

Schmidt, Stephanie; Thommes, Kirsten

Article

Incentives to invest in the human capital of temporary agency workers

Zeitschrift für Personalforschung (ZfP)

Provided in Cooperation with:

Rainer Hampp Verlag

Suggested Citation: Schmidt, Stephanie; Thommes, Kirsten (2007) : Incentives to invest in the human capital of temporary agency workers, Zeitschrift für Personalforschung (ZfP), ISSN 1862-0000, Rainer Hampp Verlag, Mering, Vol. 21, Iss. 3, pp. 232-251

This Version is available at:

<https://hdl.handle.net/10419/71058>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Stephanie Schmidt, Kirsten Thommes*

Incentives to Invest in the Human Capital of Temporary Agency Workers**

Growing diffusion of temporary agency work, in conjunction with the growing importance of human capital management, leads to the question who invests in the human capital of temporary agency workers. Therefore, we investigate the parties' incentives to invest and review the small number of existing empirical works. We show that there are incentives for all parties to invest even in general human capital, using the human capital theory and the concept of psychological contracts. Clients' incentives to invest crucially depend on their motives for using temporary agency work. Additionally, we analyze the evolving externalities of the investments and draw some conclusions concerning the implications for the further training of temporary agency workers.

Key words: **Temporary Agency Work, Incentives for Investments,
Human Capital, Psychological Contract**

* Stephanie Schmidt (1981), Student Assistant at the Department of Economics, Chair of Business Administration, Personnel Management & Organization and SFB 580, Project B5 at Friedrich-Schiller-University Jena, Carl-Zeiss-Str. 3, D – 07743 Jena, Germany.
E-mail: stephanie.schmidt1@web.de.

Kirsten Thommes (1979), Research Assistant at the Department of Economics, Chair of Business Administration, Personnel Management & Organization and SFB 580, Project B5 at Friedrich-Schiller-University Jena, Carl-Zeiss-Str. 3, D – 07743 Jena, Germany.
E-mail: kirsten.thommes@wiwi.uni-jena.de.

** Article received: December 12, 2006

Revised version accepted after double blind review: June 14, 2007.

1. Introduction

“Firms are increasingly looking beyond ‘standard employment relationships’ for flexibility options” (Nienhüser/Matiaske 2006, 64). Temporary agency work being such an option represents a special kind of employment relation because the employee is connected with two firms. Temporary agency and client share an employer’s rights and duties. Thus, temporary agency workers form part of an organization that is not their own (Garen 2006; Purcell/Purcell/Tailby 2004) and have no employment contract with the client firm that employs them. The industry of temporary agency work showed an increase of 14% in Germany last year (Gertz 2006, 1). Furthermore, temporary agency work has become a very important topic in the discourse on employment policies in Germany (for an overview, see Mitlacher 2006). This is primarily due to the fact that major changes in the German regulation of temporary agency work have taken place. The most important change concerns the introduction of equal pay and equal treatment principles. Despite the nondiscrimination principle, exceptions are statutory, such as the possibility that a collective labor agreement permits divergent regulations.

Simultaneously, ‘human capital management’ (Kessler/Lülfesmann 2006; Scholz/Stein/Bechtel 2004) is currently one of the most discussed topics in ‘human resource management’. The existing literature, for example, investigates the connectedness between ‘human capital,’ training, and education (Booth/Brian 2005; Fabbris 2007; Garloff/Kuckulenz 2006), ‘human capital’ and earning inequality (Teulings 2005), and ‘human capital’ and innovation (Vinding 2006). Investments in human capital of labor are analyzed as well, for example, investments in the human capital of trainees (Sadowski 1980; Sadowski 2002), employees (Casas-Arce 2004; Kessler/Lülfesmann 2006; Otte 2004), and self-employed (Kawaguchi 2001). In contrast to human capital management, little research exists on temporary agency work so far. The economic literature is focused on three main effects: first, whether and how temporary agency work can be a stepping-stone from unemployment to regular jobs (Addison/Surfield 2004; Amuedo-Dorantes/Malo/Munoz-Bullon 2005; Andersson/Wadensjö 2004; Gerfin/Lechner/Steiger 2005; Güell/Petrongolo 2005; Ichino/Mealli/Nannincini 2005; Ichino/Mealli/Nannicini 2006; Kvasnicka 2005; Zijl/Berg/Heyma 2004); second, whether new flexible staffing arrangements lead to a new labor market segmentation (Autor/Houseman 2005a; Autor/Houseman 2005b; Bentolila/Saint-Paul 1992; Doeringer/Piore 1971; Kalleberg 2003; Mitlacher 2005; Pfeifer 2005; Saint-Paul 1996); and third, wage differentials between temporary and permanent staff (Autor/Houseman 2005a; Autor/Houseman 2005b; Kvasnicka/Werwatz 2002; Lane et al. 2003; Segal/Sullivan 1997; Segal/Sullivan 1998).

If flexible working arrangements become more important to the economies, the creation and management of human capital in flexible staffing arrangements bears a challenge for the future, especially when the talent shortage is found as being true (Fitz-enz 2000). Growing diffusion of temporary agency work, on the one hand, and the importance of human capital management, on the other, raises the question which employer – the client or the temporary agency – invests in the human capital of temporary agency workers.

Following the human capital theory by Becker (1964), firms have no incentives to invest in general human capital and prefer to share the costs of investments in specific human capital with the employee. But existing empirical studies (Autor 2001; Bolder/Naevecke/Schulte 2003; Bolder 2005; Felfe et al. 2005; Letourneux 1998; Liden et al. 2003; Seidel 2005; Wiens-Tuers/ Hill 2002) show that there have to be some incentives for both – temporary agency and client – to invest in human capital of temporary agency worker. Surprisingly, as all empirical studies highlight, neither temporary agencies nor clients seek to share investment costs with the temporary agency worker. However, there is a lack of theoretical considerations about human capital creation in flexible work arrangements. Therefore, we investigate the investments theoretically and review the small number of existing empirical results. Because of the existing empirical results, we will focus on the incentives for temporary agencies and clients to invest in human capital.

Our paper is organized as follows: In the next section, we present some empirical data about temporary agency work in Germany. Subsequently, we briefly explore the theoretical background of human capital investments following the human capital theory and the concept of psychological contracts. We apply the existing considerations to the special case of flexible work arrangements and analyze the parties' incentives to invest in the human capital of temporary agency workers. We find some incentives for all parties to invest even in general human capital. After discussing the empirical results, we analyze the evolving externalities of the investments and draw some conclusions in terms of possible implications for temporary agency work itself as well as for further research questions.

2. Temporary agency work

By introducing the principles of equal pay and equal treatment in 2004, the German legislative intended to activate the German market for temporary agency work in order to create new jobs (Jahn 2005, 394) and to improve the working conditions for employees (Schlese/Schramm/Bulling-Chabalewski 2005, 569). Amendments were made concerning the allowed maximum period for hiring an employee and the limitations on employment contracts. Eventually, the prohibition of synchronization was abolished so that temporary agencies are now allowed to fix the length of the employment contract corresponding to the hiring contract with the client firm. Finally, temporary agency workers are now treated like regular employees with regard to working conditions (equal treatment) and wages (equal pay) (Burda/Kvasnicka 2006, 203). The only exception to equal pay is an existing collective agreement between the temporary agency and a trade union. In that case, the temporary agency worker may be paid according to that agreement so that compensation based on the client's wage system can be avoided (Schlese/Schramm/Bulling-Chabalewski 2005, 569).

Although in Germany the demand for temporary agency work is underdeveloped compared to other European countries (in 2002 temporary agency work amounted to 0.6% of total employment, whereas the European Union average was about 2.3%; see Storrie 2002), it has constantly risen in the last years. The turnover in this sector was EUR 7.5 billion in 2004, which represented an increase in market volume of 36.4% compared to the previous year (Lünendonk 2005). Besides a rise in

turnover, the number of temporary agency workers in Germany rose as well. In the first half of 2005, 453.389 temporary agency workers represented 1.73% of all employees subject to social insurance contributions (Federal Employment Agency 2006; Federal Statistical Office Germany 2006). In 2004, the total number of employment relations was 974.000, representing 10% of all new employment relations in the German economy. The movement of temporary agency workers between clients thus amounts to 1.7 times annually (Burda/Kvasnicka 2006, 213) because of the short-term employment relations of temporary agency workers. In 2005, about 14% of all temporary agency employment relations were shorter than one week, 44% lasted from one week to three months, and only 41% exceeded three months (Federal Employment Agency 2006; Federal Statistical Office Germany 2006).

Almost 70% of temporary agency workers were unemployed until their employment contract with the temporary work agency (Federal Employment Agency 2006; Federal Statistical Office Germany 2006). Although more and more high-qualified employees start work as temporary agency workers, one third of all jobs are auxiliary jobs (Burda/Kvasnicka 2006, 218-220). The level of qualifications is significantly lower compared to regular employees (Kvasnicka/Werwatz 2003, 10). A proportion of 30.2% of all temporary agency workers have no vocational education compared to 16.7% employed in the German economy in total.

The main reason for firms to hire temporary agency workers are temporary vacancies (24.8%), seasonal fluctuations (25.6%), peak loads (24.9%), terms of probationary periods in order to hire temporary agency workers as regular employees (8.0%), and other particular requirements (3.4%) (Jahn 2005, 417). Lobbies estimate the ratio of temporary agency workers who use temporary agency work as a stepping-stone to regular employment relations to be about 30% (BZA 2006). Storrie (2002, 59), however, estimates this ratio to be about 19% in Germany, the Netherlands, France, Spain, and the U.K.

3. Investments in the human capital of temporary agency workers

3.1 Basics of human capital theory

Investments in human capital are analyzed by the human capital theory which examines under which conditions investments in human capital are profitable (Backes-Gellner/Lazear/Wolff 2001, 4; Sesselmeier/Blauermel 1998, 65-66). Overall there is a wide range of approaches to human capital theory. The modern concept of human capital theory has been significantly influenced by the considerations of Gary S. Becker (1964). His concept is regarded as fundamental for the question of how investments in human capital can be formed and shared (Leber 2000, 230).

Whether the parties to a contract invest in human capital depends on the competition-relevant attributes of human capital (Becker 1975). General human capital is applicable in all firms and increases the marginal productivity of labor for all employers to the same extent. Thus, firms can compete for this form of human capital, and no employer will be willing to invest in general human capital. Admittedly, the productivity of employees increases, but if they do not receive the whole marginal wage for their productivity, they will be poached by other employers. Thus, the employer can-

not appropriate the income from the investment, and consequently investments in general human capital are financed by the employees themselves (Alewell 1997, 61).

By contrast, specific human capital is bound to a certain firm and increases marginal productivity only in the firm in which the training took place (Alewell 1997, 61; Alewell 1998, 315-316; Leber 2000, 230). As firms do not compete about this type of human capital, the investing employer can appropriate the income from the investment. But if he or she finances the training alone, income is hazarded by the dissolution of the employment relation by the employee. Becker therefore suggests a splitting of costs and income between employee and employer. Thus, both parties are interested in a continuity of the employment relation because only in this situation is income assured (Alewell 1997, 62; Alewell 1998, 316; Sesselmeier/Blauermeier 1998, 59). "By sharing the investment, the parties reduce the likelihood of either party unilaterally terminating the employment relationship and imposing on the other party a loss in his return." (Hashimoto 1981, 475) The parties' sharing of investment costs depends on the firm's labor turnover rate and wages (Becker 1964, 22). But Becker does not specify how sharing works concretely (Alewell 1997, 77).

The assumptions made by Becker have been disproved by numerous empirical investigations, confirming that employers also invest in general human capital (e.g., Booth/Bryan 2002; Loewenstein and Spletzer 1999; OECD 2003). Furthermore, theories analyzing firms' incentives to invest in general human capital have since been proposed (Asplund 2004, 49; Kessler/Lülfesmann 2006). Both developments indicate that there are incentives to invest in human capital apart from Becker's considerations. Variant incentive structures stem from two characteristics of labor markets. First, the labor market can not be assumed as perfect in the neoclassical meaning. Second, labor contracts are always imperfect and means of human resource management and leadership can be applied in order to motivate the employees. Thus, we will broaden the theoretical background of our considerations first by theories addressing market imperfections and second by the concept of psychological contracts to consider the connectedness of motivation and human capital investments.

3.2 Progresses of human capital theory

Different further developments of the human capital theory abolish the neoclassical assumptions of perfect markets.

First, asymmetrical information between the employer and external firms concerning the educational background (Katz/Ziderman 1990) or the abilities of the employee (Acemoglu/Pischke 1998) can cause restrictions of mobility on the labor market. Restrictions of mobility on the labor market like the importance of internal labor markets differ between firms and countries (Sako 1991; Creagh/Brewster 1998). These restrictions affect investments in general human capital by affording protection against the poaching of trained employees, thus securing potential income from general training where this has been provided (Alewell 1997, 103). "The key is labor market imperfections, which imply that trained workers do not get paid their full marginal product when they change jobs, making technologically general skills de facto specific" (Acemoglu/Pischke 1999, 540; Groen 2006). Thus, it is not necessary after transacting an investment to offer a wage that would consume the entire productivity

increase, and the firm can make a productivity gain. In this case, firms have an incentive to invest in general human capital. Acemoglu/Pischke (1999) stress, however, that employers' profit from training is negatively related to the probability that an employee leaves the firm (Acemoglu/Pischke 1999, 540).

Second, Sadowski (1980) examines the effect of firms' investments in vocational training in the binary system, i.e., in general human capital, and criticizes that Becker's theory is interpreted too narrowly. Apart from an increase in productivity, the investment also facilitates the procurement of personnel and its selection (Alewell 1998, 316-317). Under the premise of applicants' incomplete information about the characteristics of the employer (Alewell 1997, 114), the latter can, by participating in the costs of general education, activate the trainees' willingness to enter the firm and raise their expectations of further training in the firm, securing a job for themselves, and chances of being promoted. Thus, expenditure for educational programs is a signal of the degree of the worker orientation of a firm's personnel policy. Its reputation on the market increases, boosting the demand for jobs as well as production possibilities (Sadowski 1980, 81).

Moreover, in light of the heterogeneity of trainees concerning their performance efficiency and of information disadvantages affecting the employer in terms of employees' performance levels, training has a selection effect (Alewell 1997, 114). Firms are able to test and observe trainees during the training period. This activity can be called screening (Milgrom/Roberts 1992, 156). The employer can estimate the work behavior of trainees realistically, thus facilitating selection of particularly productive workers (Alewell 1997, 95) and rendering investment into general human capital economic. However, it is questionable whether these arguments can be transferred to further training.

3.3 Psychological contracts

The human capital theory concentrates particularly on the economic effects of human capital investments, although Becker also stresses that other considerations should be taken into account. "The attention paid to the economic effects of education and other human capital in this study is not any way meant to imply that other effects are unimportant, or less important than the economic ones." (Becker 1964, 3) The concentration on the economic effects, in particular, is made explicit by the fact that employee turnover depends solely on the wages. However, it has already been clarified that this is not realistic and that there are a number of further turnover causes to be considered (For an overview of the correlates of employee turnover, see Alewell 1997, 125-126). Thus, findings of the behavioral economic research are neglected. But as long as the behavior of the employer influences the engagement and the effort of the employee and thus affects the productivity of employees, these considerations have to be taken into account. In order to overcome the shortcomings of the human capital theory, we introduce the concept of psychological contracts in order to introduce a more comprehensive theory of investments in human capital.

First, turnover barriers can also be traced to the psychological or implicit contract between employers and workers (Scholz 2000, 401-402). The psychological contract (the concept was first used by Argyris 1960, but probably the most widely known

work on this topic stems from Rousseau 1995; for further developments of the concept, see also Anderson/Schalk 1998) contains mutual expectations and offers by employers and employees, which go beyond the mutual obligations contained in formal contracts. These usually implicit offers and expectations can be based on verbal promises of the parties or derive from organization-specific events and the behavior of superiors and other employees (Grote/Raeder 2003; Rousseau 1995). If the expectations and obligations of the parties are confirmed, a long-term relationship (Rousseau 1995, 9-10) is possible, and uncertainties as to the contractual relation will be lowered (Anderson/Schalk 1998, 640). Core components of the psychological contract are job security, career possibilities, confidence, loyalty, commitment (Brickman 1987, 2), and motivation (Anderson/Schalk 1998; Robinson 1995; Rousseau 1990).

Second, psychological contracts and their fulfillment have an impact on the engagement and the effort of the employee. The traditional psychological contract offered long-term employment security to the employees, for which loyalty and commitment were expected (Schein 1980, 22-24). However, as a result of an increased flexibility of employment relations, psychological contracts changed. Thus, firms cannot guarantee their employees long-term employment relations anymore and therefore offer to maintain or increase the employees' labor market employability status. The employees' expectations shift from employment security to employability (for a summary of changes in the psychological contract, see Anderson/Schalk 1998 and Raeder/Grote 2001). Thus, increased employability replaces job security in the psychological contract (Raeder/Grote 2001, 353).

From firms' point of view, the new psychological contract is fulfilled, if the initiative of employees for advancement is permitted, qualification possibilities are offered and supported in temporal and financial terms. From the employees' point of view, the contract is fulfilled, if they take responsibility for their development, train themselves further, and participate in the implementation of the firm's objectives, showing motivation and reliability (Semling 2004).

Thus, the new psychological contract demands investment by the employer in general human capital. If this does not happen, the contract is violated. The results are lack of confidence and declining commitment (Robinson 1995, 103). Low commitment, in turn, negatively affects the productivity, satisfaction, and fluctuation of employees (Felfe et al. 2005, 105). Thus, a violation of the psychological contract also has economic consequences. In case of adherence to the contract and the ensuing low fluctuation, investments in general human capital are to be endorsed, also from the viewpoint of human capital theory.

New developments in the human capital theory and findings of the behavioral economic are merged together, because firms do not only invest in human capital because of a costs-and benefits-analysis. The previous remarks show that not only specific but also general human capital investments of the employer can be economically meaningful. These considerations can be applied to every investment in human capital. The next section aims to examine the findings relating to the special case of temporary agency work.

3.4 Investments in the human capital of temporary agency workers

Investments of temporary agencies

Investments in the human capital of temporary agency workers mean their productivity rises. The temporary agency is then able to hire out qualified employees more flexibly, for one thing, and for more ambitious tasks, for another. Hence income is generated in the form of higher lending fees. Client firms also expect the temporary agency workers' knowledge to be up to date. Human capital is thus crucial for the successful operations of temporary agencies. Just as job requirements change over time, so temporary agencies need to upgrade their employees' qualifications. Investments in human capital lead to a better chance of survival in competition because these focus on the quality of the employees (Gertz 2006). For agencies specializing in certain industrial sectors, in particular, investments in job-specific human capital are important (Föhr 1998, 72-73), while those serving a broad range of clients will tend to invest in general human capital. However, human capital which is specific for a particular client will not be funded because it does not lead to higher productivity in other firms.

Following Becker, temporary agencies should not invest in any kind of human capital. Even if productivity rises, temporary agency workers should be paid according to their marginal productivity. Otherwise, they would be lured away because of a complete labor market. If temporary agency workers are paid according to their marginal productivity, their wages consume the lending fees, and the temporary agency would neither earn profit nor have any financial capital to invest in human capital (Backes-Gellner/Lazear/Wolff 2001, 34).

However, if we assume information asymmetry, the logical consequences change. The probability of a temporary agency worker being lured away drops because other firms are not able to estimate the value of the human capital correctly. Thus, the temporary agency could pay wages below marginal productivity without the risk of losing a worker. Consequently, investments in human capital can be amortized. Acemoglu/Pischke (1999) stress the negative correlation between a temporary agency worker's probability to be lured away and the profits of human capital investment. However, labor turnover is higher for temporary agency workers than for regular employees. Thus, even under asymmetrical information the probability for human capital investments in temporary agency workers is low compared to regular employees (Forrier/Sels 2003, 645).

Up to now, we have only discussed the increase in productivity which stems from human capital investments. But there are some spin-offs that result from these investments. Sadowski (1980) emphasized that investors in human capital gain some information about future productivity. In this sense, investments imply a screening function that facilitates decisions about the recruitment of personnel (Sadowski 2002, 61). In terms of vocational training, the screening function of human capital investments has been proved (Euwals/Winkelmann 2001).

Autor (2001) analyzed the effect of the screening and self-selection instruments on temporary agencies in the U.S. He assumed that human capital investments lead to a greater rise in productivity for high-skilled than low-skilled workers. On account of qualification advantages of those more highly skilled, employers have the possibility to

offer a package of training activities and lower wages, having the effect of self-selection. High-skilled workers will choose such firms and anticipate higher wages in the future, while low-skilled workers will not pick them because of low wages and limited wage rises expected in the future. Moreover, employers have only incomplete information about employees' productivity at the beginning of an employment relation. During training, they may screen employees and gain information about their productivity. Ultimately, investments in general human capital ease the marketing of employees (Autor 2001). Autor empirically verified his theory for a U.S. sample. One cannot easily transfer his results to Germany, because there are major differences between the U.S. and German markets for temporary agency work. In the U.S., high-skilled temporary agency workers are much more common (Gertz 2006). Furthermore, firms regularly use temporary agency work for recruiting regular staff (21% in the U.S., 8% in Germany) (Jahn 2005, 400, 417). In view of the growing number of high-skilled temporary agency workers, Autor's model might fit Germany as well.

Sadowski has highlighted that fluctuation is not only a matter of wages but also of investments in human capital (Sadowski 2002, 61). The aspect of employability enhanced by training might be a reason for temporary agency workers not to leave the agency. Training improves a firm's image so that recruiting will be simplified (Sadowski 1980, 81). Especially concerning the recruiting of high-qualified temporary agency workers, a positive image is crucial because high-skilled employees expect further training required by their jobs because specialized knowledge needs to be continuously updated (Pelka 2005).

Flexible employment has a bearing on psychological contracts. According to McLean/Kidder/Gallagher (1998), new types of employment lead to more fragmented and ambiguous psychological contracts. Thus, the contracts are more likely to be breached. Van Dyne/Ang (1998) stressed that temporary employees have a lower commitment than regular employees. Therefore, the triangle of employment relations, between temporary agency workers, temporary agency, and client firm, causes problems for the psychological contract because the triangle increases complexity and uncertainty (Mitlacher 2005, 383).

Empirical research shows that commitment of temporary agency workers to their clients increases productivity and job satisfaction (Felfe et al. 2005, 112). For this reason, the temporary agency should be interested in enhancing the commitment. The concept of psychological contracts underscores that commitment will increase if implicit expectations are fulfilled. According to the new psychological contract, temporary agency workers expect the temporary agency employer to increase their employability. Thus, investments in general human capital improve the psychological contract. Especially for employees who are valuable and not substitutable, employers will not contravene the psychological contract (Rousseau 1995, 85). When commitment is high and, accordingly, the probability of fluctuation is low, investments in human capital are worthwhile because the probability of amortization increases.

Up to now, no study exists addressing the correlation between training and commitment with respect to temporary agency workers. But Liden et al. (2003) analyzed fairness and encouragement to have a favorable effect on employees' commitment and productivity. Van Dyne/Ang (1998) note that when organizations treat contin-

gent workers with respect and do not view them as peripheral, some contingent workers will have high commitment to the organizations, a positive view of their psychological contracts, and will engage in organizational citizenship just like regular employees. Felfe et al. (2005, 101-109) show that temporary agencies' characteristics like assets and power raise the temporary agency workers' commitment. If the employer shows he or she may be able to invest in human capital, the employees' commitment increases. Galunic/Anderson (2000) show for insurance agents that investments in general human capital boost the agents' commitment to the insurance company.

So far there are hardly any empirical findings on the training behavior of temporary agencies in Germany. However, international studies show that training is rarely made possible for temporary agency workers, and that their chances to receive training are smaller than those of the temporary agency's permanent staff. Many studies do not consider temporary agency work separately, but look at all forms of flexible employment. Their results usually show which kind of employee is trained more and which less. Some studies come to the conclusion that employees with flexible work contracts and "contingent workers," e.g., in the Netherlands, receive only about half as much training as workers with unlimited contracts (Rogowski/Wilthagen 2004, 157). An analysis on the basis of the Third European Survey on Working Conditions concluded that, compared with unlimited and limited employees, temporary agency workers are the least trained (Storrie 2002, 3).

In the context of a symposium organized by the Federal Institute for Vocational Training on October 20-21, 2005, on the topic of "Competence Development in Temporary Agency Work," first empirical results, particularly for temporary agency work in Germany, were presented. There was one report submitted by the "Institute for Development Planning and Structural Research" at the University of Hannover, based on telephone interviews of temporary agencies in 2004. It emerged that for only a quarter of the agencies further training played a rather important role and only about half of them engaged in further training at all. Training took place predominantly in the lending-free time and included mainly technical subjects. A focused competence development within the framework of temporary agency work was an exception (Seidel 2005).

Another report concerned the results of an empirical study entitled "Competence Training in Temporary Agency Work," presented at the symposium. The study comprised a postal survey of all North Rhine-Westphalian temporary agencies as well as expert interviews with officials representing the sector of temporary work agencies and dispatchers of these agencies. The study aimed to clarify the training activities and offers of the firms and their appraisal of the chances of competence development in temporary agency work (Bolder 2005, 2). According to experts' statements, further training activities in temporary agency work are becoming more significant, in particular against the background of a prognosticated lack of skilled personnel. Usually, though, longer-term qualifications were not initiated for urgent economic reasons. Moreover, a lack of motivation for further training on the part of temporary agency workers and the short retention times of employees in the firms were further causes of limited further training activities. Only short-term measures, serving the acquisition

of simple skills, were offered in the periods when temporary workers were not hired out to clients (Bolder 2005, 1-3).

In the survey of the temporary agencies, five out of six stated that they provided further training for their employees. However, according to the authors, this ratio appears very high and hardly realistic, especially in view of the skeptical estimates of experts. A varnished description of the situation can thus be assumed (Bolder 2005, 5). Furthermore, one agency in four supports only their own permanent staff, which reduces the proportion to ca. two thirds. The authors assume that only about half of the agencies offer any form of further training (Bolder 2005, 5).

The chances of employees to receive further training in temporary agencies differ as a function of the proximity to the operational core. Thus, the comparison of specialized temporary agencies with mixed firms (also offering other services) shows that the more of the agency's own personnel is involved, the greater are the chances of further training (Bolder 2005, 9-10). The reasons most frequently given to explain the lack of further training activities are that employee' qualifications are sufficient, or requirements are met by new recruitments (Bolder 2005, 6).

Theoretically, it could be shown that the further training of temporary agency workers can be quite useful for temporary agencies. This has so far not been sufficiently empirically confirmed, though. But the available empirical studies unanimously confirm that further training activities of temporary agencies are rather limited in practice. This is made particularly clear by the differences in the training activities offered to permanent staff and temporary agency workers. The reasons given for the agencies' behavior is insufficient, however.

Investments of clients

If clients invest in the human capital of temporary agency workers, the latter's productivity rises. They can be used more flexibly, requirements can be better fulfilled, and the quality of the production output increases. From the clients' point of view the consideration both of general and specific human capital is useful, because in contrast to the temporary agencies, firm- and job-specific human capital can be generated within the firms.

According to the human capital theory, the employer can keep the income from investments in specific human capital since this represents no value in other firms. However, the costs of qualifications amortize only, if the employment relationship lasts long enough. But this is usually not requested by the client, because long-term employment relations are not intended with respect to temporary agency work. Predominantly short-term motives like flexibility in adapting manpower to requirements, balancing overloads in peak periods, or filling vacancies are major reasons for using temporary agency work. A client will thus hardly be interested to invest in the specific human capital of the temporary agency worker and rather want to reduce the investment risks regarding human capital by using temporary agency work. The necessary qualifying measures are shifted on the temporary agencies (Nienhüser/Baumhus 2002, 82-83). However, since temporary agency workers are not familiar with their job in the client firm, the latter cannot completely refrain from further training. Some job-specific training at least can thus be expected, promising

a short-term repayment (Forrier/Sels 2003, 645). Potential qualifications will therefore be limited to the necessary familiarization with the workplace in order to save costs but also to ensure productivity of the employees.

There are some clients, however, who use temporary agencies for the achievement of long-term objectives. In this case, investments in the human capital of temporary agency workers can be quite profitable since income from productivity growth covers any costs of training in the long term. In the past, legal limitations on the length of assignments used to prevent long-term employments. But since the deregulation in 2004, assignments may last long enough to amortize investments (Böhm 2005, 561). But profits may still be threatened by the employees' termination of the employment relationship. According to Becker, a sharing of costs and profits between temporary agency worker and temporary agency is advisable concerning specific investments in human capital. In the relationship between client firms and temporary agency workers, however, this cannot be achieved by wage adjustments, because the parties are not bound by a contract, and the clients do not pay wages to the temporary agency worker – except a fee to the temporary agency which then pays the temporary employee. In the case of specific human capital investments, the client is thus left unprotected against the movement of labor via higher wages.

Some other clients do not use temporary agency work as an instrument for flexibly adjusting their manpower but for recruiting and testing employees. Generally, though, this possibility is rarely used (Bolder/Naevecke/Schulte 2003, 7). Usually, the employment of temporary agency workers occurs only when recruitment is already planned and risks of direct recruiting need to be minimized. If this is the case, there is a good probability to achieve a training-related wage rise for temporary agency workers (Bolder/Naevecke/Schulte 2003, 10) since costs for specific training can be amortized after recruiting the employees. After recruitment the client is able to protect him- or herself by wage adjustments against the worker leaving the firm.

Following human capital theory, clients' decision not to invest in general human capital is unrelated to their reason for using temporary agency work. The explanation is that the temporary agency worker may move to another employer so that investments would constitute a high economic risk. Even if there is asymmetrical information, investments do not seem useful because fluctuation is high and amortization unlikely.

But as mentioned above, investments in general human capital do not only lead to a higher productivity. Temporary agency employment can also be seen as an extended probation. On the one hand, temporary agency workers can be tested and screened by the client by way of training-on-the-job. Work habits can be anticipated during training. Thus, the employer is better equipped to make decisions and can optimize recruiting (Sadowski 1980, 81). On the other hand, temporary employment as such can be seen as a marketing activity, increasing the willingness of temporary agency workers to be hired by a client if they are searching for a regular employment relation and opportunities for advancement. Consequently, the client's reputation as an employer increases, and is the greater the higher the perceived value of training. After hiring the temporary agency worker on a permanent basis the client can amortize the investments in human capital by way of wage adjustments.

The signaling effect of training is not necessarily limited to hired temporary agency workers but may also reach other potential employees. If a firm's effort to invest in human capital is noticed, investments can advance the firm's image as employer and thus ease recruitment in general (Sadowski 1980, 82). For temporary agencies, investments in human capital improve their image vis-à-vis clients because such investments can be taken to signal high quality of the temporary agency workers.

Despite the nonexistent contract between client and temporary agency worker, there exists a psychological contract. According to this new psychological contract, temporary agency workers expect an enhancement of their employability. Confirmation of this contract leads to an increased productivity by the employee and thus improves the effectivity of the assignment, whereas its cancellation lowers commitment, motivation, and productivity. Felfe et al. (2005) showed that commitment is crucial for the productivity of temporary agency workers and deduced that it should therefore be boosted. They argued that for this reason, clients should take care not to violate the psychological contract, especially in case they intend to employ the temporary agency worker on a regular basis. Investments in human capital constitute an advance in trust. Even when the temporary agency worker is not recruited by a firm but hired out for a long-term assignment, investments in human capital may be profitable because they lower fluctuation and increase productivity.

Liden et al. (2003) showed that fairness and encouragement by the client improve the commitment of the temporary agency worker. Felfe et al. (2005) found that the conditions at the client firm regarding tasks, working atmosphere, and management style correspond with the commitment shown to the client in return. To date, there is no empirical study on the impact of investments in human capital on commitment. Even so it can be assumed that such investments do have an impact on commitment just as working atmosphere and management style. Opportunities for training can also improve the working atmosphere. Galunic/Anderson (2000) pointed out that investments in general human capital impact positively on commitment. Their study focused on insurance agents but can be easily transferred to temporary agency workers.

Up to now, there are no empirical studies on investments in human capital by client firms. The firms' main reason for avoiding investments is that short-term assignments may inhibit amortization. A survey of firms in Germany (Bolder 2005, 14) confirms this aspect. The survey highlights that clients do not feel responsible for training. Occasionally, clients provide training on the job if the job requirements compel the client to invest (Bolder 2005, 11). However, clients who cover short-term vacancies by using temporary agency work will not invest in human capital because they request a temporary agency worker who meets their requirements in the first place.

Whether clients train depends, however, on their motives to use temporary agency work. If the short-term fulfillment of personnel requirements is a central concern, a client will hardly provide further training. In that case, it is up to the temporary agency workers themselves to cope with new challenges. But if the client's main motives are to test new employees without risk or to solve mismatch problems on the labor market, there may well be chances of further training. These motives seem to be rarely present, however (Bolder 2005, 11-12). Letourneux (1998), in his study based on the Second European Survey on Working Conditions, found that 35% of permanent staff but only

12% of temporary agency workers were trained in the preceding 12 months. As for human capital investments, firms seem to concentrate on the remaining permanent staff, thereby profiting from outsourcing (Nienhüser/Baumhus 2002, 97).

For the Belgian temporary agency market Forrier/Sels (2003) examined the training possibilities of temporary agency workers in the firms. Surprisingly, they could not find a significant difference between the probability of training for temporary agency workers and permanent staff (Forrier/Sels 2003, 652). It became clear, though, that clients tended to pay for training of permanent staff rather than for training of temporary agency workers. Furthermore, the probability of finance coming from an employer is lower for shorter-term rather than longer-term employments. Generally, in the case of temporary agency workers, investments transacted are mainly in job-specific human capital (Forrier/Sels 2003, 660). The assumption that employees who are tested and undergo a probationary period for permanent employment receive more training than those who cannot be confirmed (Forrier/Sels 2003, 657).

All in all, a uniform picture emerges from the point of view of client firms both in the study's theoretical and empirical sections. As the majority (approx. 75%) of them uses temporary agency work for the flexible fulfillment of temporary personnel requirements, they do not consider it economically meaningful to invest in the human capital of temporary agency workers. Only a certain initial training, i.e., familiarization with job-specific knowledge, pays off in the form of short-term productivity increases. Beyond that, specific training pays only if clients use temporary agency work for long-term employments, for example, with respect to projects extending over several years, or for recruiting personnel. But the share of these firms is very small. The handling of special tasks represents only 3.4% of the reasons given for the use of temporary agency work, and only 8% of the firms use temporary agency work as a recruiting instrument. In making investments in general human capital, further income components, apart from the growth in productivity, are also important.

Externalities and possible solutions

Investments in the human capital of temporary agency workers lead to positive externalities impacting not only on the investor but also on all other parties involved. For example, a temporary agency's investment in general human capital increases the productivity of an employee, which, in turn, benefits the client. In particular, the client firm benefits when it uses temporary agency work as a recruiting instrument. As the temporary agency screens potential employees by way of training, the client firm profits because the latter have already been tested and approved and save transaction costs for recruiting. However, this externality takes effect only when the tasks involved require little firm-specific knowledge. There is empirical evidence for this hypothesis verifying that the recruitment of personnel via temporary agencies is more profitable when low-skilled employees are involved (Jahn 2005, 400).

The temporary agency is interested in training its employees during lending-free periods so that it can demand higher lending fees for future placements and protects its investments by contracts. If the agency trains employees during assignments, that is, after fixing the fee and making the contract with the client, it will avoid investments in human capital because the returns are insecure. If the client recruits the employee,

the agency cannot amortize investments made. Therefore, the costs of training activities need to be shared between agency and client to minimize investment risks. But it is also conceivable that the implicit contract between agency and client encourages investments (Rousseau 1995, 34) when these are considered to foster customer loyalty. Thus, investments by the agency are feasible in highly competitive markets, or if the client has bargaining power (Neugart 2003, 29). Additionally, the agency can bargain for a fee if the temporary agency worker is recruited by the client as a regular employee.

It is not only the clients but also the temporary agency workers who profit from the agency's investments in human capital. First, their wages rise by accumulation of human capital. Second, their employability improves, and temporary agency work might serve as a stepping-stone to regular employment. Thus, the agency might want temporary agency workers to share costs by paying a fee or accept lower wages. But acceptance of lower wages is limited by collective labor agreements providing that wages do not fall below a minimum level. Another possibility for agencies to motivate agency workers to share costs is to provide a training infrastructure, in return for spare time sacrificed by the workers. The agency can reduce any risks by bargaining for a clause that binds agency workers to the agency for a specific time.

Clients and temporary agency workers profit from investments by the agency, but vice versa the agency also profits from investments by the client. After investments by the client in general human capital, agencies can raise their fees. For this reason, clients may demand that agencies should share in the costs. For specific human capital investments cost sharing is not anticipated, but might be useful in the context of the psychological contract. Empirical studies have found that agencies rarely share in the further training activities of clients (Seidel 2005). However, to introduce safeguards committing a temporary agency worker to a client seems hardly feasible because there is no mutual contract. The fact is, though, that investments of the client in general human capital result in a higher productivity of, and higher wages for, temporary agency workers. Because of the nonexistent contract, a sharing of costs is possible only via direct payments or investments in the form of spare time. If clients want to recruit temporary agency workers for their regular staff, sharing in terms of reduced wages following the actual employment might be possible. If clients invest in specific human capital, temporary agency workers only profit if they are recruited. Sharing in investment can then be effected by way of reduced wages (Rudolph 2003, 23).

In summarizing all the arguments, it can be said that there will be external effects by any investment in human capital, which can be internalized by cost sharing. Besides, the party best informed about future requirements should arrange for further training. As far as general human capital is concerned, this is probably the agency, which knows how to market the temporary agency worker in the future. As for specific human capital, the clients are best informed about their own future requirements and thus should organize further trainings.

4. Conclusions

Apparently, as the ratio of regular employment relations is decreasing firms introduce different employment relations serving various flexibility options. Accordingly, the ratio of temporary agency workers will increase in the next years. The growing diffusion

of temporary agency work, on the one hand, and the importance of human capital management, on the other, confront us with the question who will invest in the human capital of temporary agency workers. Up to now, few theoretical and empirical studies exist on human capital management in relation to temporary agency workers. We have tried to fill this gap by analyzing the incentives of temporary agencies and clients and reviewing existing empirical results.

According to Becker's concept of human capital theory, neither the temporary agency nor the client should invest in human capital because both cannot amortize their investments. But temporary agency work itself can be seen as an indication of imperfect markets and especially of incomplete information. Under neoclassical market conditions, firms would not need an intermediate to recruit employees so fast even for short-term assignments. We have therefore analyzed temporary agencies' and clients' incentives to invest in the general human capital of temporary agency workers.

Becker's theory only takes costs and amortization of investments in human capital into account. But temporary agencies and clients have incentives to invest in the human capital of temporary agency workers because investments in human capital are not only a matter of cost accounting, but also a result of asymmetrical information, a tool to screen and select new employees and can be introduced in order to motivate staff by fulfilling the psychological contract. Recapitulating our considerations, there are incentives to invest in the human capital of temporary agency workers. Thus, an increase in flexible working arrangements will not lead to a shortage of talents on principle.

We have shown that temporary agencies are interested to invest in general human capital in order to earn higher profits and screen their employees. Clients, in turn, are interested in investing in specific human capital when they wish to recruit temporary agency workers as regular employees. However, externalities are involved in any investment in human capital. Thus, Becker's basic thesis about sharing the costs and profits of investments is still relevant but has to be extended to investments in general human capital.

The question of how exactly the parties should share their costs and profits and whether they can share investment costs with the temporary agency workers cannot be answered without analyzing those parties' definite characteristics. Moreover, these may significantly influence not only cost and profit sharing but also the parties' incentives to invest in human capital (Groen 2006). For instance, one party's strength might either facilitate own investments and amortization or make it easier to compel other parties to invest. Wiens-Tuers/Hill (2002) analyzed the influence of firms' characteristics on their willingness to invest in the human capital of temporary workers. Surprisingly, they found firm size to have no significant influence either on the probability or the extent of further training. However, conditions on sales markets as well as high performance work practices sharply influence such training. It can be assumed that this applies to investments in the human capital of temporary agency workers as well, but we leave this question for future research.

Additionally, future research on uncertainty of investments in human capital is needed. It can be assumed that the efficiency of investments has an effect on the pro-

propensity to invest in human capital. If there is a time lag between investments and increased efficiency or there is uncertainty about the efficiency of trainings at all, the propensity to invest will be lowered, especially in short-term assignments.

References

- Acemoglu, Daron / Pischke, Jörn-Steffen (1998): Why do firms train? Theory and Evidence. In: Quarterly Journal of Economics, 113(1), 79-119.
- Acemoglu, Daron / Pischke, Jörn-Steffen (1999): Beyond Becker: Training in Imperfect Labour Markets. In: Economic Journal, 109(1), 112-143.
- Addison John T. / Surfield Christopher J. (2004): The use of alternative work arrangements by the jobless: evidence from the CAEAS/CPS. Discussion paper series/Forschungsinstitut zur Zukunft der Arbeit IZA No. 1378. Bonn.
- Alewell, Dorothea (1997): Die Finanzierung betrieblicher Weiterbildungsinvestitionen: Ökonomische und juristische Aspekte. Wiesbaden.
- Alewell, Dorothea (1998): Warum finanzieren Arbeitgeber transferierbare Weiterbildung? In: Zeitschrift für betriebswirtschaftliche Forschung, 50(4), 315-335.
- Amuedo-Dorantes, Catalina / Malo Miguel A. / Muñoz-Bullón Fernando (2005): The role of temporary help agencies on workers' career advancement. Paper presented at the DAEUP Dissemination Meeting, January 27-28, 2005, British Embassy. Berlin.
- Anderson, Neil / Schalk, René (1998): The psychological contract in retrospect and prospect. In: Journal of Organizational Behavior, 19, 637-647.
- Andersson, Pernilla / Wadensjö, Eskil (2004): Temporary employment agencies: a route for immigrants to enter the labour market? Discussion paper series, Forschungsinstitut zur Zukunft der Arbeit IZA No. 1090. Bonn.
- Argyris, Chris (1960): Understanding Organizational Behaviour, London.
- Asplund, Rita (2004): The Provision and Effects of Company Training: A Brief Review of the Literatur. URL: <http://www.etla.fi/english/research/publications/searchengine/pdf/dp/dp907.pdf> (11.08.2006).
- Autor, David H. (2001): Why do temporary help firms provide free general skills training? In: Quarterly Journal of Economics, 116(4), 1409-1448.
- Autor David H. / Houseman Susan N. (2005a): Temporary Agency Employment as a Way out of Poverty? Upjohn institute staff working paper no. 05-123. Kalamazoo.
- Autor David H. / Houseman, Susan N. (2005b): Do temporary help jobs improve labor market outcomes for low-skilled workers? Evidence from random assignments. Upjohn institute staff working paper no. 05-124. Kalamazoo.
- Backes-Gellner, Uschi / Lazear, Edward P. / Wolff, Birgitta (2001): Personalökonomik. Stuttgart.
- Becker, Gary S. (1964): Human Capital. New York/London.
- Becker, Gary S. (1975): Human Capital. 2. Edition. New York.
- Bentolila, Samuel / Saint-Paul, Gilles (1992): The macroeconomic impact of flexible labor contracts with an application to Spain. In: European Economic Review, 36, 1013-1053.
- Böhm, Wolfgang (2005): „Zweite Belegschaft“: Mehr Flexibilität und geringere Personalkosten durch on-site management. In: NZA 10, 554-563.
- Bolder, Axel / Naevecke, Stefan / Schulte, Sylvia (2005): Türöffner Zeitarbeit? Wiesbaden.
- Booth, Alison L. / Bryan, Mark L. (2002): Who Pays for General Training? New Evidence for British Men and Women. IZA Discussion Paper Nr. 486. Bonn.
- Booth, Alison L. / Bryan, Mark L. (2005): Testing some predictions of human capital theory: new evidence from Britain. In: Review of Economics and Statistics, 87(2), 391-394.
- Brickman, Philip (1987): Commitment. In: Wortman, Camille B. / Sorrentino, Richard M. (Eds.): Commitment, conflict and caring. Englewood Cliffs, 1-18.
- Burda, Michael C. / Kvasnicka, Michael (2006): Zeitarbeit in Deutschland: Trends und Perspektiven. In: Perspektiven der Wirtschaftspolitik, 7(2), 195-225.
- BZA (2006): Statistiken. URL: <http://www.bza.de/infocenter/statistiken.php> (23.07.2006).

- Casas-Arce, Pablo (2004): Firm provision of general training and specific human capital acquisition. Discussion Paper 198, Department of Economics, University of Oxford. Oxford.
- Creagh, Mary / Brewster, Chris (1998): Identifying good practice in flexible working. In: *Employee Relations*, 20(5), 490-503.
- Doeringer, Peter B. / Piore, Michael J. (1971): *Internal labor markets and manpower analysis*. Lexington.
- Euwals, Rob / Winkelmann, Rainer (2001): Why do firms train?: Empirical evidence on the first labour market outcomes of graduated apprentices. IZA Discussion Paper Nr. 319. Bonn.
- Fabbris, Luigi (2007): Effectiveness of university education in Italy: employability, competences, human capital. Heidelberg et al. (Forthcoming).
- Federal Employment Agency (2006): *Arbeitsmarkt in Zahlen – Arbeitnehmerüberlassung*, 1. Halbjahr 2005. Nürnberg.
- Federal Government (2005): Zehnter Bericht der Bundesregierung über Erfahrungen bei der Anwendung des Arbeitnehmerüberlassungsgesetzes. URL: www.sozialpolitik-aktuell.de/docs/zehnter-bericht-arbeitnehmerueberlassung.pdf (23.07.2006).
- Felfe, Jörg / Schmook, Renate / Six, Bernd / Wieland, Rainer (2005): Commitment gegenüber Verleihern und Entleihern bei Zeitarbeitern. In: *Zeitschrift für Personalpsychologie*, 4(3), 101-115.
- Fitz-enz, Jac (2000): The ROI of human capital – measuring the economic value of employee performance. New York et al.
- Föhr, Silvia (2000): Flexibilisierung des Personaleinsatzes durch Arbeitnehmerüberlassung – eine personalwirtschaftliche Analyse. In: Alewell, Dorothea (Hg.): *Zwischen Arbeitslosigkeit und Überstunden: personalwirtschaftliche Überlegungen zur Verteilung von Arbeitsvolumina*. Frankfurt/Main et al, 49-83.
- Forrier, Anneleen / Sels, Luc (2003): Temporary employment and employability: training opportunities and efforts of temporary and permanent employees in Belgium. In: *Work, Employment and Society*, 17(4), 641-666.
- Galunic, Charles D. / Anderson, Erin (2000): From Security to Mobility: Generalized Investments in Human Capital and Agent Commitment. In: *Organization Science* 11(1), 1-20.
- Garen, John (2006): Use of employees and alternative work arrangements in the United States: a law, economics, and organizations perspective. In: *Labour Economics*, 13(1), 107-141.
- Garloff, Alfred / Kuckulenz, Anja (2006): Training, mobility, and wages: specific versus general human capital. In: *Jahrbücher für Nationalökonomie und Statistik*, 226, 55-81.
- Gerfin, Michael / Lechner, Michael / Steiger, Heidi (2005): Does subsidised temporary employment get the unemployed back to work? An econometric analysis of two different schemes. In: *Labour Economics*, 12(6), 807-835.
- German Federal Office of Statistics (2006): Sozialversicherungspflichtig Beschäftigte am Arbeitsort am 30.06. des Jahres. URL: <http://www.destatis.de/basis/d/erwerb/erwerbt5.php> (06.04.2006).
- Gertz, Winfried (2006): Mehr Trainings für Zeitarbeitnehmer. URL: unter: http://hr.monster.de/9338_de_pf.asp (06.05.2006).
- Groen, Jeffrey A. (2006): Occupation-specific human capital and local labour markets. In: *Oxford Economic Papers*, 58, 722-741.
- Grote, Gudela / Raeder, Sabine (2003): Berufliche Identität in Wechselwirkung mit den Anforderungen von Arbeitsflexibilisierung und kontinuierlicher Bildung. Zürich.
- Güell, Maia / Petrongolo, Barbara (2005): How binding are legal limits? Transitions from temporary to permanent work in Spain. Centre for economic policy research discussion papers series No. 3931. London.
- Hashimoto, Masanori (1981): Firm-specific Human Capital as a Shared Investment. In: *The American Economic Review*, 71(3), 475-482.
- Ichino, Andrea / Mealli, Fabrizia / Nannicini, Tommaso (2006): From Temporary Help Jobs to Permanent Employment: What Can We Learn from Matching Estimators and their Sensitivity? IZA Discussionpaper No. 2149. Bonn.
- Ichino, Andrea / Mealli, Fabrizia / Nannicini, Tommaso (2005): Temporary work agencies in Italy: a springboard toward permanent employment? In: *Giornale degli economisti e annali di economia*, 64(1), 1-27.

- Jahn, Elke (2005): Was macht den Unterschied? Determinanten der Nachfrage nach Leiharbeit in Deutschland und den Niederlanden. In: *Industrielle Beziehungen*, 12(4), 393-423.
- Kalleberg, Arne L. (2003): Flexible firms and labor market segmentation. In: *Work and Occupations*, 30(2), 154-175.
- Katz, Eliakim / Ziderman, Adrian (1990): Investment in General Training: the Role of Information and Labour Mobility. In: *Economic Journal*, 100 (403), 1147-1158.
- Kawaguchi, Daiji (2001): Human Capital Accumulations and Self-employed Workers. Discussion Paper No. 530, Institute of Social and Economic Research Osaka University. Osaka.
- Kessler, Anke S. / Lülfsmann, Christoph (2006): The theory of human capital revisited: on the interaction of general and specific investments. In: *The Economic Journal*, 116 (512), 903-923
- Kvasnicka, Michael / Werwatz, Axel (2003): Arbeitsbedingungen und Perspektiven von Zeitarbeitern. URL: <http://www.diw.de/deutsch/produkte/publikationen/wochenberichte/docs/03-46-1.html> (30.06.2006).
- Kvasnicka, Michael (2003): Inside the black box of temporary help agencies. Discussion papers of interdisciplinary research project 373 No. 43. Berlin.
- Kvasnicka, Michael (2005): Does temporary agency work provide a stepping stone to regular employment? Discussion Paper No. 2005-031, Humboldt-Universität zu Berlin, Sonderforschungsbereich 649. Berlin.
- Lane, Julia / Mikelson, Kelly S. / Sharkey, Patrick T. / Wissoker, Douglas A. (2003): Pathways to work for low-income workers: the effect of work in the temporary help industry. In: *Journal of Policy Analysis and Management*, 22(4), 581-598.
- Leber, Ute (2000): Finanzierung betrieblicher Weiterbildung und Absicherung ihrer Erträge. In: *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, 33(2), 229- 241.
- Letourneux, Véronique (1998): Precarious Employment and Working Conditions in Europe. Dublin.
- Liden, Robert C. / Wayne, Sandy J. / Kraimer, Maria L. / Sparrowe, Raymond T. (2003): The dual commitments of contingent workers: An examination of contingents` commitment to the agency and the organization. In: *Journal of Organizational Behavior*, 24(4), 609-625.
- Loewenstein, Mark A. / Spletzer, James R. (1999): General and Specific Training: Evidence and Implications. In: *Journal of Human Resources*, 34(4), 710-733.
- Lünendonk (2005): Führende Zeitarbeits- und Personaldienstleistungs-Unternehmen in Deutschland 2005. URL: <http://www.luenendonk.de/zeitarbeit.php> (23.07.2006).
- McLean Parks, Judi / Kidder, Deborah L. / Gallagher, Daniel G. (1998): Fitting square pegs into round holes: mapping the domain of contingent work arrangements onto the psychological contract. In: *Journal of Organizational Behaviour*, 19, 697-730.
- Milgrom, Paul / Roberts, John (1992): *Economics, organization and management*. Englewood Cliffs.
- Mitlacher, Lars W. (2005): Temporary Agency Work, the Changing Employment Relationship and its Impact on Human Resource Management. In: *Management Revue*, 16(3), 370-388.
- Mitlacher, Lars W. (2006): The organization of Human Resource Management in temporary work agencies – towards a comprehensive research agenda on temporary agency work in Germany, the Netherlands and the US. In: *Human Resource Management Review*, 16(1), 67-81.
- Neugart, Michael (2003): Zeitarbeit versus Normalarbeitsverhältnis: Ergebnisse einer makroökonomischen Simulation. In: Linne, Gudrun / Vogel, Berthold (Hg.): *Leiharbeit und befristete Beschäftigung: neue Formen sozialer Gefährdung oder Chance auf Arbeitsmarktintegration?* Düsseldorf, 27-30.
- Nienhüser, Werner / Baumhus, Walter (2002): „Fremd im Betrieb“: Der Einsatz von Fremdfirmenpersonal als Arbeitskräftestrategie. In: Martin, Albert / Nienhüser, Werner (Hg.): *Neue Formen der Beschäftigung – neue Personalpolitik?* München/Mering, 61-120.
- Nienhüser, Werner / Matiaske, Wentzel (2006): Effects of the ‘principle of non-discrimination’ on temporary agency work: compensation and working conditions of temporary agency workers in 15 European countries. In: *Industrial Relations Journal*, 37(1), 64-77.
- OECD (2003): *Employment Outlook*, Paris.
- Otte, Thomas (2004): Die arbeitgeberseitige Finanzierung der MBA-Ausbildung als Investition in Humankapital. In: *Zeitschrift für Personalforschung*, 18(4), 418-435.
- Pelka, Bastian (2005): Betriebliches Lernen in der Zeitarbeit aus Sicht der Einsatzbetriebe. URL: http://www.bibb.de/dokumente/pdf/a31_kompetenz-erwerb-zeitarbeit_pelka_abstract.pdf (05.07.2006).

- Pfeifer, Christian (2005): Flexibility, dual labour markets, and temporary employment: empirical evidence from German establishment data. In: *Management Revue*, 16(3), 404-422.
- Purcell, John / Purcell, Kate / Tailby, Stephanie (2004): Temporary work agencies: here today, gone tomorrow. In: *British Journal of Industrial Relations*, 42(4), 705-725.
- Raeder, Sabine / Grote, Gudela (2001): Flexibilität ersetzt Kontinuität. In: *Arbeit*, 10(3), 352-364.
- Robinson, Sandra L. (1995): Violation of Psychological Contracts: Impact on Employee Attitudes. In: Tetrick, Lois E. / Barling, Julian (Eds.): *Changing Employment Relations*. Washington DC, 91-108.
- Rogowski, Ralf / Wilthagen, Ton (2004): Deregulierung und Reregulierung von Übergangsmärkten. In: *WSI Mitteilungen*, 57(3), 153-158.
- Rousseau, Denise M. (1990): New hire perceptions of their own and their employer's obligations: A study of psychological contracts. In: *Journal of Organizational Behavior*, 11(5), 389-400.
- Rousseau, Denise M. (1995): *Psychological contracts in organizations*. Thousand Oaks.
- Rudolph, Helmut (2003): Befristete Arbeitsverträge und Zeitarbeit. Quantitäten und Strukturen „prekärer Beschäftigungsformen“. In: Linne, Gudrun / Vogel, Berthold (Hg.): *Leiharbeit und befristete Beschäftigung: neue Formen sozialer Gefährdung oder Chance auf Arbeitsmarktintegration?* Düsseldorf, 9-26.
- Sadowski, Dieter (1980): *Berufliche Bildung und betriebliches Bildungsbudget. Zur ökonomischen Theorie der Personalbeschaffungs- und Bildungsplanung im Unternehmen*. Stuttgart.
- Sadowski, Dieter (2002): *Personalökonomie und Arbeitspolitik*. Stuttgart.
- Saint-Paul, Gilles (1996): *Dual labor markets, a macroeconomic perspective*. Cambridge.
- Sako, Mari (1991): The Role of Trust in Japanese Buyer-Supplier Relationships. In: *Ricerche economiche*, 45(2-3), 440-474.
- Schein, Edgar H. (1980): *Organizational Psychology*. 3. Edition Auflage, Englewood Cliffs.
- Schlese, Michael / Schramm, Florian / Bulling-Chabalewski, Natalie (2005): Beschäftigungsbedingungen von Leiharbeitskräften. In: *WSI Mitteilungen*, 58(10), 568-574.
- Scholz, Christian (2000): *Personalmanagement*. München.
- Scholz, Christian / Stein, Volker / Bechtel, Roman (2004): *Human Capital Management: Wege aus der Unverbindlichkeit*. München.
- Segal, Lewis M. / Sullivan, Daniel G. (1997): The growth of temporary services work. In: *Journal of Economic Perspectives*, 11(2), 117-136.
- Segal, Lewis M. / Sullivan, Daniel G. (1998): Wage differentials for temporary services work: evidence from administrative data. Federal Reserve Bank of Chicago Working Paper WP-98-23. Chicago.
- Seidel, Sabine (2005): *Kompetenzentwicklung in der Zeitarbeit – Befragung von Zeitarbeit*. URL: http://www.bibb.de/dokumente/pdf/a31_kompetenzentwicklung-zeitarbeit_seidel_abstract.pdf (05.07.2006).
- Semling, Corinna (2004): *Die Verantwortung von Unternehmen für die Arbeitsmarktfähigkeit von Mitarbeitenden*. URL: http://www.personalfachkongress.ch/medien/2004/Arbeitsmarktfahigkeit_sozVerantwortung_Endfassung.pdf (01.09.2006).
- Sesselmeier, Werner / Blauermeier, Gregor (1998): *Arbeitsmarkttheorien: ein Überblick*. Darmstadt.
- Storrie, Donald (2002): *Temporary agency work in the European Union*. Dublin.
- Teuling, Coen N. (2005): Comparative advantage, relative wages, and the accumulation of human capital. In: *The journal of political economy*, 113(2): 425-461.
- Van Dyne, Linn / Ang, Soon (1998): Organizational citizenship behavior of contingent workers in Singapore. In: *Academy of Management Journal*, 41(6), 692-703.
- Vinding, Anker L. (2006): Absorptive capacity and innovative performance: a human capital approach. In: *Economics of Innovation and New Technology*, 15(4/5): 507-517.
- Wiens-Tuers, Barbara A. / Hill, Elizabeth T. (2002): Do they bother? Employer Training of Temporary Workers. In: *Review of Social Economy*, 60(4): 543-566.
- Zijl, Marloes / Van den Berg, Gerard J. / Heyma, Arjan (2004): Stepping stones for the unemployed : the effect of temporary jobs on the duration until regular work. Discussion paper series, Forschungsinstitut zur Zukunft der Arbeit No. 1241. Bonn.