IAAEU Discussion Paper Series in Economics
No. 08/2020

Unions and Workers' Well-being

Laszlo Goerke

December 2020

Unions and Workers' Well-being[*]

Laszlo Goerke

IAAEU - Trier University [+]
IZA, Bonn, CESifo, München, and Global Labor Organization (GLO)

[+] Institute for Labour Law and Industrial Relations in the European Union, Campus II
D – 54286 Trier, Germany
E-mail: goerke@iaaeu.de

November 29, 2020
(updated January 11, 2021)

Summary

If individuals join a trade union their utility should increase. Therefore, union members can be expected to exhibit higher job satisfaction than comparable non-members. This expectation is not consistent with empirical findings. The evidence sometimes indicates that union members have lower job satisfaction, but overall suggests the absence of a robust correlation. This survey discusses empirically relevant determinants of the relationship between trade union membership and job satisfaction. It distinguishes settings in which a trade union provides public goods from those in which it restricts the provision of benefits to its members. Furthermore, the survey summarizes the empirical evidence and indicates possible future research issues.

1. Introduction

The use of job satisfaction as an "economic variable" (Freeman 1978) is a recent phenomenon in comparison to the utilization of such information in other disciplines. Almost from the start, research by economists on job satisfaction as an outcome variable has also considered an employee's membership in a trade union as a determinant. The a priori expectation was that union members exhibit greater well-being and state a higher level of job satisfaction than non-members. However, many early empirical analyses did not confirm this anticipation. On the contrary, a negative correlation was often reported. This is undoubtedly one of the reasons why the relationship between trade union membership and job satisfaction has been studied intensively in recent years.

The present contribution develops the theoretical rationale for expecting a positive impact of trade union membership on an employee's well-being and reported job satisfaction, describes the main challenges facing empirical investigations of this relationship and summarizes the central empirical findings. Moreover, it indicates possible topics for future research.

2. Theoretical Considerations

2.1 Analytical Framework

Setting

Suppose the well-being of an employed individual and its determinants can be described an expected utility function U. It depends positively on the expected utility from work, denoted by u, and negatively on the disutility from working, labeled v. Besides, an individual obtains utility because of activities not related to work, which is designated by A. Hence, expected utility is:

$$U = U(u, v, A) \tag{1}$$

In a simple labor supply framework, sub-utility u varies with disposable income and v with hours of work. Individual utility maximization then yields an indirect utility function, which, for example, varies with wages, tax rates, and possibly working conditions. Since this survey focuses on the union membership decision, both expected utility from work, u, and disutility, v, are specified somewhat more generally than a standard labor economics textbook usually does.

In particular, a trade union may provide a public good, W, which all employees can consume, irrespective of whether they belong to the union or not. This public good enhances the expected utility from work, u. The most prominent example is pay if bargaining outcomes are not restricted to union members. Other instances of public goods may be working hours, working conditions, or labor legislation.

In addition, a trade union can provide club goods to its members, denoted by w^u, where the superscript u indicates union membership. Well-established examples of such club goods, which by definition are not rival in consumption, are wages in case of a closed shop and strike pay. Non-members, indicated by the superscript n, may also consume these goods, but at a different level, w^n, since they do not obtain the union membership wage premium or have to rely on private strike insurance. Further examples of club goods could be legal advice in case of conflict with the employer or financial support in times of unemployment. The expected utility from work, u, increases with the quantities of the public good and the club goods consumed. That is, the partial derivatives $\partial u / \partial w \coloneqq u_W$, u_{w^u}, and u_{w^n} are positive.

A union can also provide its members with a private good. Examples are work-related insurance contracts, possibly at reduced prices, training opportunities, legal support in job-related affairs, and advice relating to career issues. Since this chapter deals with differences between union members and non-members, while distinctions between members play no decisive role, it focuses on the club good and the public good perspective. Furthermore, most arguments elaborated upon below on club goods also apply to private goods.

The disutility from work, v, depends positively on costs c^i, i = u, n ($v_{c^i} > 0$). The costs, c^i, can include the loss of leisure due to working hours or commuting time, describe commuting expenses, adverse working conditions, or health hazards associated with the job. The costs c^u and c^n can differ between union members and non-members, for example, because their jobs do not have the same working conditions, union members and non-members are treated differently by supervisors, and union members pay membership fees. These fees can substantially influence membership decisions, as the study of tax subsidies for them demonstrates (Barth et al. 2020). In the absence of any other differences in the disutility from work, the payment of membership fees implies that $c^u > c^n$ and $v(c^u) > v(c^n)$ hold.

Finally, the utility from non-work, A^i, can also vary with union membership. Examples of goods, which are not related to work but affect the utility of union members and non-members differently are commodities, such as package holidays, media, clothing, or household appliances, which union members can purchase at lower prices than non-members. This will

be feasible if trade unions obtain quantity discounts when bargaining corresponding contracts with suppliers. Union membership may also provide direct intrinsic utility because employees contribute to the political and economic objectives of trade unions (Ebbinghaus et al. 2011). Furthermore, trade union membership can award a reputational payoff beyond the workplace, which varies with the number of members (Booth 1985; Corneo 1995; Goerke and Pannenberg 2004). This reputation effect can also describe the utility from non-work, A^i, which varies with the membership status.

If all components of well-being or utility are, for the sake of notational convenience presumed to be additive, the expected utility of an employed individual, U^i, can be expressed as:

$$U^i = u(w^i, W) - v(c^i) + A^i \qquad (2)$$

In a utility maximization or rational choice framework, an individual will be a member of a trade union if $U^u > U^n$ holds, that is, if the expected gain from membership, given by $u(w^u, W) + A^u - (u(w^n, W) + A^n)$, exceeds the expected costs, defined by $v(c^u) - v(c^n)$.

Refinements

Approaches that analyze union membership in a setting such as the one depicted above, usually incorporate the possibility that individuals may not have a job at the union wage (see, for example, Farber 1986; Booth 1984; Booth and Chatterji 1995; Moreton 1998; Goerke and Pannenberg 2004). Denoting the probability of being employed by p^i, $0 < p^i < 1$, and the utility of not having a job by $\overline{U}^i$, becoming a union member raises expected utility if $p^u U^u + (1 - p^u)\overline{U}^u > p^n U^n + (1 - p^n)\overline{U}^n$ holds. Therefore, the impact of unions on the employment probability can be ignored when analyzing the membership decision if this probability is the same for members and non-members ($p^u = p^n$). Otherwise, U^i can be re-interpreted as including the employment probability and the utility level, $\overline{U}^i$, from non-work. Moreover, this utility level is usually assumed to be the same for members and non-members ($\overline{U}^u = \overline{U}^n$). In consequence, the decision about union membership refers to a comparison of U^u and U^n.

Other approaches interpret union membership as the interaction of supply and demand decisions (see Schnabel 2003). Our analysis focuses on individual demand choices and, hence, does not incorporate equilibrium repercussions, which could be integrated if, additionally, the supply side were taken into account. As long as individual behavior does not alter U^u and U^n via equilibrium adjustments, the neglect of the supply side of union membership does not affect the present investigation.

Job Satisfaction

If there is a monotone relationship between the utility resulting from the job, u – v, and job satisfaction, the latter represents a suitable empirical proxy for u – v (see Hamermesh (1977, 2001), Clark and Oswald (1996), and Frey and Stutzer (2002), for according statements, mostly relating to life satisfaction and utility). In consequence, individuals who join a trade union, because this increases utility, should exhibit a higher level of stated job satisfaction than they would declare if the individuals abstained from membership or from working in a unionized firm. This conclusion assumes that the impact of work-related utility, u - v, dominates any effect on union membership via A^i because this utility component is not related to work. While this line of argument is seldom spelled out explicitly, it usually guides the interpretation of empirical results. If the line of reasoning extends to life satisfaction, one would also expect a union member to state a higher level of life satisfaction.

It is often argued that job satisfaction does not only depend on the evaluation of payoffs or rewards, but also on their relation to expectations or values (Berger et al. 1983; Hamermesh 2001). Such a benchmark may vary with the union membership status. In terms of the framework sketched above, this additional component can be integrated by assuming that an individual benefits from trade union membership if $U^u - R^u > U^n - R^n$ holds, where R^i defines the expectation or benchmark. Unless, therefore, union members systematically expect work to generate different utility levels than non-members, the argument sketched in this section remains unaffected.

2.2 Members versus Non-Members

Empirical analyses based on non-experimental data cannot compare job satisfaction of a trade union member with the hypothetical satisfaction level had this individual not been a member, or the utility of a non-member with the level of well-being had this individual joined the union. However, such a comparison is the basis for the intrapersonal utility comparison outlined above. Instead, empirical investigations mostly contrast different individuals, some of whom belong to a trade union, while others are no members. Sometimes also the same individual is looked at over a longer time span, and changes in an individual's union membership status are associated with variations in job satisfaction.

If utility is not interpersonally comparable, as is usually presumed, comparisons of individuals are not necessarily informative about the association between trade union membership and job

satisfaction. To illustrate, suppose there are two individuals j and k. Individual j has a utility function $U_j^i = \alpha[u(w^i, W) - \beta v(c^i)] + A^i$, $\alpha, \beta > 0$ and $\alpha, \beta \neq 1$, whereas $\alpha = \beta = 1$ for individual k. Suppose, further, that $A^u = A^n = A$, $v(c^u) > v(c^n)$, and that individual k is a union member, implying that $U_k^u = u(w^u, W) - v(c^u) + A > u(w^n, W) - v(c^n) + A = U_k^n$ holds. If, additionally, the disutility from work if being a member is higher for individual j than for k, that is, if β sufficiently exceeds a value of unity, individual j will abstain from membership for $u(w^u, W) - \beta v(c^u) < u(w^n, W) - \beta v(c^n)$. Nonetheless, the utility level of individual j may be higher than that of k, namely if α exceeds unity by enough. Hence, in a cross-sectional sample of employees, a greater observed utility of non-members and utility maximization can co-exist if members and non-members differ systematically in personal characteristics, which affect preferences. Therefore, it is feasible that individuals with lower stated utility from the job, $u - v$, sort themselves into union membership because they value the costs of membership, as captured by $v(c^u) - v(c^n)$, relatively less than other individuals for whom the costs equal $\beta(v(c^u) - v(c^n))$, $\beta > 1$, and are, thus, greater. However, preference-based sorting may also result in a positive relationship between job satisfaction and union membership, namely if the parameters α and β are substantially less than one.

A similar line of reasoning as for systematic differences in preferences can apply to job satisfaction stated in surveys. If individuals 'translate' utility differently into job satisfaction, union members may derive a utility gain from joining the trade union, while their declared job satisfaction is lower than that of non-members. Hence, there may be sorting into union membership along the stated degree of satisfaction, though not necessarily based on differences in utility. For simplicity, this possibility is referred to as satisfaction-based sorting.

In empirical analyses, preference- or satisfaction-based sorting can, first, be accommodated by using panel data and identifying the effects of union membership using the information on individuals who change membership, preferably due to an exogenous event. Also, comparing the findings from pooled cross-section and fixed-effects estimates for the same sample can be insightful. If preferences for wages and working conditions are constant over time, cross-section estimates of job satisfaction will capture the impact of sorting and of utility changes, whereas the fixed-effects specification would isolate the latter. Second, if union members have systematically different preferences or degrees of job satisfaction than non-members, one could examine the relationship between job satisfaction and various characteristics of the job, such as wages, hours, or working conditions. If, for example, union members were paid better than non-members, but declared a lower satisfaction with pay, this would support a

preference- or satisfaction-based sorting process. One could also look at indicators such as life satisfaction to ascertain whether non-members generally state different levels of satisfaction, as described by the parameter β. Third, empirical analyses can attempt to incorporate variables that indirectly measure whether stated preferences differ with the union membership status. If, for example, union members are more risk-averse (Goerke and Pannenberg 2012) and have stronger preferences for stable jobs than non-members, this may also be reflected in the evaluation of a job. Hence, indicators of risk attitude and of personality traits, such as openness to experience, could be correlated with the parameter α and, hence, may be included into empirical analyses.

2.3 Trade Union Membership as Club Good

Numerous contributions analyzing the effects of trade unions on job satisfaction equate unionism, that is, collective bargaining coverage, and an individual's membership in a trade union (see Freeman (1978), Borjas (1979), Berger et al. (1983), for early instances and Javdani and Krauth (2020) for a more recent example). This is the case because membership in a trade union often is a prerequisite for working in a covered establishment. Collectively bargained benefits may also be restricted to members and not be provided to non-union employees by, for example, stipulating that particular fringe benefits are only handed out to signatories of the collective bargaining agreement.

To facilitate the subsequent exposition, suppose that joining a trade union raises the wage or the level of fringe benefits only for members, implying that $w^u > w^n$ holds, and that membership also involves costs, for example, due to membership fees, resulting in $c^u > c^n$. In the absence of a public good and non-work-related components of utility (W, $A^i = 0$), an individual will join a trade union and choose to work in a unionized firm if

$$u(w^u) - v(c^u) > u(w^n) - v(c^n) \qquad (3)$$

holds. Given this inequality and ignoring differences in preferences or stated satisfaction levels as discussed in Section 2.2, job satisfaction for an individual who belongs to a trade union should be higher than for a non-member.

Compensatory Effects

If a trade union raises wages without a concomitant increase in labor productivity, a firm's unit labor cost will increase. Because collective bargaining agreements cannot regulate all working conditions, firms may respond to the cost increase, which arises since they 'pay' for union-provided public goods, by downgrading working conditions or other determinants of job satisfaction at their disposition (Borjas 1979; Hersch and Stone 1990; Renaud 2002). Such adverse compensations can be interpreted as costs of union membership, which, ceteris paribus, reduce job satisfaction. Nonetheless, the inequality in (3) should still be observed because employees could leave the union.

The above considerations point towards important consequences for empirical work. Job satisfaction is strongly affected by the employee's income. Therefore, the wage or some other measure of income is usually included as a control variable in estimating equations. If such approach perfectly mirrors the difference in job satisfaction due to wage disparities, the utility gap in (3) no longer depends on the wage, but becomes negative on account of the costs of membership, that is,

$$u(w) - v(c^u) < u(w) - v(c^n) \tag{4}$$

holds. Hence, if there are costs of membership, which empirical analyses do not properly account for, membership can be negatively correlated with stated job satisfaction, although job satisfaction rises.

This argument can easily be generalized: If empirical studies systematically omit either some benefits or costs associated with union membership the observed relationship between membership and job satisfaction does not depict the optimizing behavior of individuals. Therefore, empirical investigations may be able to shed additional light on the relationship by stepwise inclusion of indicators of benefits and costs of union membership. Because such indicators are unlikely to be perfect measures of the benefits and costs, the proposed coefficient test may fruitfully be complemented by a balancing test, that is, by regressing indicators of the benefits and costs on union membership itself (see, Pei et al. 2019).

Moreover, the analysis of different facets of job satisfaction can be informative. This will be the case if questions on particular aspects of the job, such as on pay, hours of work, work content, working conditions or job security are likely to reflect either the expected work-related benefits from membership, as captured by $u(w^u) - u(w^n)$, or the costs of

membership $v(c^u) - v(c^n)$. These benefits and costs are likely to vary across industries, industrial relations systems and over time.

Exit-Voice Perspective

Thus far, the interpretation of the club good provided by trade unions has focused on the unions' monopoly face, i. e. the ability to raise wages. Freeman and Medoff (1984) emphasize a second face, namely collective voice activities. This perspective relies on a specific interpretation of the exit-voice approach originating from Hirschman (1970, 1974). If employees are dissatisfied with working conditions, they can either attempt to improve them ('voice') or decide to leave the firm ('exit'). Enhancing working conditions requires to voice discontent and carries the danger of adverse responses by management. If union members are better protected against reprisals by employers, such as wage cuts, demotions, or dismissals, their costs of demanding improvements in working conditions are lower than of non-members. In addition, better working conditions often constitute a public good. This is because the entire workforce shares the gains from the improvements. Thus, unions can help to overcome the inefficiently low extent of voice activities. If this perspective is adequate, union members have fewer incentives to leave the firm, and tenure is predicted to be higher than of non-members. Moreover, the argument suggests that union members exhibit greater job satisfaction because they have better working conditions. If, however, the voice mechanism induces less satisfied union members to stay in the firm, they represent a selection of employees who exhibit lower job satisfaction. This feature generates a link between the satisfaction-based sorting explanation and the exit-voice approach (Freeman 1978).

Some authors have extended the above argument to explain why an adverse effect of union membership on job satisfaction arises, although union membership increases an individual's utility (see Borjas 1979; Freeman and Medoff 1984, p. 139ff). In particular, the improvements in working conditions depend positively on the strength of voice. If the trade union emphasizes adverse working conditions, "creates a climate of complaint" (Heywood et al. 2002, p. 596) or "manufactures discontent" (Hammer and Avgar 2005, p. 243), this makes it more likely that the workers' voice will be heard. "Thus, a by-product of unionization is the politicization of the firm's work force, and union members can be expected to express less job satisfaction than nonunion workers." (Borjas 1979, p. 25). Accordingly, this explanation implies that declared job satisfaction is not reflecting its true level (Freeman and Medoff

1984, p. 139). Hence, for members, a union's voice activities systematically alter the 'translation' of utility from the job, u – v, into stated job satisfaction.

Empirically, it may be problematic to measure the 'manufacturing of discontent' directly. Moreover, since the engineering of dissatisfaction can be interpreted as resulting in preference-based sorting, strategies to identify such behavior may be employed as well to measure the exit-voice effect. Finally, stated satisfaction for work-related aspects would have to be lower for members than non-members. Such satisfaction differential cannot be predicted for features for which union voice does not play a role.

Workplace-based Sorting

The previous discussion ignores the feature that trade unions exist in some firms and do not provide club goods in others. If there is a systematic relationship between the formation of unions and, thereby, membership on the one hand and job characteristics on the other, observing a correlation between membership and job satisfaction provides no information about the causal impact of membership. To illustrate, suppose that the benefits from organizing in a trade union are especially large in a firm with adverse working conditions because the union can obtain a substantial wage increase to compensate for unpleasant circumstances. Alternatively, one could assume that the costs of organizing are low in an establishment in which management favors co-operative labor relations. In the first case, unions would form in settings in which employees exhibit low levels of job satisfaction, in the second in firms in which job satisfaction is likely to be high. Such workplace-based sorting can, therefore, explain correlations between union membership and job satisfaction. However, especially in the case of a negative correlation, the question arises why employees, whose job satisfaction is still lower than in workplaces in which there is no trade union, do not change their jobs.

To empirically disentangle the effects of sorting into workplaces from the true consequences of union membership for job satisfaction, the gains from or costs of establishing a union within a plant could be taken into account. Because they are probably difficult to measure, indicators of working conditions or management style are unlikely to fully capture workplace-based sorting effects. Alternatively, exogenous unionization events could be looked at to isolate the effect of interest.

Non-Work-related Goods

The prior exposition presumes that the trade union provides its members with a club good, which is related to work. This is in line with the dominating approach in empirical work union membership and job satisfaction, according to which the nonwork-related benefits of union membership are relatively small and do not determine membership decisions. Whether this assumption is justified can be evaluated, for example, by comparing the correlation between union membership and job satisfaction, on the one hand, and a more encompassing measure of well-being, which also includes the impact of utility from non-work, on the other hand. In particular, the inspection of equation (2) indicates that the utility from the job and, thus, job satisfaction, would be lower for an individual who joined a trade union if the work-related gain from membership, $u(w^u, W) - u(w^n, W) > 0$, fell short of the cost difference, $v(c^u) - v(c^n) > 0$. However, total utility may be higher if the difference $A^u - A^n$ is large enough. In this case, an individual would become a union member, although doing so would reduce job satisfaction. Thus, job satisfaction of non-members would be higher, while a more comprehensive measure, such as life satisfaction, would be lower. Additionally, direct indicators of satisfaction with the trade union can be informative about the relevance of union-provided goods, which are unrelated to work.

Costs of Changing the Membership Status

In an extension of the preceding analytical framework, there may be fixed costs of joining or leaving the union. They may arise if enrolling requires a job change. Alternatively, it may not be feasible to become a member of the club at the desired point of time. Such delays in adjusting the membership status can occur if the supply of jobs, which deliver the benefits of union membership, falls short of demand. In consequence, a comparison of job satisfaction between union members and non-members may not only reflect the utility differential, as depicted in (3). It can also signal the geographical distribution of jobs, entry restrictions, or the employers' choice of employees. The consequences, which arise from costs of changing the membership status, may be especially severe if membership is tied to a job or an occupation.

Empirically, one possibility to deal with the effects of adjustment costs is to focus on a sample of employees for whom such costs are likely to be low, i. e. those who work in the same occupation or the same region. A comparison with a broader sample can then indicate the impact of such costs of changing membership. Alternatively, individuals who only recently

joined or left a trade union could be looked at because fixed costs apparently did not inhibit them from altering the membership status.

2.4 Trade Unions as Providers of Public Goods

The previous sub-section has discussed the challenges faced by empirical research on the relationship between trade union membership and job satisfaction, which are specific to an industrial relations setting in which trade unions primarily provide work-related club goods. However, in many countries, collective bargaining agreements apply to all employees working in firms covered by them, irrespective of the employees' union membership status. This section clarifies that these challenges and the interpretation of empirical findings are partially different in an economy or in industries in which collective bargaining and union membership are distinct features and trade unions provide public goods.

In such a setting, there may be at least four types of employees, namely trade union members and non-members, who are either subject to the content of a collective agreement or are not covered by its regulations (Green and Heywood 2015). The considerations of Section 2.3 basically apply to the comparison of covered members and uncovered non-members. Therefore, contrasting union members with non-members may confound the impact of an individual's membership in a trade union with the consequences of collective bargaining (Gordon and Denisi 1995).

Collective Bargaining Coverage

Among the four groups of employees, covered non-members can be expected to exhibit the highest level of job satisfaction because they can free-ride on the benefits of union activities and do not pay membership fees (Garcia-Serrano 2009). Therefore, ignoring the fact that union membership is not equivalent to bargaining coverage can bias the estimated relationship between membership and job satisfaction downwards if union membership in uncovered firms is not properly accounted for (Berger et al. 1983; Renaud 2002).

If trade unions provide public goods membership will only increase utility if unions also make a private good available to members, which is either work-related, and raises job satisfaction, or is not directly connected to work. Assuming that a collective bargaining agreement constitutes the public good provided by the trade union, and that it is applied to all employees of covered firms (W > 0), an individual will join this union if

11

$$U^u = u(w^u, W) - v(c^u) + A^u > u(w^n, W) - v(c^n) + A^n = U^n \qquad (5)$$

holds. For an individual who is employed in an uncovered firm, in which there is no collective agreement, the inequality in (5) holds for $W = 0$.

Compensatory and Sorting Effects

Equation (5) suggests that the compensation hypothesis is less likely to be relevant for a comparison of job satisfaction by union members and non-members if trade unions provide public goods than if they produced club goods. By their very nature, these public goods increase the costs of union members and non-members to the firm to the same extent. Hence, any compensatory adjustment in working conditions to reduce labor costs is likely to affect comparable members and non-members in the same way, as long as they are covered by the same collective agreement or work in the same establishment.

The argument relating to the compensation hypothesis also applies to workplace-based sorting. If union members are not always covered by a collective bargaining contract, sorting may occur along the dimension of bargaining coverage. Therefore, empirical findings on a significant relationship between union membership and job satisfaction are less likely to be due to workplace-based sorting if collective bargaining coverage is accounted for.

Excludable Goods

There have been numerous attempts to identify excludable goods, which ensure that $w^u > w^n$ or $A^u > A^n$ holds, to compensate the utility loss, $v(c^u) - v(c^n)$, arising because of a membership fee. Booth (1985), Naylor (1989) and Booth and Chatterji (1995), for example, analyse the utility gain from complying with a social norm, Goerke and Pannenberg (2011) look at safeguards against dismissals, Goerke et al. (2015) consider the use of vacation entitlements, while Murphy (2020) focuses on legal insurance against allegations of misbehaviour. Equation (5) clarifies that if the good is work-related, $w^u > w^n$, job satisfaction of union members, as proxied by $u(w^u, W) - v(c^u)$, should be higher than of non-members, $u(w^n, W) - v(c^n)$. Otherwise, there would be no gain from union membership.

Conceptually, empirical analyses of the link between union membership and job satisfaction in the presence of excludable goods face similar difficulties in settings in which trade unions

offer club goods or public goods. If these excludable goods are ignored, a positive correlation between membership and job satisfaction can be expected. Incorporating proxies for them reduces a positive job satisfaction differential, or can give rise to a negative linkage if the costs of membership are measured incompletely.

Life Satisfaction

The excludable good, which the union provides exclusively to members, may also be unrelated to work ($w^u = w^n; A^u > A^n$) and, thus, would not affect job satisfaction. Therefore, membership may reduce job satisfaction because of its costs, while the overall utility is higher. In this case, trade union membership will raise life satisfaction if this represents a suitable proxy for overall utility. This conclusion is the same as in a setting in which trade unions provide a club good. However, the argument for separate analyses of job satisfaction and more encompassing indicators of utility is stronger in a world in which trade unions provide public goods. This is the case because work-related public goods do not constitute a direct incentive to join a trade union. Since there are costs of membership, it is more likely that a union member experiences a lower level of job satisfaction than a non-member, although overall utility could be higher.

The contributions looking at the relationship between union membership and life satisfaction list various reasons for a positive association. One of them is based on the expectation of higher job satisfaction (see, for example, Keane et al. 2012 and Flavin and Shufeldt 2016), in conjunction with the extensive evidence of a significantly positive association between job and life satisfaction (see Bowling et al. (2010) or Erdogan et al. (2012) for meta-studies). Other arguments, such as a positive effect of union membership on the quantity and quality of social interactions, cannot straightforwardly be integrated into the optimization framework outlined in Section 2.1, unless such interactions are interpreted as affecting the utility component A^i.

3. Empirical Insights

This section summarizes the main findings from the voluminous empirical literature on trade union membership and job satisfaction (see Hammer and Avgar 2005, Laroche 2016, and Artz and Heywood (2020) for surveys and summaries). It also evaluates evidence related to various issues discussed in the previous section.

Overview

Early studies mostly analyze samples from the United States and the United Kingdom. The investigations usually employ data of individuals for whom trade unions offer club goods. They often find a negative union membership effect (Freeman 1978; Borjas 1979; Clark 1996). Although many, primarily more recent studies also observe non-significant or even positive associations in cross-sectional analyses (van der Meer 2019; Blanchflower and Bryson 2020) or in fixed-effects specifications (Kosteas 2011; Blanchflower and Bryson 2020), the predominating view for a long time seems to have been that "(t)here is a well-established negative correlation between union membership and job satisfaction." (Bryson and White 2016b, p. 898). The meta-study by Laroche (2016, p. 735) indicates that such a negative relationship is most likely to exist in the United States and the United Kingdom, while on the whole "the evidence for the expected negative impact of union membership on job satisfaction is comparatively weak."

Compensatory Effects

Interestingly, various empirical investigations find that a significantly negative union membership coefficient becomes insignificant, once variables measuring working conditions or the industrial relations climate are included (see Pfeffer and Davis-Blake (1990) for blue-collar workers, Evans and Ondrack (1990), Bender and Sloane (1998) in most estimations, Renaud (2002), Garcia-Serrano (2009), Bryson and Davies (2019)), or even turn positive (Pfeffer and Davis-Blake (1990) for white-collar employees). These results suggest that union members may 'pay' for higher wages, fringe benefits, or job stability by a deterioration of other aspects of the job. Since the studies usually relate to settings in which trade unions provide club goods or because they do not distinguish between covered and uncovered union members, the findings are compatible with the existence of compensatory effects.

Sorting

Although some early studies also took into consideration endogeneity of union membership and observed adverse effects on job satisfaction (Borjas 1979), the evidence on sorting is at best mixed. Laroche (2016, p. 735) summarizes his evaluation of the literature by stating that "studies that account for endogeneity through instrumental variables or fixed-effects models indicate a non-significant effect of union membership on overall job satisfaction". This

evaluation based on the meta-analysis is supported by the inspection of the studies employing instrumental variables approaches. They mostly document significantly negative estimated coefficients of union membership or unionization in specifications in which the union variable is treated as exogenous, whereas the estimated coefficients become insignificant if endogeneity is accounted for (Miller 1990; Bender and Sloane 1998; Bryson et al. 2004; and Laroche 2017). This is compatible with both variants of the sorting hypothesis, namely that individuals who are more dissatisfied or express lower levels of job satisfaction (preference- or satisfaction-based sorting), become union members or that employees working in establishments with less favorable working conditions are more likely to belong to a trade union (workplace-based sorting).

Exit-Voice Perspective

Empirical validations of the exit-voice explanation have usually proceeded in an indirect manner because clear indicators of voice activities are rare. Such indirect tests of the exit-voice hypothesis, for example, utilize the prediction that voice activities by union members will result in a lower quit rate and higher tenure (Freeman and Medoff 1984, p. 95 ff; Borjas 1979). Hence, it is argued that the exit-voice approach predicts a negative impact of union membership on job satisfaction particularly at higher tenure levels. Borjas (1979) and Artz (2010, 2012) report findings which are consistent with this expectation. Other studies report the absence of such effects (Hersch and Stone 1990; Miller 1990; Bender and Sloane 1998). Furthermore, evidence that is inconsistent with other explanations has also been interpreted as supporting the exit-voice rationalization (see, for example, Bryson et al. 2010).

As an exception to such indirect approaches, Bryson et al. (2004) can use information about whether an individual is a union activist. They hypothesize that including this information will reduce a negative association between union membership and job satisfaction if such active union members express greater dissatisfaction with working conditions. However, Bryson et al. (2004) provide no evidence substantiating this line of argument. In sum, empirical investigations of the link between trade union membership and job satisfaction do not provide comprehensive support for the exit-voice hypothesis.

Life Satisfaction

There are only a few studies, which look at the effect of union membership on life satisfaction. They often, but not exclusively, use cross-country data, like the World Value Survey, and generally observe a positive relationship, but usually do not account for sorting issues etc. (Radcliff 2005; Flavin et al. 2010; Keane et al. 2012; Charman and Owen 2014; Flavin and Shufeldt 2016). These studies neither systematically contrast findings for job satisfaction and life satisfaction, nor do they focus on the distinction between club and public goods. Hence, empirical analyses of the link between trade union membership and life satisfaction can thus far not be employed to provide additional insights on the impact of union membership on job satisfaction.

Blanchflower and Bryson (2020) constitute an exception. They provide evidence of a positive correlation between union membership and job satisfaction, as well as life satisfaction, for the United States and Europe for surveys covering the last one or two decades. In terms of the model outlined in Section 2, their findings are consistent with a utility gain from union membership that is not solely due to a non-work-related gain, $A^u - A^n$.

Club Good versus Public Good – or – Collective Bargaining versus Membership

Relatively few empirical contributions implicitly or explicitly take up the distinction between club good and public good. Gordon and Denisi (1995), for example, compare members and non-members in the same establishment. However, their data is for specific public sector bargaining units in the United States, and the respective samples are rather small. Moreover, the questions in the British Household Panel Survey make it possible to distinguish between members and non-members in covered establishments. Accounting for this feature does not seem to affect the (negative) impact of individual trade union membership on job satisfaction (Green and Heywood 2015; Bryson and White 2016b). Because these studies employ uncovered employees as the reference group, they do not fully exploit the distinction between public and club good settings.

The difference between a club and a public good supplied by the trade union may not be clear-cut. If membership is not comprehensive, there is only partial bargaining coverage, and negotiations take place at the firm level, it could be argued that trade unions do not provide a public good but a club good because individuals can change employers. Therefore, the centralization of bargaining, i.e., whether it takes place within the firm, locally, or at the

industry or national level, may affect the relationship between union membership and job satisfaction. Studies for Spain (García-Serrano 2009) and France (Laroche 2017) suggest that such a distinction deserves further attention. Moreover, centralized collective bargaining may set wage floors, which either constitute the basis for local negotiations, or they may represent binding agreements.

In addition, industrial relation systems in some countries feature multiple levels of union involvement, such as via collective bargaining and works councils (see OECD 2019, chapter 2.6). In Germany, for example, works councils exist predominantly in large plants and provide public goods. They can act as voice mechanism for employees, improve working conditions and enhance job stability (Addison 2009; Jirjahn and Smith 2018). Therefore, the benefits of union-provided public goods are likely to be smaller in works council establishments than in firms without such institutions, while the opposite may be true for club goods (see Artz and Heywood (2020) for a more intensive discussion of the role of such alternative voice mechanism for job satisfaction).

In sum, the nature of the good that a trade union provides has not played an influential role in empirical analyses of job satisfaction. The effect of the distinction between public and club good may vary across industrial relations systems and countries. Therefore, additional empirical analyses differentiating between 'right-to-work' states and states without such regulation in the United States or between firm-level and industry-wide negotiations in some European countries may generate additional insights.

Facets of Job Satisfaction

Instead of looking at the evidence on the relationship between overall job satisfaction and union membership, many studies have considered different facets of job satisfaction. A number of them find either a significantly positive association between union membership and satisfaction with pay, or no correlation (Meng 1990; Miller 1990; Evans and Ondrack 1990; Bender and Sloane 1998 for females; Green and Heywood 2015; Javdani and Krauth 2020), also when taking into account sorting effects (Heywood et al. 2002; Bryson et al. 2004; Bryson and White 2016a/ b). However, negative effects are also frequently reported (Berger et al. 1983; Clark 1996; Bender and Sloane 1998 for males; Gazioglu and Tansel 2006; Haile 2015; Laroche 2017). Furthermore, satisfaction with co-workers (Berger et al. 1983), supervisors (Berger et al. 1983; Gazioglu and Tansel 2006), work itself (Berger et al. 1983; Evans and Ondrack 1990; Meng 1990; Clark 1996; Heywood et al. 2002; Powdthavee 2011;

Green and Heywood 2015; Bryson and White 2016b), promotion opportunities (Kochan and Helfman 1981; Meng 1990; Bender and Sloane 1998), job security (Meng 1990; Bender and Sloane 1998; Powdthavee 2011; Green and Heywood 2015; Bryson and White 2016a/b), working time (Powdthavee 2011; Green and Heywood 2015; Bryson and White 2016a/b) and a variety of further aspects (Kochan and Helfman 1981; Schwochau 1987; Miller 1990; Gazioglu and Tansel 2006; Haile 2015) have been considered.

These studies sometimes, but not consistently relate satisfaction differences to actual outcomes, that is, scrutinize whether, for example, higher satisfaction with pay and a membership wage premium co-exist. Moreover, the availability of data often guides the analyses of facets of job satisfaction. Thus, their informational value about the goods, which trade unions provide, or the costs of membership is limited. Finally, results are often inconclusive, as indicated by those reported for satisfaction with pay. Hence, the evidence cannot be employed to explain the absence of a robust empirical correlation between trade union membership and job satisfaction.

Heterogeneity

There are relatively few studies of the relationship between union membership on job satisfaction, which systematically distinguish according to the occupation (Pfeffer and Davis-Blake 1990; Bender and Sloane 1998) or firm size (Artz 2008), while gender and sectors have been looked at more frequently. An analysis of such distinctions is of interest because job satisfaction and union membership rates may differ between females and males (see Clark 1997; Souza-Posa and Souza-Posa 2000; Eurofound 2009; OECD 2017, 2019; Visser 2019) and in many countries also between the public and the private sector (Heywood et al. 2002; Clark and Senik 2006; Artz 2008; OECD 2017; Visser 2019). Hence, the impact of union membership may also vary. Moreover, findings can provide insights into the channels by which union membership can have an impact on job satisfaction.

Studies separating findings by gender observe no (Bender et al. 2005; Artz 2008; Bryson and White 2016b) or no systematic differences (Bender and Sloane 1998; Powdthavee 2011; Artz 2012; Bryson and White 2016a). A similarly opaque picture emerges when distinguishing the private and public sector. While there are a few studies, which only look at public sector workers (Gordon and Denisi 1995; Artz and Kaya 2014; Bessa et al. 2020), there are even fewer, which explicitly compare employees from both sectors (Artz 2008). Since the gains

and costs of union membership can differ across sectors, a more systematic analysis based on these differences may create additional insights.

Cross-country Evidence

As indicated above, the vast majority of studies on trade unions and job satisfaction analyzes data from the United States and the United Kingdom. The findings reported for other countries are too scarce to allow for country-specific conclusions. Results for high union density countries, such as in Scandinavia, are rare. Similarly, empirical investigations dealing with economies in which union representation at the workplace is weak, or works councils act for employees at the plant level (see OECD 2019, p. 69 ff), such as Austria and Germany, are hard to find. Finally, studies, which use comparable data on more than one country, such as by Hipp and Given (2015), to elucidate the impact of different industrial relations systems, could also provide additional insights.

4. Future Research

Summary

If individuals join a trade union, a rational choice perspective suggests that they should be better off by doing so. If such an improvement in well-being is reflected in an increase in job satisfaction, union members are likely to exhibit higher job satisfaction than comparable non-members. Empirical analyses, which appropriately account for the gains and costs associated with trade union membership, should no longer reveal a satisfaction differential but provide information on the determinants of job satisfaction, which differ with union membership. This expectation is not consistent with evidence: The empirical findings sometimes indicate that union members exhibit lower job satisfaction, but overall suggest the absence of a robust correlation.

Open Issues

In future work, it may be beneficial to analyze some questions in more detail, which have not figured prominently thus far. The answers to them could help to understand why empirical studies do not document a consistent union membership effect on job satisfaction. Such questions are:

- Does a differential level of job satisfaction for members and non-members actually measure the utility from belonging to a trade union?

- Does the relationship between union membership and job satisfaction vary with the type of goods provided by the trade union, the nature and elements of the industrial relations system, such as works councils or the degree of centralization in bargaining, across countries, over time and across birth-cohorts (cf. Blanchflower and Bryson 2020)?

- Do members and non-members differ systematically in personal characteristics or behavior, such that an impact on the membership – job satisfaction nexus results?

- Are there insights from contributions on job satisfaction as determinant of other outcomes or as outcome variable itself, which can enhance the understanding of the relationship between trade union membership and job satisfaction?

- Is the effect of trade union membership on job satisfaction for a particular employee affected by what colleagues do or, more generally, by social interactions (see Haile et al. 2015)?

- Is there a link between union membership and job-related outcomes and is it reflected in the effect of membership on job satisfaction? Put differently: Is it possible to employ the relationship between union membership and job satisfaction to identify the goods that trade unions provide to their members?

While the above list is suggestive and by no means comprehensive, answering the questions may also provide further insights into the determinants and consequences of trade union membership. Moreover, what is of primary interest and constitutes the basis for the theoretical considerations in Section 2.1 is the question of how membership in a trade union influences job satisfaction. While there have been various attempts to consider changes in trade union membership occurring for a reason, which in itself has no direct impact on job satisfaction, it seems unlikely that one entirely convincing identification strategy will emerge. Therefore, it seems vital to assemble evidence from various, complementary approaches.

5. References

Addison, John T. (2009), The Economics of Codetermination. Lessons from the German Experience, Palgrave Macmillan.

Artz, Benjamin (2008), The Role of Firm Size and Performance Pay in Determining Employee Job Satisfaction, Labour, Vol. 22(2), 315–343.

Artz, Benjamin (2010) The Impact of Union Experience on Job Satisfaction, Industrial Relations: A Journal of Economy and Society, Vol. 49(3), 387–405.

Artz, Benjamin (2012), Does the Impact of Union Experience on Job Satisfaction Differ by Gender?, ILRReview, Vol. 65(2), 225–243.

Artz, Benjamin and John S. Heywood (2020), Unions, Worker Participation and Worker Well-Being, in: Zimmermann, Klaus F. (ed.), Handbook of Labor, Human Resources and Population Economics, also GLO Discussion Paper No. 705.

Artz, Benjamin and Ilker Kaya (2014), Job Insecurity and Job Satisfaction in the United States: The Case of Public Sector Union Workers, Industrial Relations Journal, Vol. 45(2), 103-120.

Barth, Erling, Bryson, Alex and Harald Dale-Olsen (2020), Do Public Subsidies of Union Membership Increase Union Membership Rates?. IZA Discussion Paper No. 13747.

Bender, Keith A. and Peter J. Sloane (1998), Job Satisfaction, Trade Unions and Exit-Voice Revisited, Industrial and Labor Relations Review, Vol. 51(2), 222–240.

Bender, Keith A., Donohuey, Susan M. and John S. Heywood (2005), Job Satisfaction and Gender Segregation, Oxford Economic Papers, Vol. 57(3), 479-496.

Berger, Chris J., Olson, Craig A. and John W. Boudreau (1983), Effects of Unions on Job Satisfaction: The Role of Work-related Values and Perceived Rewards, Organizational Behavior and Human Performance, Vol. 32(3), 289-324.

Bessa, Ioulia, Charlwood, Andy and Danat Valizade (2020), Do Unions Cause Job Dissatisfaction? Evidence from a Quasi-Experiment in the United Kingdom, British Journal of Industrial Relations (forthcoming).

Blanchflower, David G. and Alex Bryson (2020), Now Unions Increase Job-Satisfaction and Well-being, NBER Working Paper No. 27720.

Booth, Alison L. (1984), A Public Choice Model of Trade Union Behaviour and Membership, The Economic Journal, Vol. 94 (Issue 376), 883-898.

Booth, Alison L. (1985), The Free Rider Problem and a Social Custom Model of Trade Union Membership, The Quarterly Journal of Economics, Vol. 100(1), 253-261.

Booth, Alison L. and Monojit Chatterji (1995), Union Membership and Wage Bargaining When Membership is Not Compulsory, The Economic Journal, Vol. 105 (Issue 429), 345-360.

Borjas, George J. (1979), Job Satisfaction, Wages and Unions, The Journal of Human Resources, Vol. 14(1), 21–40.

Bowling, Nathan A., Eschleman, Kevin J. and Qiang Wang (2010), A Meta-analytic Examination of the Relationship Between Job Satisfaction and Subjective Well-being, Journal of Occupational and Organizational Psychology, Vol. 83(4), 915-934.

Bryson, Alex, Cappellari, Lorenzo and Claudio Lucifora (2004), Does Union Membership Really Reduce Job Satisfaction in Britain? British Journal of Industrial Relations, Vol. 42(3), 439–459.

Bryson, Alex, Cappellari, Lorenzo and Claudio Lucifora (2010), Why So Unhappy? The Effects Unionization on Job Satisfaction, Oxford Bulletin of Economics and Statistics, Vol. 72(3), 357-380.

Bryson, Alex and Rhys Davies (2019), Accounting for Geographical Variance in the Union Satisfaction Gap, Industrial Relations Journal, Vol. 50(2), 104-125.

Bryson, Alex and Michael White (2016a), Unions and the Economic Basis of Attitudes, Industrial Relations Journal, Vol. 47(4), 360-378.

Bryson, Alex and Michael White (2016b), Not So Dissatisfied After All? The Impact of Union Coverage on Job Satisfaction, Oxford Economic Papers, Vol. 68(4), 898-919.

Charman, Crawford and Ann L. Owen (2014), Collective Happiness: Labour Union Membership and Life Satisfaction, Applied Economics Letters, Vol. 21(13), 924-927.

Clark, Andrew E. (1996), Job Satisfaction in Britain, British Journal of Industrial Relations, Vol. 34(2), 189-217.

Clark, Andrew E. (1997), Job Satisfaction and Gender: Why are Women so Happy at Work?, Labour Economics, Vol. 4(4), 341-372.

Clark, Andrew E. and Andrew J. Oswald (1996), Satisfaction and Comparison Income, Journal of Public Economics, Vol. 61(3), 359-381.

Clark, Andrew E. and Claudia Senik (2006), The (Unexpected) Structure of "Rents" on the French and British Labour Markets, The Journal of Socio- Economics, Vol. 35(2), 180-196.

Corneo, Giacomo (1997), The Theory of the Open-Shop Trade Union Reconsidered, Labour Economics, Vol. 4(1), 71-84

Ebbinghaus, Bernhard, Göbel, Claudia and Sebastian Koos (2011), Social Capital, 'Ghent' and Workplace Contexts Matter: Comparing Union Membership in Europe, European Journal of Industrial Relations, Vol. 17(2), 107-124.

Erdogan, Berrin, Bauer, Talya N., Truxillo, Donald M. and Layla R. Mansfield (2012), Whistle while You Work: A Review of the Life Satisfaction Literature, Journal of Management, Vol. 38(4), 1038-1083.

Eurofound (2009), Trade Union Membership 2003–2008, Dublin.

Evans, Martin G. and Daniel A. Ondrack (1990), The Role of Job Outcomes and Values in Understanding the Union's Impact on Job Satisfaction: A Replication, Human Relations, Vol. 43(5), 401–418.

Farber, Henry S. (1986), The Analysis of Union Behavior, 1039-1089, in: Ashenfelter, Orley C. and Richard Layard (eds.), Handbook of Labor Economics, Vol. 2, North-Holland: Amsterdam.

Flavin, Patrick, Pacek, Alexander C. and Benjamin Radcliff (2010), Labor Unions and Life Satisfaction: Evidence from New Data, Social Indicators Research, Vol. 98(3), 435-449.

Flavin, Patrick and Gregory Shufeldt (2016), Labor Union Membership and Life Satisfaction in the United States, Labor Studies Journal, Vol. 41(2), 171-184.

Freeman, Richard B. (1978), Job Satisfaction as an Economic Variable, The American Economic Review, Vol. 68(2), 135–141.

Freeman, Richard B. and James L. Medoff (1984), What Do Unions Do?, Basic Books: New York.

Frey, Bruno S. and Alois Stutzer (2002), What Can Economists Learn From Happiness Research?, Journal of Economic Literature, Vol. 40(2), 402-435.

Garcia-Serrano, Carlos (2009), Job Satisfaction, Union Membership and Collective Bargaining, European Journal of Industrial Relations, Vol. 15(1), 91–111.

Gazioglu, Saziye and Aysit Tansel (2006), Job Satisfaction in Britain: Individual and Job Related Factors, Applied Economics, Vol. 38(10), 1163-1171.

Goerke, Laszlo, Jeworrek, Sabrina and Markus Pannenberg (2015), Trade Union Membership and Paid Vacation in Germany, IZA Journal of Labour Economics, Vol. 4:17.

Goerke, Laszlo and Markus Pannenberg (2012), Risk Aversion and Trade Union Membership, The Scandinavian Journal of Economics, Vol 114(2), 275-295.

Goerke, Laszlo and Markus Pannenberg (2011), Trade Union Membership and Dismissals, Labour Economics, Vol. 18(6), 810-821.

Goerke, Laszlo and Markus Pannenberg (2004), Norm-Based Trade Union Membership: Evidence for Germany, German Economic Review, Vol. 5(4), 481-504.

Gordon, Michael E. and Angelo S. Denisi (1995), A Re-examination of the Relationship Between Union Membership and Job Satisfaction, Industrial and Labor Relations Review, Vol. 48(2), 222-236.

Green, Colin P. and John S. Heywood (2015), Dissatisfied Union Workers: Sorting Revisited, British Journal of Industrial Relations, Vol. 53(3), 580–600.

Haile, Getinet A. (2015), Workplace Job Satisfaction in Britain: Evidence from Linked Employer-Employee Data, Labour, Vol. 29(3), 225-242.

Haile, Getinet A., Bryson, Alex and Michael White (2015), Spillover Effects of Unionisation on Non-members' Wellbeing, Labour Economics, Vol. 35, 108-122.

Hamermesh, Daniel S. (1977), Economic Aspects of Job Satisfaction, 53-72, in: Ashenfelter, Orley C. and Wallace E. Oates (eds.), Essays in Labor Market Analysis – In Memory of Yochanan Peter Comey, John Wiley & Sons: New York and Toronto and Israel University Press: Jerusalem.

Hamermesh, Daniel S. (2001), The Changing Distribution of Job Satisfaction, The Journal of Human Resources, Vol. 36(1), 1-30.

Hammer, Tove Helland and Ariel Avgar (2005), The Impact of Unions on Job Satisfaction, Organizational Commitment, and Turnover, Journal of Labor Research, Vol. 26(2), 241-266.

Hersch, Joni and Joe A. Stone (1990), Is Union Job Dissatisfaction Real?, The Journal of Human Resources 25(4), 736-751.

Heywood, John S., Siebert, W. Stanley and Xiangdong Wei (2002), Worker Sorting and Job Satisfaction: The Case of Union and Government Jobs, Industrial and Labor Relations Review, Vol. 55(4), 595-609.

Hipp, Lena and Rebecca Kolins Givan (2015), What Do Unions Do? A Cross-National Reexamination of the Relationship between Unionization and Job Satisfaction, Social Forces, Vol. 94(1), 349–377.

Hirschman, Albert O. (1970), Exit, Voice and Loyalty – Responses to Decline in Firms, Organizations, and States, Harvard University Press: Cambridge (Mass.).

Hirschman, Albert O. (1974), "Exit, Voice and Loyalty": Further Reflections and a Survey of Recent Contributions, Social Science Information, Vol. 13(1), 7-26.

Javdani, Mohsen and Brian Krauth (2020), Job Satisfaction and Co-worker Pay in Canadian Firms, Canadian Journal of Economics/ Revue Canadienne dÉconomique, Vol. 53(1), 212-248.

Jirjahn, Uwe and Stephen C. Smith (2018), Nonunion Employee Representation: Theory and the German Experience with Mandated Works Councils, Annals of Public and Cooperative Economics, Vol. 89(1), 201-234.

Keane, Lauren, Pacel, Alexander and Benjamin Radcliff (2012), Organized Labor, Democracy and Life Satisfaction: A Cross-National Analysis, Labor Studies Journal, Vol. 37(3), 253-270.

Kochan, Thomas A. and David E. Helfman (1981), The Effects of Collective Bargaining on Economic and Behavioral Job Outcomes, 321-365, in: Ehrenberg, Ronald G. (ed.), Research in Labor Economics – A Research Annual, Vol. 4, JAI Press, Greenwich (Connecticut) and London.

Kosteas, Vasilios D. (2011), Job Satisfaction and Promotions, Industrial Relations, Vol. 50(1), 174-194.

Laroche, Patrice (2016), A Meta-Analysis of the Union-Job Satisfaction Literature, British Journal of Industrial Relations, Vol. 54(4), 709-741.

Laroche, Patrice (2017), Union Membership and Job Satisfaction: Initial Evidence From French Linked Employer-Employee Data, Human Resource Management Journal, Vol. 27(4), 648-668.

Meng, Ronald (1990), The Relationship between Unions and Job Satisfaction, Applied Economics, Vol. 22(12), 1635–1648.

Miller, Paul W. (1990), Trade Unions and Job Satisfaction, Australian Economic Papers, Vol. 29(55), 226–248.

Moreton, David (1998), An Open Trade Union Model of Wages, Effort and Membership, European Journal of Political Economy, Vol. 14(3), 511-527.

Murphy, Richard (2020), Why Unions Survive: Understanding How Union Overcome the Free-rider Problem, Journal of Labor Economics, Vol. 38(4), 1141-1188.

Naylor, Robin (1989), Strikes, Free Riders and Social Customs, The Quarterly Journal of Economics, Vol. 104(4), 771-785.

OECD (2017), OECD Employment Outlook 2017, OECD Publishing: Paris.

OECD (2019), Negotiating our Way up: Collective Bargaining in a Changing World of Work, OECD Publishing, Paris.

Pei, Zhuan, Pischke, Jörn-Steffen and Hannes Schwandt (2019), Poorly Measured Confounders are More Useful on the Left than on the Right, Journal of Business & Economic Statistics 37(2), 205-216.

Pfeffer, Jeffrey and Alison Davis-Blake (1990), Unions and Job Satisfaction: An Alternative View, Work and Occupations, Vol. 17(3), 259–283.

Powdthavee, Nattavudh (2011), Anticipation, Free-Rider Problem, and Adaptation to Trade Union: Re-examining the Curious Case of Dissatisfied Union Members, Industrial and Labor Relations Review, Vol. 64(5), 1000-1019.

Radcliff, Benjamin (2005), Class Organization and Subjective Well-Being: A Cross-national Analysis, Social Forces, Vol. 84(1), 513-530.

Renaud, Stephane (2002), Rethinking the Union Membership/ Job Satisfaction Relationship: Some Empirical Evidence in Canada, International Journal of Manpower, Vol. 23(2), 137–150.

Schnabel, Claus (2003), Determinants of Trade Union Membership, 13-43, in: John T. Addison and Claus Schnabel (eds), International Handbook of Trade Unions, Edward Elgar, Cheltenham (UK) and Northampton (USA).

Schwochau, Susan (1987), Union Effects on Job Attitudes, Industrial and Labor Relations Review, Vol. 40(2), 209-224.

Souza-Posa, Alfonso and Andrés A. Souza-Posa (2000), Taking another Look at the Gender/ Job-Satisfaction Paradox, Kyklos, Vol. 53(2), 135-152.

van der Meer, Peter H. (2019), What Makes Workers Happy: Empowerment, Unions or Both?, European Journal of Industrial Relations, Vol. 25(4), 363-376.

Visser, Jelle (2019), ICTWSS Database, Version 6.1, Amsterdam Institute for Advanced Labour Studies AIAS.

IAAEU Discussion Paper Series in Economics

01/2018   Wage Inequality and Structural Change

Joanna Tyrowicz and Magdalena Smyk

[published as: Tyrowicz, J. and M. Smyk (2018). Wage Inequality and Structural Change. *Social Indicators Research* 141(2), 503-538.]

02/2018   Labor Reallocation and Demographics

Joanna Tyrowicz and Lucas van der Velde

[published as: Tyrowicz, J. and L. van der Velde (2018). Labor Reallocation and Demographics. *Journal of Comparative Economics* 46(1), 381-412.]

03/2018   Identifying Age Penalty in Women's Wages: New Method and Evidence from Germany 1984-2014

Joanna Tyrowicz, Lucas van der Velde and Irene van Staveren

[published as: Tyrowicz, J., L. van der Velde and I. van Staveren (2018). Does Age Exacerbate the Gender-Wage Gap? New Method and Evidence from Germany, 1984-2014. *Feminist Economics* 24(4), 108-130.]

04/2018   On Welfare Effects of Increasing Retirement Age

Krzysztof Makarski and Joanna Tyrowicz

[published as: Makarski, K. and J. Tyrowicz (2019). On Welfare Effects of Increasing Retirement Age. *Journal of Policy Modelling* 41(4), 718-746.]

05/2018   A Cautionary Note on the Reliability of the Online Survey Data – the Case of Wage Indicator

Magdalena Smyk, Joanna Tyrowicz and Lucas van der Velde

[forthcoming as: Smyk, M., J. Tyrowicz. and L. van der Velde. A Cautionary Note on the Reliability of the Online Survey Data – the Case of Wage Indicator. *Sociological Methods and Research*.]

06/2018   How (Not) to Make Women Work?

Karolina Goraus, Joanna Tyrowicz and Lucas van der Velde

[published as: Goraus, K., J. Tyrowicz and L. van der Velde (2018). How (Not) to Make Women Work? *Social Science Research* 75, 154-167.]

07/2018   Efficiency Wages in a Cournot-Oligopoly

Marco de Pinto and Laszlo Goerke

[published as: de Pinto, M. and L. Goerke (2019). Efficiency Wages in a Cournot-Oligopoly, *The B.E. Journal of Economic Analysis and Policy* 19(4).]

08/2018   Inequality in an OLG Economy with Heterogeneous Cohorts and Pension Systems

Joanna Tyrowicz, Krzysztof Makarski and Marcin Bielecki

[published as: Tyrowicz, J., K. Makarski and M. Bielecki (2018). Inequality in an OLG Economy with Heterogeneous Cohorts and Pension Systems. *Journal of Economic Inequality* 16(4), 583-606.]

09/2018   Corporate Social Responsibility and Tax Avoidance

Laszlo Goerke

[published as: Goerke, L. (2019). Corporate Social Responsibility and Tax Avoidance. *Journal of Public Economic Theory* 21(2), 310-331.]

10/2018	A Regression Discontinuity Evaluation of Reducing Early Retirement Eligibility in Poland

Oliwia Komada, Pawel Strzelecki and Joanna Tyrowicz

[published as: Komada, O., P. Strzeleck and J. Tyrowicz (2019). A Regression Discontinuity Evaluation of Reducing Early Retirement Eligibility in Poland. *International Journal of Manpower* 40(2), 286-303.]

11/2018	Stigmatization, Liability and Public Enforcement of Law

Clemens Buchen, Bruno Deffains and Alberto Palermo

[published as: Buchen, C., B. Deffains and A. Palermo (2019). Stigmatization, Liability and Public Enforcement of Law. *Revue d'économie politique* 129(2), 239-259.]

12/2018	Sickness Absence and Relative Income

Laszlo Goerke

[published as: Goerke, L. (2019). Absence from Work, Sick Pay and Positional Consumption Concerns. *Labour: Review of Labour Economics and Industrial Relations* 33(2), 187-211.]

01/2019	Ostracism in Alliances of Teams and Individuals: Voting, Exclusion, Contribution, and Earnings

Stephan Huber, Jochen Model and Silvio Städter

02/2019	Evaluating Welfare and Economic Effects of Raised Fertility

Krzysztof Makarski, Joanna Tyrowicz and Magda Malec

[published as: Makarski, K., J. Tyrowicz and M. Malec (2019). Fiscal and Welfare Effects of Raised Fertility in Poland: Overlapping Generations Model Estimates. *Population and Development Review* 45(4), 795-818.]

03/2019	The Structure and Behavioral Effects of Revealed Social Identity Preferences

Florian Hett, Markus Kröll, Mario Mechtel

[published as: Hett, F., M. Mechtel and M. Kröll (2020). The Structure and Behavioral Effects of Revealed Social Identity Preferences. *Economic Journal* 130(632), 2569-2595.]

04/2019	All on board? New Evidence on Board Gender Diversity from a Large Panel of European Firms

Joanna Tyrowicz, Siri Terjesen, Jakub Mazurek

[published as: Tyrowicz, J., S. Terjesen and J. Mazurek. All on Board? New Evidence on Board Gender Diversity from a Large Panel of European Firms. *European Management Journal* 38(4), 634-645.]

01/2020	Thorstein Veblen, Joan Robinson, and George Stigler (probably) never met: Social Preferences, Monopsony, and Government Intervention

Laszlo Goerke, Michael Neugart

[forthcoming as: Goerke, L., M. Neugart. Social Preferences, Monopsony, and Government Intervention. *Canadian Journal of Economics/ Revue Canadienne d´Économique*.]

02/2020	Younger, Dissatisfied, and Unhealthy - Relative Age in Adolescence

Luca Fumarco, Stijn Baert, Francesco Sarracino

[forthcoming as: Fumarco, L., S. Baert and F. Sarracino. Younger, Dissatisfied, and Unhealthy - Relative Age in Adolescence. *Economics & Human Biology*.]

03/2020	Horizontal FDI in a Dynamic Cournot - Oligopoly with Endogenous Entry

Laszlo Goerke

[published as: Goerke, L. A Political Economy Perspective on Horizontal FDI in a Dynamic Cournot-Oligopoly with Endogenous Entry. *European Journal of Political Economy* 63, 101897.]

04/2020   An Efficiency-wage Model with Habit Concerns About Wages
            Laszlo Goerke

            [published as: Goerke, L. Habit Formation and Wage Determination. *Managerial and Decision Economics* 42(1), 61-76.]

05/2020   Termination of Employment Contracts by Mutual Consent and Labor Market Fluidity
            Cyprien Batut and Eric Maurin

06/2020   Trade Unions and Corporate Social Responsibility
            Laszlo Goerke

            [forthcoming as: Goerke, L. Trade Unions and Corporate Social Responsibility. *Annals of Public and Cooperative Economics*.]

07/2020   Guess who's there: Employment Protection Legislation and the Degree of Substitutability between Labour Contracts
            Daniela Sonedda

08/2020   Unions and Workers' Well-being
            Laszlo Goerke

            [forthcoming as: Goerke, L. Unions and Workers' Well-being. *Handbook of Labor, Human Resources and Population Economics*: Springer Reference, ed.: Zimmermann, Klaus F., Springer-Verlag: Berlin und Heidelberg, 2021.]