives. For the temporary work agencies, as well as the customer companies and the temporary agency workers themselves, the latter's motivation plays an important role.

Firstly, *temporary work agencies* generate their sales through the project-based leasing or loaning of their personnel to their customers. An appealing pool of motivated employees, who can be offered to the customer companies and loaned out to them for their projects, is therefore an important competitive factor. The motivation of the leased temporary agency workers as perceived by the customer companies, and the associated contribution of the temporary agency worker to the project, can be viewed as a decisive factor for the award of further orders to the temporary work agency. Secondly, temporary agency workers can make an important contribution to the productivity and profit of the *customer companies*. A positive influence on the business results of hiring companies requires motivated and ambitious temporary agency workers. Thirdly, an analysis of the characteristics that influence the motivation of *temporary agency workers* is also beneficial from the perspective of the temporary agency workers themselves. In the opinion of Siemund (2013), temporary agency workers benefit from greater working motivation because this promotes their personal development and their confidence in their own work, for example. Furthermore, personal motivation usually has a positive effect on job satisfaction (e.g. Judge et al., 2001). Finally, there are reasonable grounds for suspecting that a positive assessment of the motivation demonstrated by a temporary agency worker also provides an indication of their future career prospects.

The aim of this work is to identify, through empirical investigation, the possible individual and job-related characteristics that affect the motivation of temporary agency workers. In order to do so, we are able to refer to data on almost 3,000 temporary agency workers from one of Germany's largest temporary work agencies. In addition to personal information (e.g. gender, age, training and education), we also have access to the characteristics of their hiring companies and their projects, e.g. the project length and transition to the hiring company. At the end of a project, the hiring companies (represented by the respective temporary agency worker's direct manager) appraise the motivation of the temporary agency workers.

During the further course of this work, in chapter 2 a definition of terms is provided and the relevant empirical findings to date are presented. On the basis of theoretical considerations, chapter 3 contains speculations pertaining to the possible characteristics of the motivation of temporary agency workers. Chapter 4 presents the data description. The results are subsequently presented in chapter 5. Our contribution concludes with a number of closing remarks in chapter 6.

## **2 Definitions and empirical findings to date**

There is a close link between the constructs *job motivation* and *job satisfaction*. These largely arise as a result of the same conditional factors, which is why the same theories are frequently drawn upon for their explanation (Siemund, 2013). However, it is necessary to differentiate between the terms. According to current scientific definitions, motivation is described as the combination of processes that trigger and maintain the targeted behaviour (Rudolph, 2003). In its current definition according to Kleinbeck (2009), *job motivation* is the willingness of employees to apply their skills and abilities in their work, i.e. to deploy themselves in a targeted, committed and sustained manner to deliver productive work, and to pursue the solutions to tasks with commitment and also against resistance. Herein lies a significant difference from job satisfaction. According to Locke (1969), job satisfaction is seen as a positive emotional state that arises due to the individual's evaluation of their own work and their work experiences. Work previously undertaken or experienced also plays an important role here, whilst motivation tends to reflect the willingness to perform work.

*Job motivation in temporary agency work* is significantly extrinsically avoidant in nature. Furthermore, temporary agency work is viewed by most workers as a transitional solution and not as a profession (Siemund, 2013). With regard to the job motivation of temporary agency workers, understood as a willingness to accept a role on a temporary employment basis and to maintain this over an extended period and also with difficulties, Siemund (2013) identifies some operational objectives of temporary agency workers or incentives of temporary agency work. These include the avoidance of unemployment, the hope that they will be taken on as permanent employees by a hiring company, as well as the improvement of employability and positive work experience. Closely linked to the transition or acceptance theme is the voluntary nature (or involuntary nature) with which individuals have decided to work in temporary employment. Individuals who only view temporary agency work as an interim solution and are hoping to transfer to the hiring company deliver higher quality work (Marler et al., 2002). De Jong et al. (2009) examine psychological contracts of temporary workers and permanent employees with the companies who employ them. The considerations include the probability of the promise of acceptance into permanent employment being met for example. The authors were able to show here that the psychological contracts of temporary agency workers consist of fewer mutual promises, but that these are approached with greater motivation than those of permanent employees.

Despite the growing significance of temporary agency work as a form of employment, quantitative studies on the topic of temporary agency work and motivation are still in scarce supply. This applies to the German market in particular.

A large proportion of literature to date on Germany and other countries focuses on the *consequences and effects* of employment in temporary work. In many cases the literature examines the opportunities for temporary agency workers to be accepted into regular employment, as well as the risk of future unemployment. For the German employment market, the investigations return a range of results. Dütsch and Struck (2014) note that temporary agency work can have possible constraint effects, i.e. perpetuation of employment in temporary agency work positions. Crimmann et al. (2009) and Lehmer and Ziegler (2010) come to the conclusion that the form of employment of the temporary agency worker prior to their temporary position is particularly decisive for the employment biography. Those individuals who also demonstrate strong previous ties to the employment

market outside of temporary agency work are particularly successful in transitioning to regular employment. Kvasnicka (2009) uses employment data from the Institute for Employment Research (IAB) to compare job seekers with and without prior employment in temporary agency work and finds no negative effects of temporary agency work on the future probability of regular employment. In their analysis of the probability of acceptance by hiring companies, Hopp et al. (2016) come to the conclusion that the time highly qualified temporary agency workers spend in their first position with a hiring company is positively linked - although with a declining trend - to acceptance into a permanent position with the hiring company. However, further leasing is negatively linked with transition and can lead to constraint effects. The results of international studies (Booth et al., 2002; De Graaf-Zijl et al., 2011; Autor & Houseman, 2005) are not necessarily transferable to Germany due to the country-specific peculiarities in terms of the temporary agency work construct and other framework conditions. For temporary agency workers, an increased experience of job uncertainty is observed in a range of surveys (Hecker et al., 2006; Lemanski, 2011). According to the self-assessments of temporary agency workers in an analysis with representative individual data studied by Dütsch (2011), they consider themselves much more likely to lose their jobs than the comparison group of personnel in regular employment. This perception is accompanied by a higher fluctuation in the temporary agency work sector in reality (Rudolph & Schröder, 1997; Antoni & Jahn, 2009).

A further proportion of the existing studies focuses on the *motives of the hiring companies* for using temporary agency workers within their operations. These examine why companies use temporary agency workers rather than regular employees. Flexible employment contracts, such as temporary employment, are often used as a means for increasing the capabilities of the companies, in order to react to changing market conditions (Nienhüser, 2005). Holst (2009, 2012) divides the operational usage strategies of temporary agency work into three categories: Ad-hoc use, the flexibility buffer and strategic use as a safety net against capacity risks in the sales markets. In the case of the last usage strategy, temporary agency work is deliberately used extensively, permanently and in multiple company areas (Holst et al., 2009; Spermann, 2012). Promberger (2012a) generates a typology of the user companies, in which he identifies five different constellations of operational characteristics and framework conditions on the one hand, and figures for the use

of temporary agency work as well as other flexibilisation instruments on the other hand. In consensus with the theoretical considerations of Sesselmeier (2007), on the basis of a company questionnaire Alewell et al. (2007) identify a lack of balance between personnel requirements and the existing human resources within the companies as a triggering motive for the use of temporary work. Furthermore, new internal planning activities regarding the responsibility for HR decisions or a change in responsibility within the HR department are further possible triggering motives. 80% of companies questioned who use temporary agency workers cite changes in manpower requirements, i.e. human resource requirements, as a reason for use. 64% of those questioned see no internal alternative for filling the position. The effect of the use of temporary agency work on the productivity and performance of the hiring company is also considered separately. Beckmann and Kuhn (2009), as well as Hirsch and Müller (2012), observe a reverse U-shaped progression between the use of temporary agency workers and the company performance. Dörre (2005), Kraemer and Speidel (2004), as well as Holst (2009) note a disciplining effect on permanent staff through the use of temporary agency workers, for example in the form of responsibilities with salary and working hours standards collectively agreed.

Other studies identify certain *company characteristics* upon which the use or increased use of temporary agency work is dependent. With regard to company size, Promberger (2012b) ascertains on the basis of IAB data that the use of temporary staff follows certain regularities. According to these, small companies with fewer than 49 employees demonstrate a numerically low but proportionally very high degree of utilisation. In contrast, the extreme users of temporary agency workers include medium-sized companies with 50 to 499 employees. Furthermore, Müller (2014) shows that the probability of using temporary agency workers in stock corporations and companies with foreign majority owners is particularly high. Starting with the competition strategy and the associated task complexity, Nienhüser (2007) develops a causal model for explaining atypical employment. According to his considerations, these employment forms are most common in companies with a short-term external employment strategy, which is characterised by low task complexity and therefore also by low requirements for human and social capital.

A further area of research focuses on the question of who a temporary agency worker is or what *characteristics* distinguish the group of temporary workers in comparison to em-

employees in other forms of employment. Descriptive analyses show that men are more frequently employed as temporary agency workers than women are and that temporary agency workers tend to be younger than those employed outside of temporary agency work and are primarily commercially active (Crimmann et al., 2009; Burda & Kvanicka, 2006; Jahn & Rudolph, 2002). Furthermore, married employees and those with children under the age of 16 living in the household are less common in temporary employment positions (Dütsch, 2011). Two interpretations are plausible. On the one hand, parents of juveniles could be more reliable employees, who are preferred in regular employment. On the other hand, this group of people could also be less willing to fulfil the mobility requirements that arise in temporary employment (Dütsch, 2011). Furthermore, the employment biography of the employee plays an important role. Employees who were unemployed before their current employment are more likely to be in temporary employment positions than those who were previously employed (Crimmann et al., 2009).

Further studies look in detail at the *employment conditions* and working arrangements of temporary workers in comparison to employees in a regular employment relationship. Nienhüser and Matiaske (2003) define a regular employment relationship as a permanent employment contract, mandatory social contributions, full-time, a corresponding salary and full overlap of work and employment. With the comparative analyses, wage gaps between temporary workers and regular employees usually play a role. Nienhüser (2005) establishes that flexible forms of employment, such as temporary work, are often viewed as precarious, uncertain and poorly paid with poor working conditions. In comparison to employees in a regular employment relationship, the working and pay conditions of temporary agency workers are also poorer when further influence variables are applied for control purposes (Nienhüser & Matiaske, 2003). With reference to the Third European Survey in Working Conditions (ESWC), the authors come to the conclusion that temporary agency workers received a 20% lower salary than workers with a regular employment contract when influence variables such as age, nationality, qualifications, marital status and company size are considered as controls. In Germany too, wage differences between temporary workers and non-temporary workers are apparent. The calculations also consider the differences in the characteristics of temporary agency workers and non-temporary workers (Kvasnicka & Werwatz, 2003). These can be used to explain up to half of the wage gap (Jahn, 2010). Jahn and Pazzoli (2013) cite a difference of 15 to 25%

with controls for activity, age and professional experience. Brehmer and Seifert (2008) refer to data from the German Socio-Economic Panel (SOEP) when highlighting a less favourable situation in terms of salary and in particular also employment stability. With regard to participation in professional development, in contrast to other findings of a Europe-wide survey (Letourneux, 1998), the authors see no correlations within the context of temporary agency work specifically.

Furthermore, some works focus on the *job satisfaction* and *commitment* of temporary agency workers. Dütsch (2011) observes that temporary agency workers are significantly less satisfied with their employment than comparable employees in regular employment. These differences can be largely traced back to the differences between the employment and pay conditions (Nienhüser & Matiaske, 2003). In particular the actual - although also the subjectively perceived - job uncertainty plays a decisive role here (De Witte & Näswall, 2003; Jahn, 2015; Grund et al., 2015). Furthermore, within the temporary agency worker group, Ellingson et al. (1998) point out lower job satisfaction among those who are involuntarily working in this type of employment. Sende and Vitera (2013) expand on the topic of job satisfaction with consideration to the aspect of loyalty to a company (commitment) on the part of temporary agency workers in comparison to regular employees or the core workforce within hiring companies. They assume that the common basis for both these concepts is the evaluation of the employment activity and the organisation in light of personal targets and values (Sende & Vitera, 2013). It is assumed that a high degree of satisfaction or commitment has a positive influence not only on the pure performance of the employee but also that it brings further positive effects with it. Examples cited include commitment beyond the contractual obligations, loyal representation of the company to third parties and faithfulness to the company even if appealing alternative employment prospects are on offer (Sende & Vitera, 2013). Within the framework of a qualitative investigation, Mitlacher (2008) observes commitment and identification with the customer company as particularly important elements, not only for the employment relationship in itself, but also for the indirect relationship between the temporary agency worker and the customer company. Problems are caused by the three-party construct of temporary work and through the increased complexity, uncertainty and the quality risk in the exchange relationship. Many attributes whose positive influence on job satisfaction and commitment have been demonstrated, are often present to a lesser degree

with temporary agency workers (Sende & Vitera, 2013). Lapalme et al. (2011) demonstrate a reduction in the effective commitment of temporary agency workers in Canada if expectations towards the hiring company are not satisfied.

The description of the current research status clearly shows that temporary agency workers are usually investigated as a research subject in comparison with other employee groups. Whilst a few studies regarding the job satisfaction of temporary agency workers are available as described, to date there has been insufficient focus on the characteristics of the *motivation* of temporary agency workers. Analyses that examine the characteristics within temporary agency workers as a group are lacking in particular. We focus on these in the following empirical study.

### **3 Theoretical background**

In this section we present theoretical considerations on the relationship between various characteristics and the motivation of temporary agency workers. We initially examine the job characteristics at the hiring company. We then focus on the individual characteristics of the temporary agency workers.

According to arguments per the Inducement-Contribution Theory (Simon, 1957; March & Simon, 1958), a balance is present in organisations between inducements and contributions. Individuals adjust their performance, in the form of working efforts, according to existing inducements or incentives, such as salary. Greater inducements are therefore usually accompanied by increased motivation and greater working efforts. A similar interrelation exists with fairness or gift-exchange considerations (Akerlof, 1984; Akerlof & Yellen, 1990) and with the shirking variant of the efficiency wage model (Becker & Stigler, 1974; Shapiro & Stiglitz, 1984), whereby a positive relationship is assumed to exist initially entirely generally - and not exclusively for temporary agency workers - between employees' *remuneration* and their motivation. Empirical investigations in the lab and in the field also confirm the relevance of gift-exchange behaviour (e.g. Fehr et al., 1998; Charness et al., 2004; Gneezy & List, 2006; Falk, 2007). In the triangular construct between temporary agency workers, temporary work agencies and hiring companies, higher salaries could also be expedient for temporary work agencies, if these were

accompanied by greater motivation on the part of temporary agency workers and follow-up contracts were therefore more likely from satisfied hiring companies.

*Hypothesis 1: The amount of remuneration is positively related to the motivation of temporary agency workers.*

In addition to the role of the salary in the motivation of temporary agency workers, the *project duration* can also be noted as significant. Similarly to with conventional employment relationships, temporary agency workers can enter into a form of psychological contract (Robinson & Rousseau, 1994) with the hiring company, whereby mutual expectations and obligations arise between the employee and employer, which exist beyond the legal employment contract. Accordingly, the psychological contract is consistently revised and intensified within the framework of longer-term cooperation. The longer the relationship lasts, the broader the spectrum of contents of the psychological contract. In the case of temporary work, such contracts may arise between the temporary agency worker and the hiring company in which the temporary agency worker is active.<sup>3</sup> It can be assumed that more mutual obligations are entered into with the hiring company as the project increases in length, and that the acceptance of such obligations by the temporary agency worker is recognised in the assessment of their motivation.

*Hypothesis 2: The project duration has a positive effect on the motivation of temporary agency workers.*

A further important characteristic is the *acceptance* of a temporary agency worker into employment with the hiring company. Within the framework of our investigation, the managers at the hiring companies were always asked to provide their feedback on the motivation of the temporary agency workers only at the end of a project and therefore after the transition decision. However, because the transition decision can be conveyed to the temporary agency worker at any time during the course of a project, a positive correlation between acceptance and the motivation of the temporary agency worker can be

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<sup>3</sup> In addition to the effects of a psychological contract with the hiring company, such a contract is also conceivable with the temporary work agency. However, because the temporary agency worker does not work on their premises and does not meet with colleagues at the temporary work agency, the nature of a possible psychological contract would differ here. Because this relationship is not part of our empirical analysis, we do not wish to go into further detail in this regard.

assumed. Differentiation is then made between the direction of action in the two phases before and after the acceptance decision.

Up to the point of notification of transition, motivation is driven by the desire for transition and more motivated temporary agency workers are taken on with a greater degree of probability. The majority of temporary agency workers wish to be accepted by a hiring company (Eurociett, 2007). It can therefore be expected that they endeavour to perform well in this situation, if it appears even vaguely possible that they may transition (Sende & Vitera, 2013; Sende et al., 2011). According to the arguments of the Achievement Motivation Theory (Atkinson, 1957) and Goal-Setting Theory (Locke & Latham, 2006), individuals can be motivated to act by personally set targets. It is assumed here that a reverse U-shaped correlation exists between the difficulty of target attainment and motivation. The aim of acceptance is extremely difficult to characterise because the transition rates are generally low at around 20% (Crimmann et al., 2009). Furthermore, it is necessary to consider previous experience and the further employment prospects. Over half of temporary agency workers were unemployed before their temporary employment (BfA, 2010), meaning that the risk of further periods of unemployment is reduced through transition. The ultimate goal of being accepted into permanent and regular employment can therefore have a positive influence on motivation.

Following the transition decision, it can be assumed that the motivation is driven by the desire to justify acceptance. Accepting a temporary agency worker into an unlimited position of employment in a hiring company can be seen as feedback in relation to the performance of the temporary employee on the project. Investigations (e.g. Mohnen & Pokorny, 2007) have also shown that positive feedback regarding performance can lead to increased working efforts. Grounds for this include for example the previously mentioned gift-exchange effect. It is therefore also possible to assume a positive relationship between an acceptance decision and the motivation of temporary agency workers.

*Hypothesis 3: There is a positive relationship between the transition decision and the motivation of temporary agency workers.*

In addition to the previously mentioned characteristics, *a change of hiring company* is connected to motivation for the temporary agency worker with follow-up projects, if they are involved in more than one project. It is possible that multiple projects in succession

with the same hiring company may be perceived as one cumulatively long project and that the acceptance opportunities may be interpreted as accordingly greater. In contrast, a change of hiring company means a new start with a further customer of the temporary work agency. A change in hiring company arising from non-acceptance can also be seen as a break in the psychological contract. Rigotti (2009) describes substantial connections between the experienced breaking of psychological contracts and employment-relevant attitudes and behaviour patterns. Connections are also evident between breaks in psychological contracts, commitment and dedication, for example. Within the group of temporary agency workers who are leased multiple times by temporary work agencies, in the same way as with the argument regarding project duration, it is also possible to assume higher motivation among those who remain with “their” customers as temporary agency workers than those temporary employees who undertake their next project with a new hiring company.

*Hypothesis 4: There is a positive relationship between remaining with a hiring company on a follow-up project and the motivation of the temporary agency worker.*

Where applicable, differences may be presumed in relation to the *gender* of the temporary agency worker. Some empirical indications suggest that women tend to expect less in terms of certain characteristics of their employment situation. For example, Clark and Oswald (1996) find a higher level of job satisfaction among women, despite poorer working conditions with regard to pay, job security and promotion opportunities. Engellandt and Riphahn (2005) observe a higher exertion level among women in temporary employment than among men. They measure overtime hours and absenteeism and come to the conclusion that women are more inclined to work overtime in employment positions of a limited duration than men are. We consider a similar correlation to be possible within the group of temporary agency workers.

*Hypothesis 5: Women in temporary agency work positions (with job characteristics controls) exhibit higher motivation than men.*

With regard to *education*, it is not easy to predict an unambiguous connection with motivation. According to Nienhüser (2005), atypical forms of employment are often associated with “lower qualifications”. However, in reality individuals with varying levels of

education are active as temporary agency workers. If qualifications could be interpreted as a sign of general willingness to work, then this would speak in favour of a positive relationship with motivation. However, qualifications could also be linked with higher expectations in terms of employment situation. If these expectations are not satisfied through temporary agency work, then this could have a negative effect on motivation. Johnson and Johnson (2000) demonstrate a negative effect of perceived over-qualification on some areas of job satisfaction. Their results indicate that this effect is reflective of work-related deprivation connected with unfulfilled expectations. Temporary employees with a low level of education are subject to a significantly greater risk of unemployment and would therefore be more inclined to accept atypical employment. The empirical results may be dependent on the extent to which working conditions controls are applied. Clark and Oswald (1996), as well as Grund and Sliwka (2007), demonstrate for example that on average higher job satisfaction among individuals with a better level of education reverses with the application of the remuneration control. A similar effect can also be assumed with the influence of the education level on the motivation of temporary agency workers. We have refrained from the explicit formulation of a hypothesis in relation to the level of education.

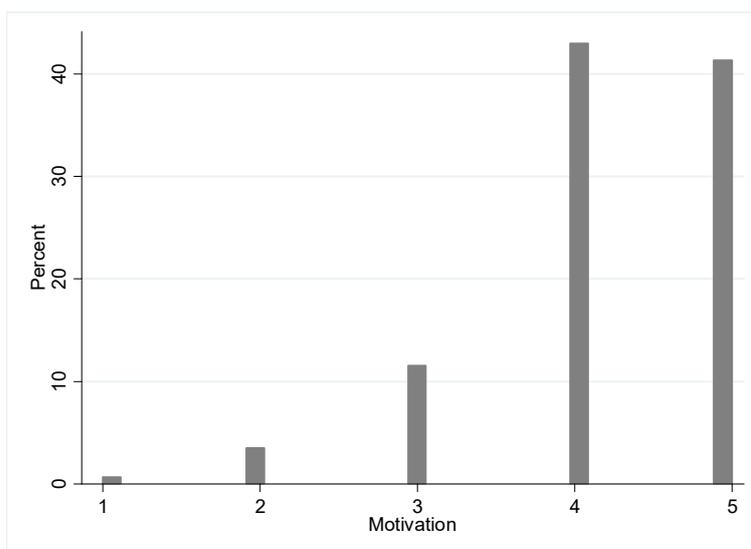
#### **4 Dataset and variables**

On the basis of a dataset from one of the largest temporary work agencies in Germany, it is possible to investigate the research questions specified. These data are documented personal data on the temporary agency workers, as well as project-related data regarding the respective personnel leasing, which have been made available to us for research purposes in a digital and anonymised form. Overall, personnel leasing in the period from 2007 to 2011 encompassed almost 25,000 projects. The motivation appraisals generated by the hiring companies regarding the temporary agency workers are available for a proportion of these projects. To obtain this information, the temporary work agency sends questionnaires to the personnel departments within the hiring companies. The motivation should be evaluated by the direct managers within the hiring companies on a voluntary basis. In addition to motivation, the manager is also questioned on the temporary employee's reliability, integration capacity, punctuality and friendliness. The appraisals are

then returned to the temporary work agency. For the purpose of this investigation, appraisals regarding the motivation of 2,984 temporary agency workers are available. These employees worked on a total of 3,423 projects between 2007 and 2011. An analysis of the differences from the overall sample shows that the observations within the sample tend to pertain to longer projects and frequently also follow-on projects. This is also intuitively obvious because the hiring companies would be unable to provide a valid assessment of motivation during very short projects and would not wish to do so. An appraisal is also more common before a pending transition to the hiring company, because an accurate appraisal of the temporary employee takes place before such a decision. The proportion of women in the sample with appraisals is higher than in the overall sample.

The motivation assessments of the customer companies who employed the temporary agency workers are available as a *dependent variable*. This assessment is undertaken by the temporary worker's direct manager within the hiring company at the end of a project, and therefore constitutes an appraisal of the motivation of the temporary agency worker over an entire project. It takes the form of a five-point Likert scale ranging from 1 (poor motivation) to 5 (very high motivation). Figure 1 clearly shows that the temporary agency workers were retrospectively assessed as demonstrating a high level of motivation overall during the work on their projects. Over 40% were awarded the highest mark or classed as demonstrating good motivation respectively.

**Figure 1:** *Motivation of temporary agency workers*



Remark: 5 = very high motivation, 1 = poor motivation

In addition to the assessment of the motivation of a temporary agency worker, with almost half of the observations we also have access to appraisals of the reliability, integration capacity, punctuality and friendliness of the temporary agency workers; likewise in the form of a five-point Likert scale from 1 (poor) to 5 (very good). These four factors can be interpreted as partial aspects of the temporary agency worker's willingness to work. On average, the temporary agency workers are also rated well with regard to these attributes. The results of a respective factor analysis suggest using these four additional items together with motivation as a construct (Cronbach's alpha of 0.9064, see also Table A in the Appendix). With consolidation of the five assessments we have generated the mean value of the standardised individual values. For the purpose of standardisation, the mean value of an attribute was taken from the individual assessments and divided by the respective standard deviation. We are calling this formulated construct *work morale*. According to McFadzean and McFadzean (2005) work morale is to be understood as the degree to which an employee presents a positive or motivated psychological state. Within the framework of this investigation, we use this measure of work morale alongside motivation to underline the robustness of possible correlations with individual or job-related characteristics.

The following variables are available as *independent variables*: Firstly we have information on the hourly rate (in EUR) paid to the temporary agency worker during project deployment. The information on the project duration is divided up into four categories (up to 2 months, over 2 and up to 6 months, over 6 and up to 12 months, over 12 months). On the basis of dummy variables for the year of project completion, we are able to apply controls for possible changes during the economic crisis (Müller, 2014, Spermann, 2012). Additionally, we use a dummy variable to specify whether the temporary agency worker is working on an initial or a follow-up project. Furthermore, using an additional dummy variable we determine whether a transition to permanent employment with a hiring company takes place at the end of a project. In addition to this, it is possible to control from the second instance of project deployment whether the temporary agency worker remains with the customer or changes to a different company. As socio-demographic attributes, the worker's gender, age (in years) and a binary variable for the existence of any children are also incorporated in the evaluation. The education level is logged with binary values without training and completed studies. The reference group applied is temporary agency

workers who have completed vocational training. Finally a control takes place for the activity performed during the project. Within the framework of robustness checks, we also consider the size and sector of the hiring company.

Tables 1 and 2 provide an overview of the descriptive statistics of the variables. On average, the temporary agency workers receive a gross hourly rate of almost EUR 11.00. The project lengths vary to a considerable degree. Whilst almost one quarter of temporary agency workers are leased out for projects of no more than two months in length, almost one quarter are deployed on projects that run for over one year. One third of the projects took place either in 2007 or in 2008. The transfer quota into employment with the hiring company stands at 23% in our dataset. Over half of the temporary agency workers are female and only every ninth worker has children. This is probably linked to the rather low average age of the temporary agency workers of 33 years. Three quarters of the individuals have completed vocational training. A further 13% are graduates. Of the 945 temporary agency workers who work on more than one project, every fifth worker remains with the hiring company to which they were leased for the previous project. The various activities have been divided up into 8 main categories.<sup>4</sup> The most frequent forms include office/administrative occupations, metal producers/processors and electrical vocations.

**Table 1:** Descriptive statistics for the dependent variables

	Quantity	Mean value / Share	Standard deviation
Projects	3,423		
Persons	2,984		
<b>Dependent variables:</b>			
<u>Motivation</u>			
(1) poor	23	0.006	
(2) adequate	120	0.035	
(3) satisfactory	395	0.115	
(4) high	1,470	0.429	
(5) very high	1,415	0.413	
<u>Work morale*</u>			
	1,576	0	1
Motivation	1,576	4.114	0.819
Reliability	1,576	4.151	0.806
Integration capability	1,576	4.127	0.765
Punctuality	1,576	4.264	0.757
Friendliness	1,576	4.287	0.649

<sup>4</sup> The categorisation of activities is based on Matthes et al. (2008).

**Table 2:** Descriptive statistics for the independent variables

<b>Independent variables:</b>	<b>Quantity</b>	<b>Mean value / Share</b>	<b>Standard deviation</b>
Hourly rate (EUR)		10.64	3.11
<u>Project length</u>			
up to 2 months ( <i>reference</i> )	801	0.234	
over 2 up to 6 months	1,013	0.296	
over 6 up to 12 months	834	0.244	
over 12 months	775	0.226	
Transition (dummy)	774	0.226	
First project (dummy)	2,478	0.723	
Remain with the customer (dummy)	182	0.193 (of n=945 with follow-up pro- ject)	
Age (in years)		33.17	9.415
Female (dummy)	1,881	0.549	
<u>Education &amp; training</u>			
No qualification	367	0.107	
Vocational qualification ( <i>reference</i> )	2,605	0.761	
University graduate	451	0.132	
Children (dummy)	380	0.111	
<b>Control variables:</b>			
Activity: 8 dummies: construction/mining/chemical vocations, office/administrative occupations, electrical vocations, IT vocations, storage/transport vocations, metal producers/processors, sales occupations, miscellaneous			
Year: 5 dummies: 2007, 2008, 2009, 2010, 2011			

\* Remarks: The work morale was established as a standard mean value from the assessments of motivation, reliability, integration capacity, punctuality and friendliness. Adding the four further appraisal items reduces the dataset to 1,576 projects with 1,426 temporary agency workers. The descriptive statistics of the other variables change only insignificantly for the part sample of individuals with observations regarding work morale.

## 5 Results

Table 3 shows the results of ordered probit assessments of the motivation of temporary agency workers in Models (1) and (2). Model (1) only differs from Model (2) due to the

consideration of remuneration. A significant correlation exists between the hourly rate and the motivation of the temporary agency workers. The higher the hourly rate in the projects, the better the appraisal of the temporary agency worker's motivation by the direct manager. This concurs with Hypothesis 1.

A significant relationship also exists between the project duration and motivation. As anticipated (Hypothesis 2), temporary agency workers who work on projects lasting for over twelve months receive more positive evaluations with regard to their motivation than those involved in very short projects. Further appraisals with other reference categories that are not listed here also indicate differences to projects of a medium length.<sup>5</sup>

Irrespective of whether the motivation of temporary agency workers is decisive for their transition to the hiring company, or whether motivation as feedback serves as an incentive and motivates the temporary agency worker to justify this feedback, in the third hypothesis we anticipated a positive connection between transition and motivation, which is also supported by the results.

Whilst the majority of male temporary agency workers receive a good appraisal of their motivation, most of their female counterparts were awarded the top mark (see Figure 2 in the Appendix). This difference between the motivation of the genders is also significant with the controls of our other independent variables (Table 3, Model (1)). An initial consideration could be that women have lower salary expectations. However, the observed difference between the genders is also similarly high if no remuneration control is applied (Model (2)). Lower expectations could however naturally be linked to other factors, such as general employment prospects or working conditions, which we are unable to control for.

In order to investigate the extent to which gender-specific differences exist for the interrelations shown, we have additionally performed separate appraisals for the motivation of women and men (Table 4). Whilst the project length plays almost no role at all for female temporary agency workers, there is a significant positive correlation between the project length and motivation for their male counterparts. There are also relevant gender

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<sup>5</sup> With regard to a causal interpretation, a word of caution is required: Because only actual project lengths and not planned project lengths are recorded here, it is possible to gain a distorted perception that motivated temporary workers tend to work on longer-term projects and that the projects of less motivated temporary workers are possibly terminated prematurely.

differences. A positive (highly) significant connection is only apparent here among the female temporary agency workers. Table B in the Appendix confirms this assumption in Model (2) through a significant interaction between the terms Female and Hourly rate. The reason for this counter-intuitive result could be that women tend to receive a lower hourly rate and when paid the same as their male counterparts demonstrate higher motivation. This concurs with our considerations regarding lower salary expectations amongst women. Table C in the Appendix shows that women indeed have a lower hourly wage, if individual and job-specific attributes are controlled for, in comparison to their male counterparts.

Graduate temporary agency workers demonstrate a higher level of motivation than those persons who have completed vocational training (Table 3, Models (1) and (2)). However, the separate evaluation of women and men in Table 4 shows that this interrelation primarily applies to female temporary agency workers. A further result, shown in Table 3, is that temporary agency workers with children receive slightly poorer motivation appraisals. This result is also more strongly apparent among women (Table 4).

The results of the ordered probit assessments (Models (1) and (2)) must be considered with a certain degree of caution because the distribution of the dependent variables is highly skewed.<sup>6</sup> As such, we have performed multiple robustness checks. Firstly, corresponding binary probit assessments performed on the basis of a transformed dependent variable with just two forms (high versus low motivation) lead to similar results, see Appendix, Table D. Secondly, Models (3) and (4) per Tables 3 and 4 contain the results of OLS regressions with the dependent variable work morale described in section 4. The key results remain intact. One exception is that of the results pertaining to qualifications, which provide the same indications but exhibit a lower degree of significance with the assessments of work morale. However, this appears to be driven by the lower case numbers of these assessments, as suggested by assessments of motivation on the basis of this smaller number of observations (see Table E in the Appendix, Models (3) and (4)).

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<sup>6</sup> In fact a corresponding likelihood ratio test shows differences between the coefficients of the various response categories, so that the proportionality assumption is not necessarily guaranteed.

**Table 3:** Individual and job-related characteristics and motivation (ordered probit assessments) or work morale (OLS)

	(1)	(2)	(3)	(4)
	Motivation	Motivation	Work morale	Work morale
Hourly rate	0.021*** (0.008)		0.016* (0.009)	
<u>Project length (reference: up to 2 months)</u>				
over 2 up to 6 months	0.056 (0.055)	0.072 (0.055)	0.071 (0.075)	0.085 (0.074)
over 6 up to 12 months	0.087 (0.060)	0.109* (0.060)	0.318*** (0.074)	0.336*** (0.073)
over 12 months	0.249*** (0.060)	0.277*** (0.060)	0.315*** (0.075)	0.337*** (0.074)
Transition (dummy, 1 = yes)	0.746*** (0.049)	0.753*** (0.049)	0.514*** (0.051)	0.520*** (0.051)
First project (dummy, 1 = yes)	-0.018 (0.046)	-0.013 (0.046)	-0.001 (0.062)	0.004 (0.062)
Age	0.003 (0.002)	0.004** (0.002)	0.006** (0.003)	0.006** (0.002)
Female (dummy, 1 = yes)	0.304*** (0.050)	0.295*** (0.050)	0.111 (0.070)	0.101 (0.069)
<u>Education &amp; training</u> <u>(Reference: vocational qualification)</u>				
No qualification	0.053 (0.071)	0.055 (0.071)	-0.050 (0.075)	-0.049 (0.075)
University graduate	0.183*** (0.070)	0.231*** (0.067)	0.170* (0.092)	0.214** (0.087)
Children (dummy, 1 = yes)	-0.169*** (0.063)	-0.170*** (0.063)	-0.113 (0.073)	-0.115 (0.072)
Activity (8 dummies)	Yes	Yes	Yes	Yes
Year (5 dummies)	Yes	Yes	Yes	Yes
Constant			-0.824*** (0.157)	-0.712*** (0.143)
Number of observations	3423	3423	1576	1576
Pseudo R <sup>2</sup>	0.065	0.064		
LR chi2	546.928	531.924		
Prob > chi2	0.000	0.000	0.000	0.000
cut1	-1.661*** (0.154)	-1.809*** (0.144)		
cut2	-0.882*** (0.139)	-1.030*** (0.129)		
cut3	-0.104 (0.136)	-0.252** (0.126)		
cut4	1.239*** (0.138)	1.090*** (0.127)		

Remarks: Standard errors in parentheses

\*, \*\*, \*\*\* indicate significance at 10%, 5% and 1% level. \* p<0.1, \*\* p<.05, \*\*\* p<.01

**Table 4:** Individual and job-related characteristics and motivation (ordered probit assessments) or work morale (OLS) of women and men

	(1) Motivation Women	(2) Motivation Men	(3) Work morale Women	(4) Work morale Men
Hourly rate	0.034*** (0.011)	0.007 (0.011)	0.017 (0.013)	0.018 (0.012)
<i>Project length (reference: up to 2 months)</i>				
over 2 up to 6 months	-0.043 (0.078)	0.186** (0.081)	-0.219 (0.135)	0.205** (0.089)
over 6 up to 12 months	-0.051 (0.083)	0.267*** (0.090)	0.055 (0.131)	0.440*** (0.091)
over 12 months	0.132 (0.084)	0.413*** (0.090)	0.137 (0.129)	0.387*** (0.095)
Transition (dummy, 1 = yes)	0.692*** (0.066)	0.819*** (0.078)	0.376*** (0.080)	0.563*** (0.069)
First project (dummy, 1 = yes)	-0.017 (0.060)	-0.003 (0.073)	-0.001 (0.099)	0.014 (0.078)
Age	0.004 (0.003)	0.003 (0.003)	-0.003 (0.004)	0.009*** (0.003)
<i>Education &amp; training (Reference: Vocational training)</i>				
No qualification	-0.041 (0.098)	0.242** (0.099)	-0.029 (0.114)	0.006 (0.097)
University graduate	0.215** (0.086)	0.165 (0.124)	0.298*** (0.105)	-0.117 (0.162)
Children (dummy, 1 = yes)	-0.227** (0.098)	-0.098 (0.085)	-0.015 (0.136)	-0.123 (0.085)
Activity (8 dummies)	Yes	Yes	Yes	Yes
Year (5 dummies)	Yes	Yes	Yes	Yes
Constant			-0.115 (0.250)	-1.079*** (0.198)
Number of observations	1881	1542	531	1045
Pseudo R <sup>2</sup>	0.050	0.059		
LR chi2	207.274	229.787		
Prob > chi2	0.000	0.000	0.000	0.000
cut1	-1.615*** (0.217)	-1.934*** (0.218)		
cut2	-0.929*** (0.195)	-1.056*** (0.200)		
cut3	-0.201 (0.191)	-0.230 (0.197)		
cut4	1.044*** (0.192)	1.235*** (0.198)		

Remarks: Standard errors in parentheses

\*, \*\*, \*\*\* indicate significance at 10%, 5% and 1% level. \* p<0.1, \*\* p<.05, \*\*\* p<.01

The assessments in Tables 3 and 4 contain a number of observations of temporary agency workers, who are repeatedly leased to a project by the temporary work agency. A dummy variable is used in the tables to control for whether this is the first project that the temporary agency worker has worked on. The correlation to motivation or work morale is not significant. Because individuals with multiple projects are contained in the dataset multiple times, those observations are strictly speaking not independent of each other. As a robustness test, Table F in the Appendix presents the results of Table 3 for the observations whereby the individuals complete their first project. The results do not differ on a qualitative basis.

It is beneficial to perform a separate evaluation of temporary agency work projects which run beyond the initial project deployment and therefore could be referred to as follow-on projects (Table 5). The relationship between motivation or work morale and remaining with the customer is particularly interesting here. It is apparent that temporary agency workers who perform follow-on projects with the same hiring company are perceived as exhibiting a significantly higher degree of motivation. This connection exists in addition to a positive relationship between long projects and motivation. The results once again remain robust with the analysis of work morale. Here too, our theoretical expectations from the fourth hypothesis are supported.<sup>7</sup>

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<sup>7</sup> The relationships ascertained here also remain robust with a control of the company size of the hiring company. Because we only have a portion of the information on the size of the hiring company available and no change to the results arises, we have decided to present the results of the assessments without the company size. Corresponding tables can be requested from the authors.

**Table 5:** Individual and job-related characteristics and motivation (ordered probit assessments) or work morale (OLS) in follow-up projects

	(1) Motivation	(2) Work morale
Hourly rate	0.019 (0.017)	-0.005 (0.022)
<i>Project length (reference: up to 2 months)</i>		
over 2 up to 6 months	-0.139 (0.095)	-0.165 (0.133)
over 6 up to 12 months	0.048 (0.115)	0.247* (0.138)
over 12 months	0.295** (0.134)	0.330** (0.146)
Transition (dummy, 1 = yes)	0.691*** (0.114)	0.223 (0.138)
Remain with customer (dummy, 1 = yes)	0.327*** (0.099)	0.302** (0.118)
Age	0.010** (0.004)	0.010** (0.005)
Female (dummy, 1 = yes)	0.339*** (0.114)	0.352* (0.184)
<i>Education &amp; training</i> <i>(Reference: Vocational training)</i>		
No qualification	0.069 (0.140)	-0.047 (0.163)
University graduate	0.219 (0.136)	0.376* (0.205)
Children (dummy, 1 = yes)	-0.268** (0.114)	-0.282** (0.141)
Activity (8 dummies)	Yes	Yes
Year (5 dummies)	Yes	Yes
Constant		-0.591** (0.275)
Number of observations	945	404
Pseudo R <sup>2</sup>	0.078	
LR chi2	192.404	
Prob > chi2	0.000	
cut1	-1.641*** (0.285)	
cut2	-0.944*** (0.259)	
cut3	-0.193 (0.252)	
cut4	1.316*** (0.257)	

Remarks: Standard errors in parentheses

\*, \*\*, \*\*\* indicate significance at 10%, 5% and 1% level. \* p<0.1, \*\* p<.05, \*\*\* p<.01

As with every empirical study, our investigation is also subject to a number of limitations. The assessments of the temporary workers are acquired from the hiring company on behalf of the temporary work agency. The appraisal should be performed by the direct manager within the hiring company. These types of subjective appraisal always bring with them a risk of distortion. For example, a tendency towards leniency and similar appraisals for different employees has been observed (e.g. Bol, 2011). However, in our opinion this is outweighed by their advantages in comparison to self-assessments, which are frequently found to contain overestimations of personal performance (Meyer, 1975).

Furthermore, the evaluation is delivered retrospectively. This means that no changes in motivation during the project can be presented and investigated. On the basis of our dataset we are also only able to trace the development of the motivation of temporary agency workers over multiple projects to a limited degree. However, we have been able to show that a change in hiring company has a negative effect on motivation. Likewise, we have no information on the employment biography of the employee prior to starting work with the temporary work agency. Ultimately, no comparison of the motivation of temporary agency workers with that of regular employees of the respective hiring company is possible within the framework of our investigation.

We are also only able to very cautiously derive an interrelation between the hiring company's operational usage strategy of temporary agency work (Holst, 2009, 2012) and the motivation of the temporary agency workers. Our dataset merely contains the project length as a possible indicator for the operational usage strategy, whereby we assume - with reference to Holst (2009) - that a short project duration of up to two months tends to relate to ad hoc usage and that longer-term projects of more than one year indicate the strategic use of temporary work. Because longer projects tend to be associated with higher motivation than shorter projects in our analyses, strategic use would lead to higher motivation amongst the temporary agency workers. The higher motivation of temporary agency workers could in turn motivate the hiring company to strategically use temporary work, which throws up problems in terms of causality.

## 6 Final remarks

In summary, it is possible to assert that a precise evaluation of the interrelation between individual or job-related characteristics and the motivation of temporary agency workers is thoroughly beneficial. Earlier studies have usually analysed comparisons with employees in alternative employment structures, such as regular employment relationships. However, the temporary agency worker group is not homogeneous in itself. Socio-demographic variables such as gender, as well as project-related factors such as project length or length of time with a single hiring company for follow-on projects, exhibit a connection with the motivation of temporary agency workers. Better motivation appraisals are awarded to women, in particular in combination with higher hourly rates, temporary agency workers who are accepted into the hiring company, and those working on longer projects. Our results therefore concur with the observations of Lapalme et al. (2011), whereby temporary agency workers in the Canadian financial services sector demonstrated a connection between perceived breaks in implied contracts and the commitment of the temporary agency workers. Even if we do not investigate compliance with implied contracts directly, hiring companies clearly have room for manoeuvre in terms of the present and future working conditions of temporary agency workers. We record these for example as remuneration, project length and transition to the company. In this regard, we observe a higher level of motivation in those cases where the hiring companies configure their room for manoeuvre on the basis of the presumed preferences of the temporary agency workers.

The majority of the theoretical literature on temporary agency work pertains to the decisions of the hiring companies. As such, Nienhüser (2007) for example highlights conditions under which atypical employment relationships, such as temporary agency work, are functionally utilised. In particular with low complexity tasks, he identifies a short-term externally oriented employment strategy with a high degree of temporary agency worker usage due to flexibility advantages. We are only able to derive very little information regarding the employment strategies of the respective hiring companies on the basis of our employee dataset. However, differences in the configuration of the temporary agency work projects (for example with regard to project duration, repeated leasing and transition to regular employment) do indicate that employment strategies also vary within

the group of companies that utilise temporary work. A fascinating question for future work may be to examine the extent to which hiring companies consider the actually possible effects of the configuration of temporary agency work conditions on the motivation of the temporary agency workers or whether such effects are instead considered to be ancillary products, which are given no consideration due to the balance of power between the hiring company and the temporary agency workers.

Important findings can be derived from the results, both for the perspective of the temporary work agencies and for the perspective of hiring companies. From the perspective of hiring companies, trade-offs are apparent: Hiring companies utilise temporary agency work in part to react with flexibility (short-term) to human resource requirements and to save personnel costs (Nienhüser, 2005; Alewell et al., 2007). As such, a lower hourly rate and short project lengths tend to be favoured initially. Accordingly, on a precautionary note it is necessary to remain sensitive to potentially conflicting goals with regard to the motivation of temporary agency workers. Employees who have opted for temporary agency work as a form of employment may appear to approach their project roles with a good level of motivation. However, hiring companies should consider that this is particularly true if the remuneration is appropriate and the position has prospects. Groups of individuals who are required to accept disadvantages as a whole on the employment market work with particular motivation on temporary agency work projects. It is apparent that long-term cooperation, also over multiple projects, with the same temporary agency workers may be highly beneficial.

Our results largely reflect our expectations or hypotheses derived from theoretical considerations. As such, the significance of the arguments drawn upon for our study from various fundamental theories is supported or at the least not refuted. We consider the expectations or aspiration level of employees to be significant, whereby this aspect in turn exhibits gender-specific differences. Future work should more closely analyse the significance of expectations pertaining to the employment situation with particular consideration to gender.

For future empirical studies it would be desirable to acquire data that could highlight the progression of motivation during temporary work. Additionally, an investigation into the comparison of motivation in relation to regular employment would be expedient, in order

to derive more accurate implications for the meaningful selection of employment forms within companies. In doing so, interactions between employees in unlimited employment relationships and temporary agency workers, as well as corresponding interdependencies in terms of their willingness to work, should also be examined. A comparison between the employment strategy of the company and the motivation of the temporary agency workers would deliver important empirical findings for assessing and further developing existing theoretical constructs.

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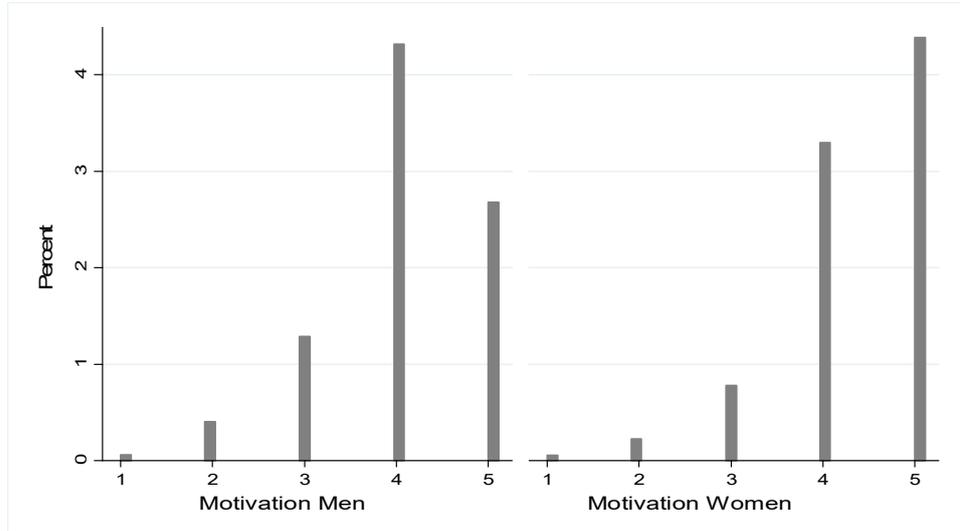
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## Appendix

**Figure 2:** *Distribution of motivation of women and men*



Remark: 5 = very high motivation, 1 = poor motivation

**Table A:** *Results of the factor analysis on the construct work morale*

	Motivation	Reliability	Integration capacity	Punctuality	Friendliness
Motivation	1.000				
Reliability	0.746	1.000			
Integration capability	0.710	0.660	1.000		
Punctuality	0.664	0.685	0.577	1.000	
Friendliness	0.636	0.620	0.696	0.628	1.000

Remarks: Correlation matrix

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	3.651	3.194	0.730	0.730
Factor2	0.457	0.068	0.091	0.822
Factor3	0.389	0.126	0.078	0.899
Factor4	0.264	0.024	0.053	0.952
Factor5	0.239		0.048	1.000

Remarks: Factor - eigenvalues

Variable	Factor1	Uniqueness
Motivation	0.882	0.222
Reliability	0.871	0.242
Integration capability	0.853	0.272
Punctuality	0.830	0.312
Friendliness	0.836	0.301

Remarks: Factor loading matrix

**Table B: Individual and job-related characteristics and motivation - interaction of Female \* hourly rate**

	(1) Motivation	(2) Motivation
Hourly rate	0.021*** (0.008)	0.009 (0.010)
<u>Project length (reference: up to 2 months)</u>		
over 2 up to 6 months	0.056 (0.055)	0.054 (0.055)
over 6 up to 12 months	0.087 (0.060)	0.084 (0.060)
over 12 months	0.249*** (0.060)	0.249*** (0.060)
Transition (dummy, 1 = yes)	0.746*** (0.049)	0.746*** (0.050)
First project (dummy, 1 = yes)	-0.018 (0.046)	-0.015 (0.046)
Age	0.003 (0.002)	0.003 (0.002)
Female (dummy, 1 = yes)	0.304*** (0.050)	0.030 (0.153)
Female * hourly rate		0.026* (0.014)
<u>Education &amp; training</u>		
<u>(Reference: Vocational training)</u>		
No qualification	0.053 (0.071)	0.056 (0.071)
University graduate	0.183*** (0.070)	0.184*** (0.070)
Children (dummy, 1 = yes)	-0.169*** (0.063)	-0.165*** (0.063)
Activity (8 dummies)	Yes	Yes
Year (5 dummies)	Yes	Yes
Number of observations	3423	3423
Pseudo R <sup>2</sup>	0.065	0.065
LR chi2	546.928	543.146
Prob > chi2	0.000	0.000
cut1	-1.661*** (0.154)	-1.798*** (0.166)
cut2	-0.882*** (0.139)	-1.017*** (0.154)
cut3	-0.104 (0.136)	-0.239 (0.152)
cut4	1.239*** (0.138)	1.105*** (0.153)

Remarks: Standard errors in parentheses

\*, \*\*, \*\*\* indicate significance at 10%, 5% and 1% level. \* p&lt;0.1, \*\* p&lt;.05, \*\*\* p&lt;.01

**Table C: Influence factors on the hourly rate (OLS)**

	(1) Hourly rate	(2) Hourly rate
<u>Project length (reference: up to 2 months)</u>		
over 2 up to 6 months		0.768*** (0.126)
over 6 up to 12 months		1.093*** (0.143)
over 12 months		1.392*** (0.148)
Transition (dummy, 1 = yes)		0.411*** (0.123)
First project (dummy, 1 = yes)		0.299*** (0.111)
Age		0.057*** (0.005)
Female (dummy, 1 = yes)	0.546*** (0.122)	-0.380*** (0.135)
<u>Education &amp; training</u> (Reference: Vocational training)		
No qualification		0.226 (0.268)
University graduate		2.305*** (0.209)
Children (dummy, 1 = yes)		-0.081 (0.209)
Activity (8 dummies)		Yes
Year (5 dummies)		Yes
Constant	10.344*** (0.096)	7.183*** (0.370)
Number of observations	3423	3423
Pseudo R <sup>2</sup>		
LR chi2		
Prob > chi2	0.000	0.000

Remarks: Standard errors in parentheses

\*, \*\*, \*\*\* indicate significance at 10%, 5% and 1% level. \* p&lt;0.1, \*\* p&lt;.05, \*\*\* p&lt;.01

**Table D:** Individual and job-related characteristics and motivation (binary probit assessments) - transformation of motivation into a binary variable (1 = very high motivation)

	(1) Motivation	(2) Motivation
Hourly rate	0.033*** (0.009)	
<i>Project length (reference: up to 2 months)</i>		
over 2 up to 6 months	0.071 (0.063)	0.098 (0.063)
over 6 up to 12 months	0.101 (0.070)	0.138** (0.069)
over 12 months	0.184** (0.072)	0.229*** (0.071)
Transition (dummy, 1 = yes)	0.654*** (0.056)	0.665*** (0.056)
First project (dummy, 1 = yes)	0.065 (0.054)	0.074 (0.054)
Age	0.002 (0.003)	0.004 (0.003)
Female (dummy, 1 = yes)	0.347*** (0.056)	0.333*** (0.055)
<i>Education &amp; training</i> <i>(Reference: Vocational training)</i>		
No qualification	-0.079 (0.092)	-0.067 (0.092)
University graduate	0.240*** (0.073)	0.314*** (0.070)
Children (dummy, 1 = yes)	-0.275*** (0.080)	-0.272*** (0.079)
Activity (8 dummies)	Yes	Yes
Year (5 dummies)	Yes	Yes
Constant	-1.446*** (0.172)	-1.206*** (0.161)
Number of observations	3423	3423
Pseudo R <sup>2</sup>	0.099	0.096
LR chi2	425.990	410.464
Prob > chi2	0.000	0.000

Remarks: Standard errors in parentheses

\*, \*\*, \*\*\* indicate significance at 10%, 5% and 1% level. \* p<0.1, \*\* p<.05, \*\*\* p<.01

**Table E: Individual and job-related characteristics and motivation (ordered probit assessments) - all observations (Models (1) and (2)) and part sample of the observations for which work morale information is also available**

	(1) Motivation	(2) Motivation	(3) Motivation	(4) Motivation
Hourly rate	0.021*** (0.008)		0.025** (0.013)	
<i>Project length (reference: up to 2 months)</i>				
over 2 up to 6 months	0.056 (0.055)	0.072 (0.055)	0.067 (0.085)	0.088 (0.084)
over 6 up to 12 months	0.087 (0.060)	0.109* (0.060)	0.277*** (0.091)	0.303*** (0.090)
over 12 months	0.249*** (0.060)	0.277*** (0.060)	0.312*** (0.090)	0.346*** (0.089)
Transition (dummy, 1 = yes)	0.746*** (0.049)	0.753*** (0.049)	0.625*** (0.076)	0.632*** (0.076)
First project (dummy, 1 = yes)	-0.018 (0.046)	-0.013 (0.046)	-0.030 (0.073)	-0.023 (0.073)
Age	0.003 (0.002)	0.004** (0.002)	0.004 (0.003)	0.005* (0.003)
Female (dummy, 1 = yes)	0.304*** (0.050)	0.295*** (0.050)	0.082 (0.085)	0.065 (0.084)
<i>Education &amp; training</i>				
<i>(Reference: Vocational training)</i>				
No qualification	0.053 (0.071)	0.055 (0.071)	-0.018 (0.095)	-0.018 (0.095)
University graduate	0.183*** (0.070)	0.231*** (0.067)	0.170 (0.135)	0.240* (0.128)
Children (dummy, 1 = yes)	-0.169*** (0.063)	-0.170*** (0.063)	-0.125 (0.081)	-0.130 (0.081)
Activity (8 dummies)	Yes	Yes	Yes	Yes
Year (5 dummies)	Yes	Yes	Yes	Yes
Number of observations	3423	3423	1576	1576
Pseudo R <sup>2</sup>	0.065	0.064	0.073	0.072
LR chi2	546.928	531.924	264.384	259.644
Prob > chi2	0.000	0.000	0.000	0.000
cut1	-1.661*** (0.154)	-1.809*** (0.144)	-1.755*** (0.212)	-1.933*** (0.193)
cut2	-0.882*** (0.139)	-1.030*** (0.129)	-0.936*** (0.194)	-1.112*** (0.168)
cut3	-0.104 (0.136)	-0.252** (0.126)	-0.154 (0.190)	-0.330** (0.163)
cut4	1.239*** (0.138)	1.090*** (0.127)	1.360*** (0.193)	1.181*** (0.165)

Remarks: Standard errors in parentheses

\*, \*\*, \*\*\* indicate significance at 10%, 5% and 1% level. \* p<0.1, \*\* p<.05, \*\*\* p<.01

**Table F: Individual and job-related characteristics and motivation (ordered probit assessments) or work morale (OLS) on the first project**

	(1)	(2)	(3)	(4)
	Motivation	Motivation	Work morale	Work morale
Hourly rate	0.019** (0.009)		0.020** (0.010)	
<i>Project length (reference: up to 2 months)</i>				
over 2 up to 6 months	0.151** (0.072)	0.165** (0.072)	0.199** (0.096)	0.218** (0.096)
over 6 up to 12 months	0.122 (0.075)	0.143* (0.074)	0.387*** (0.095)	0.412*** (0.094)
over 12 months	0.289*** (0.073)	0.316*** (0.072)	0.388*** (0.094)	0.420*** (0.093)
Transition (dummy, 1 = yes)	0.757*** (0.055)	0.768*** (0.055)	0.536*** (0.055)	0.547*** (0.055)
Age	0.000 (0.003)	0.001 (0.003)	0.003 (0.003)	0.004 (0.003)
Female (dummy, 1 = yes)	0.286*** (0.056)	0.275*** (0.056)	0.066 (0.074)	0.051 (0.074)
<i>Education &amp; training (Reference: Vocational training)</i>				
No qualification	0.051 (0.083)	0.053 (0.083)	-0.070 (0.083)	-0.060 (0.083)
University graduate	0.170** (0.082)	0.220*** (0.078)	0.090 (0.101)	0.152 (0.095)
Children (dummy, 1 = yes)	-0.116 (0.075)	-0.118 (0.075)	-0.027 (0.083)	-0.032 (0.082)
Activity (8 dummies)	Yes	Yes	Yes	Yes
Year (5 dummies)	Yes	Yes	Yes	Yes
Constant			-0.950*** (0.195)	-0.809*** (0.178)
Number of observations	2478	2478	1172	1172
Pseudo R <sup>2</sup>	0.067	0.066		
LR chi2	401.887	394.191		
Prob > chi2	0.000	0.000	0.000	0.000
cut1	-1.651*** (0.182)	-1.790*** (0.171)		
cut2	-0.829*** (0.164)	-0.968*** (0.152)		
cut3	-0.032 (0.161)	-0.171 (0.149)		
cut4	1.265*** (0.163)	1.125*** (0.150)		

Remarks: Standard errors in parentheses

\*, \*\*, \*\*\* indicate significance at 10%, 5% and 1% level. \* p<0.1, \*\* p<.05, \*\*\* p<.01