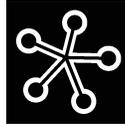


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**AMSTERDAM INSTITUTE FOR
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**GLOBALIZATION AND WORKING TIME:
WORK-PLACE HOURS AND FLEXIBILITY IN GERMANY**

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ABSTRACT

This paper examines how economic globalization affects work-place arrangements regulating working time in industrialized countries. Exposure to foreign direct investment and trade can have off-setting effects for work-place bargaining over standard hours and work-time flexibilization, and can be expected to more strongly spur the latter than the former given stronger employer support for and weaker employee opposition to flexible time management in open economies. The paper also considers, however, how works council or other work-place representation likely mediate which of globalization's effects dominates the shaping of work-time. Based on enterprise-level panel data from the German Federal Labor Office, the analysis supports two major findings consistent with such expectations. First, globalization measured at the establishment or branch level – including total foreign direct investment (FDI), trade, and export orientation (share of foreign sales) – tends to have either no or weakly negative effects on total standard working hours, but to yield higher incidence of overtime, temporary and fixed-contract work. Second, works councils mediate these effects in ways that differ between standard hours and flexibilization. With respect to standard weekly hours, globalization measures tend to trigger *more* standard hours among firms without works councils, but *fewer* hours among firms with works councils. With respect to flexibilization, however, globalization tends to modestly spur incidence of temporary- or fixed-term contracts and overtime, and to do so *more strongly* where works councils are present than when they are not. These results suggest how economic openness can have important, uneven consequences for working time, and that firm-level institutional context can channel those consequences, highlighting an area of agency in responses to globalization.

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I. INTRODUCTION

“Globalization closes in on Swedes’treasured vacation,” reports a recent headline from the International Herald Tribune (IHT 20/8/07). “Eastern Europe’s low costs erode Germans’ 35-hour workweek,” chimes another headline, from the Christian Science Monitor (CSM 24/8/04). Lending color to such headlines, New York Times editorialist Thomas Friedman quipped that “...French voters are trying to preserve a 35-hour work week in a world where Indian engineers are ready to work a 35-hour day. Good luck.” (NYT 3/6/05). These popular-press missives remind us that working time is a much-talked about aspect of working life, not least because pressures to work more hours, more weeks, more years, more flexibly are clear trends throughout the industrialized world – painfully so for more “social” European economies. They also remind us of the link, so commonly made in the popular press, between working-time developments and economic globalization. Whether they lament and resist or celebrate and recommend such developments, most of the popular press and many policymakers and commentators link increases in working hours and job flexibilization to the competitive exigencies of globalized trade and production. The globally-integrated economy, in a nut-shell, means more sweat.

Academic scholarship on working time and on globalization, meanwhile, provides surprisingly little guidance as to whether such tales capture important truths or are just that – tales of exaggerated and misdirected concern. There are studies where measures of globalization appear to ratchet-up working time and flexibilization, though the findings are clearly circumscribed in their focus on particular industries or occupations (Blair-Loy and Jacobs 2003; Raess and Burgoon 2006). A few studies draw the opposite, more “globaphilic,” conclusion, that globalization increases firm profitability that gets passed on to workers in the form of wages and benefits, sooner decreasing than increasing working hours (Flanagan 2006). Far more common is the largely implicit view that globalization is modest enough, or has modest or off-setting or place-specific enough effects for working time, that globalization can be ignored as an important determinant of working-time arrangements. Most studies of working time, hence, have given little attention to global economic developments, focusing instead on individual or industry attributes or national-level economic or policy changes (c.f. Bosch and Lendorff 2001; Prescott 2003; Alesina et al. 2005). And the enormous globalization literature has focused on many consequences for industrial relations and political economy – from wage bargaining to union strength – but very little on working time (Schmitt 2003; Thelen and Kume 1999; Looise and Drucker, 2003; Kurdelbusch 2002).

These various perspectives constitute the beginnings of a literature on globalization and working time, providing good reasons to expect globalization to have off-setting consequences for work-

place working time. But they provide little theoretical development beyond such beginnings. For instance, no studies to our knowledge theoretically try to understand why one or another of globalization's effects might dominate or to identify third conditions that might mediate which dominates. More fundamentally, we have very little empirical work on globalization and working time. The handful of such studies tend to focus either on how globalization measures affect aggregate national hours (Flanagan 2006) or particular occupations (Blair-Loy and Jacobs 2003) – saying little about other aspects of working time, such as overtime and the incidence of temporary or fixed-term work, and about the work-time patterns at the level of establishments where crucial work-time and flexibilization standards are set. Our own earlier study did address how globalization affects working time and other work-place arrangements (Raess and Burgoon 2006) but surveyed only a small sample of enterprises within a particular industry, hampering economy-wide conclusions about globalization and working time.

In the hope of redressing such shortcomings, this paper develops and empirically tests arguments about how globalization affects work-place working time, sensitive to globalization's possible off-setting effects for various work-time arrangements across a nation's full range of industries and services. The theoretical expectation is two-fold. First, exposure to international trade and foreign direct investment unleash off-setting pressures to increase and to decrease standard hours and work-hour flexibilization, with the pressures to increase work-hour flexibilization being stronger than is the case for standard hours – given the varying preferences workers and employers can be expected to have over standard hours and over flexibilization, respectively. Second, establishment-level institutional conditions likely mediate which of globalization's implications predominates the shaping of both standard hours and flexibilization. In particular, we hypothesize that the institution of works councils – providing formal enterprise-level worker representation in negotiating with employers on non-wage work-place conditions – will tend to improve working-time conditions for core workers, though may also speed up and institutionalize flexibilization of such conditions as a palatable concession to employers in exchange for employment protections or lower standard hours of core workers. These tendencies should also mediate the influence of globalization, such that globalization will tend to more strongly spur total working hours when works councils are absent than when they are present, but could increase flexibilization more strongly with than without works councils.

To test these and other possible connections between globalization and work-place arrangements on working time, we analyze enterprise-level data from the German Federal Labor Office, providing a basis for accurately measuring how economic globalization affects standard working hours as well as several dimensions of job flexibilization at a level where such conditions are most directly set.

The analysis supports two major findings that broadly support expectations. First, globalization measures at the establishment or branch level – including total foreign direct investment flows (FDI), trade openness, and export orientation (share of foreign sales) – tend in general to have either no or weakly negative effects for total standard working hours, but to yield higher incidence of overtime, temporary and fixed-contract work. Second, works councils appear to play a strong role in mediating these effects in ways that differ between standard hours and flexibilization. With respect to standard weekly hours, most measures of globalization tend to trigger more standard work hours among firms without works councils, but fewer hours among firms with works councils. With respect to flexibilization, however, globalization tends to spur the incidence of several measures of job flexibilization – particularly, temporary- or fixed-term contracts and the use of overtime and balancing-time accounts – and to do so *more strongly* where works councils are present than when they are not. These results suggest that, at least in the German context, economic openness has important and uneven consequences for work-floor working time, and that firm-level institutional context channels those consequences in ways that highlight a key area of agency in responses to globalization.

The paper builds-up to these conclusions in three steps. The first develops expectations about how globalization might spur or decrease working time conditions at the enterprise level, and how works council representation might mediate such links. The second introduces the IAB Betriebspanel data, and our specification strategy to explore these data. A third section presents and discusses the results. A final section concludes, considering the implications for further study and practice of working-time politics.

2. WORKING TIME, GLOBALIZATION, AND WORK-PLACE INSTITUTIONS

Working time conditions for workers are central to the efficiency and equity of market economies. The conditions involve how much and under what conditions time is spent on the work floor as opposed to on leisure or other pursuits. Most obviously, the issue is how much workers work in a day, a week, or a year – reflecting shorter or longer time off, from coffee breaks to vacation weeks. But also important are time-related *terms* of work, most obviously overtime, night- or weekend work, or flexible working time accounts – where hours can vary above or below standard hours with more or less extra compensation. Other time-related terms involve the nature of working contracts, from full-time work with standardized hours, to various non-standard contracts, such as temporary or fixed-term contract work.

Such working time conditions are set in part by decentralized and unregulated work decisions of employees and employers, more or less negotiated (from “*fait accompli*” employer standards to an individualized negotiated contract). But work-hour conditions are also set by settlements negotiated at various levels of industrial organization. These entail international agreements (e.g. the EU work time directive) involving national representatives and supra-nationally organized social actors (transnational union and employer federations); national work-hours legislation, involving political parties, lobbies and national social actors (national unions and employer associations); industry-wide collective bargaining, involving social actors; and firm- or enterprise-level negotiations by work-place representatives – such as company or works councils. The objects of such regulated or *de facto* arrangements can be agreed-upon and actual hours-worked per week or per year, rules and practices on holidays, overtime, on temporary work, fixed-term contract work, part-time work, etc.

All such working time conditions are very important to the life-chances and prospects for workers and to the viability and profitability of their employers – certainly as important, and occasionally as politicized, as wage compensation. Although employer and employee preferences clearly vary substantially over time, sector, occupation, lifestyle, and space, employers tend to want the possibility of more hours per employee and certainly more flexibility in the setting of those hours (Bosch 1986, 1990; Hinrichs et al. 1991; Taddei 1998; Tjstens 2003). Flexibility in the setting of hours may be particularly important to employers, concerned about being able to allocate personnel efficiently across highly variable monthly, seasonal, and yearly cycles of business, where just-in-time production chains are present – all cutting against the grain of standardized full-time contracts with hours limits and overtime premia (Hinrichs et al. 1991; Bosch and Lehdorff 2001). And there is evidence that employers in a number of European countries are willing to swallow reductions in

standard hours for full-time employees in exchange for more flexible distribution of such hours with respect to weekly, weekend and overtime work (Treu 1989; Bosch and Lehndorff 2001).

Among employees, the preferences tend to vary more across kinds of employees and aspects of working time (c.f. Tijdens 2003; Väisänen and Nätti 2002). In general, full-time employees tend to want lower hours at a given wage (Bielinsky, Bosch and Wagner 2002; Nätti 1995). On measures of flexibilization, such as work-time accounts, and standard versus non-standard (e.g. temporary- or fixed-term) contracts, workers tend to be more divided, with many workers seeing benefits to flexibility and shorter-term arrangements (c.f. Kalleberg 2000; Krausz 2000). But in general, surveys of attitudes and well-being of workers, including in a German setting, suggest that workers prefer in general more standard and fixed working hours and work-time contracts – hence predictable and easier to combine with family and other responsibilities (Beard and Edwards 1995; de Wolff 2000; Eberling et al. 2004).

Economic globalization can be expected to have off-setting effects for such working time conditions in industrialized market economies. These possible effects can be deduced from the broader literature on globalization and labor market conditions generally. On the one hand, increased openness to and flows of capital and goods can be expected to have implications that might spell good news for the working time conditions of workers. The simplest possibility in this category is that globalization sparks product-market specialization on the basis of comparative advantage that generate productivity and profitability benefits for firms and economies generally – benefits that in turn get passed in part onto employees in the form of more generous wages and benefits, including plausibly fewer and more predictable working hours for a given wage (Flanagan 2006). Such tendencies might be particularly clear where globalization patterns such as FDI and outsourcing unleash as much or more labor complementarity as substitution, implying only modest distributional wage and employment effects (Hanson et al. 2001).¹ But such beneficial work-time tendencies might emerge even if lower hours lend comparative disadvantage, and even if globalization might also yield significant job losses, deindustrialization and hollowing-out – so long as onshore workers remain to share the fruits of onshore production rendered more profitable by globalization's process of specialization. In any event, it is also possible that precisely lower such hours are or go along with a basis for comparative advantage in capital-rich, knowledge economies in the industrialized North – in which case the relationship between globalization and working time might be all the more beneficial for workers. Finally, workers facing employment and wage risks due to globalization –

¹ FDI and outsourcing, for instance, might involve tailoring to local markets (“horizontal” investment), resource extraction, tariff-jumping or other conditions – where the distributional consequences are more modest than a Stolper-Samuelson framework would imply (Markusen 1995; Dunning 1981; Hanson et al. 2001).

contrary to the above – might actually seek more generous working-hour arrangements as internal compensation for such increased risks.

On the other hand, globalization might well unleash forces that yield more and more flexibilized working time. To the extent that FDI and trade are driven by differences in factor endowments -- such as multi-nationalizing the value-added chain (sometimes called “vertical” FDI), involving substitution more than complementarity of global production – one might expect, following Stolper-Samuelson reasoning, that the distributional consequences could be sharp, shifting levels of labor demand that entail substantial up-skilling in OECD economies (c.f. Feenstra and Hanson 1996). This might lead to some room for flexibilizing for all workers, and to some sweating of less-skilled workers in the form of more working hours, overtime and more non-standard work-time contracts. Second, economic globalization of both the inter-industry and intra-industry sort, involving substitutes or complements, may also increase elasticity of labor demand – by virtue of making it easier for capital to shift foreign for domestic employment in the labor-capital mix for production – where the threat of exit may significantly increase wage or employment volatility and worker insecurity, and increase investor and employer bargaining power on non-wage working conditions and policies. And all such changes might strengthen the hand of employers to call for flexibilization and longer hours for a given wage. Third, economic globalization – including, again, both intra- and inter-industry trade and vertical and horizontal cross-border investment – can be expected to reduce product development and delivery times and expectations, including just-in-time practices, all of which can be expected to increase employer interests in particularly work-time flexibility to efficiently allocate human resources.

Finally, regardless of actual, material effects of economic globalization, workers may *perceive* globalization to make them more vulnerable, employers may perceive globalization to require more flexibility, and due to globalization both might more readily look at and be aware of work-time conditions abroad. Such possibilities constitute another, ideational link between globalization and increases in work-hours and flexibilization, at least in countries with lower hours than the OECD-average.

Which of these plausible implications of economic globalization dominates the work-time landscape as a generalization across time and space is difficult to predict *ex ante*. We see this, therefore, as largely an empirical question. But the above reasoning – and historical quid-pro-quo in employer-employee work-time discussions – does suggest that employers are more likely to respond to globalization with demands for work-hour flexibilization than for increased standard hours, and that workers can be expected to be more split on issues of flexibilization than on issues of standard

work-hours for full-time employees. These all suggest that globalization should have a stronger positive (or weaker negative) effect on flexibilization than it has on standard hours.

2.1. GLOBALIZATION AND WORKING TIME, MEDIATED BY WORKS COUNCILS

In any event, one can expect that the implications of globalization for work time likely vary over time and space, depending not only on variations in the nature of globalization but also on economic and political-institutional features of firms and countries in which work-hours are set. This means that, beyond empirically considering which of the above effects predominates, one ought also to consider possible mediating conditions. Indeed, the broader literature on how globalization affect various features of national political economies – from industrial relations to welfare state provisions – have long moved beyond the possibility that globalization might have off-setting effects for such economies to the identification of conditions, particular national institutional settings, that might mediate those effects (Garrett 1998; Swank 2002; Scruggs and Lange 2002; Oskarsson 2001; Martin and Swank 2004).

In the spirit of that literature, our own expectation is that the off-setting effects of globalization for working time are likely mediated by work-place institutions. In a European context, the institutions that likely matter most to work-hours arrangements and to channeling how globalization might affect such arrangements are works councils. Works councils are well-established and formalized and protected by statute in most European countries, but also exist in less formal, protected forms in many other OECD countries, including the United Kingdom, Australia, New Zealand and the United States. All are separate from labor unions, though many works councils have close ties with, and often have a membership drawn from the ranks of, the union movement. In Germany, where works councils constitute one layer of its “dual system” of industrial relations, all firms with five or more full-time employees must be open to setting up a works council. And in 2003, 16.5 percent of German firms with five or more employees had works councils, though 53 percent of all German employees are covered by works councils – reflecting how works council representation is much more common in large firms with many employees than in smaller firms (Addison et al. 2003).

The intuition behind the expectation that works councils might mediate how globalization affects work-hours is three-fold. First, works councils are tasked with representing workers in bargains with firm managers or owners over the conditions of work – and very often given particular responsibility for negotiating non-wage elements of work packages, specifically work time arrangements. Even where unions might negotiate such conditions at a national or industry level, works councils engage with employers in negotiating possible opt-outs or opening-clause actions on

issues of working time.² Second, as with other institutions affecting work-place representation, works councils ought to increase bargaining capacities of workers at the firm and enterprise level, better aggregating interests of such workers.³ And although the topic has received surprisingly little scholarly attention, there is some evidence that works councils do improve the conditions and rights of workers. And the third intuition is that works councils not only increase capacities but also act as semi-autonomous organizations that might gather and disseminate information and strategies of employers – in any event going beyond a simple aggregation of worker interests.

These three intuitions add up to the idea that works councils might influence working hours arrangements and mediate how globalization impacts such arrangements, but it isn't obvious what direction of such mediating influence will be. The answer, of course, depends significantly on the preferences and strategies of workers as principals and works-councilors as agents, over a range of work-place working-time arrangements under varying levels of globalization. With respect to overall working hours standards for full-time workers, both workers and works councilors are likely to prefer lower hours, to the extent that is financially viable and not in tension with wage positions. This suggests as a backdrop expectation that the incidence of works council representation ought to correlate negatively with negotiated standard working hours, all other things equal. It also suggests a first expectation for how that incidence of works councils might mediate the effects of globalization. Given that works councils increase the bargaining power and representation of workers in enterprise-level bargaining with employers in the setting of standard hours, globalization ought to have less positive or more negative effects on standard hours for full time workers where works councils are present than when they are not.

With respect to measures of work-time flexibilization, such as the incidence of temporary or fixed-term employment, or in terms of overtime or work-time accounts, the positions of workers and of the works councilors representing them are less clear-cut. There is enough diversity among different kinds of workers – in terms of lifestyles, gender, family-types, etc. – that one cannot assume that workforces or their works-councilor agents will be as unanimously or vociferously against such flexibilization as they are in favor of lower standard hours for full-time employees.

² In a WSI (2004) survey, 26 percent of all establishments extend working time arrangements in opening clauses (35 percent of those making use of such opening clauses), and a higher percentage use opening clauses for variable working time (51 percent of all surveyed establishments, 68 percent of those with opening clauses).

³ For instance, Addison et al. (2006) find that works council representation in Germany tends to increase wages, net of a range of other employee and establishment conditions. And an Austrian study found that workers in works councils are significantly less likely to be forced to work overtime (18 percent) than their counterparts in firms without works council representation (24 percent) (Krenn 2006). Such benefits appear not to come at the expense of firm efficiency, at least in the German context where the studies have been most careful and extensive (e.g. Schank et al. 2004)

Furthermore, flexibilization might well be a higher priority among employers than standard hours for core workers, such that works councilors as agents in frequent discussion with employers and likely sensitive to concerns about the profitability of enterprises might take a softer line on such flexibilization. In general, given less clear-cut worker opposition and clearer-cut employer support for flexibilization, one might thus expect that globalization is likely to have a more clearly positive effect for flexibilization. And on the basis of more unclear preferences of workers and works-councilors on flexibilization, the possible role that works councils might play in steering the effects of globalization is likely to be more modest for flexibilization than for standard hours.

The role that works councils might play in mediating how globalization affects flexibilization is further complicated by possibilities that works councilors might trade off the interests of workers on issues of flexibilization, where worker preferences can be expected to be less clear-cut, against other worker needs. Most obviously, one might expect that works-councilors would be willing to accept some sweating on work-time issues, particularly flexibilization, if that is the price of job security, or of maintaining or increasing investment in onshore enterprises. Indeed, there are case-study histories of works-council negotiations with employers suggesting precisely such trade offs – such as exchanging overtime flexibilization for investments and employment protections in automobile plants and consumer electronics (e.g. Haipeter 2006; Bosch Press Release 2007; Raess and Burgoon 2006).

As a variant of such strategic bargaining, one might also imagine that works councils would be willing to make concessions of flexibilization-related work time arrangements in exchange for protecting priorities on other work-time arrangements, such as standard hours. Such a strategic trade might reflect calculations of employer priorities (employers being more concerned about flexibilization than levels of hours per se) or employee priorities (employees being more divided and unclear about some aspects of flexibilization than about standard hours for core workers). And it is also possible that such strategic action across work-time issues might emerge from how works councilors prioritize the needs of core, full time workers, over more marginal workers – where the former might be more protected by standard hours and other conditions for full-time workers, while temporary and fixed-term contracts are accepted because they affect those less central to union and works-councilor work organization. If so, strategic action across work-time issues might reflect a classic insider-outsider trade-off by works councils.

Whatever the particular logic behind such strategic action, anecdotes of union and works-councilor bargaining reveal instances where such broad trade offs across work-time issues were at work. The 1994 bargaining in the German metal industry, for instance, revealed strategic thinking on the part of

unions and their works councils in trading-off work time reduction and job flexibilization. That bargaining took place against a backdrop of economic recession and unprecedented losses in revealed comparative-advantage of the metal industry, reflected in the *Standortdeutschland* debate.⁴ Employers sought cost relief via cuts in the holiday payment and increases in working-time corridor and flexibility, while the union's demanded mainly a wage increase, a 12-month dismissals prohibition, and an agreement on employment safeguards (Richter et al. 2001). The final agreement, reached on March 4, 1994, entailed a 2 percent wage increment and the opening clause known as *Beschäftigungssicherungstarifverträge*, allowing for limited work-time reduction without wage compensation in exchange for job guarantees, employers' duty to take-over apprentices for a minimal period of 6 months, and extension of balancing time for working time accounts from 6 to 12 months. The latter was dear to employers because it significantly increased working time flexibility – decreasing the likelihood that employers must pay overtime premiums, as accumulated hours can be compensated-for by free time over a longer time period. In short, amidst international competition and a domestic recession, IG Metall demanded and obtained an opening clause safeguarding employment via *reduced* hours.⁵ But it willingly accepted flexibilization (and forgoing higher wages), considering it a modest price to pay for increased work-time options. Following this kind of logic, we might well expect unions and works councils to respond to globalization with quid-pro-quos that give employers their flexibilization in exchange for protecting or lowering of standard hours.

In sum, some simple reasoning on employer and employee preferences on working time, on how globalization can be expected to influence those preferences and political capacities, and on how work-place institutions influence both – generate broad expectations about globalization and work-place working time. We see globalization as having off-setting effects for working time, leaving the net effects an empirical question. But we do expect stronger, more positive (or less negative) effects of globalization for flexibilization than for standard hours. And we expect the incidence of works councils to not only more strongly negatively affect standard hours than flexibilization, but also to more negatively mediate how globalization affects standard hours than how globalization affects flexibility.

⁴ The net export rate $((X-M)/\text{Production})$ in metalworking decreased from 30 per cent in 1989 (with an average for the 1980s of 30 per cent) to 23 per cent in 1990, down to the historical low of 15 per cent in 1991 (Statistisches Bundesamt, *Aussenhandel*, Fachserie 7, Teihe 7; and Statistisches Bundesamt, *Produzierendes Gewerbe*, Fachserie 4, Reihe 3.1).

⁵ Employers' proposal of a working time corridor that would have permitted *longer* hours was considered unacceptable for the trade union.

3. EVIDENCE FROM ESTABLISHMENT SURVEYS IN GERMANY

The rest of the paper tests these expectations on enterprise-level data of firms and work-hour conditions in Germany, capturing the full range of international economic exposure in an industrialized economy. This paper uses data taken from the IAB Establishment Panel of the Institute for Employment Research (*Institut für Arbeitsmarkt- und Berufsforschung*, IAB) of the German Federal Employment Agency (*Bundesagentur für Arbeit*, BA). The IAB Establishment Panel survey data are collected annually among a representative sample of employers since 1993 in western Germany and since 1996 in unified Germany.⁶ The base survey unit is the establishment or local production unit, rather than the legal or commercial entity of the firm. While the same establishments are surveyed annually, the data is augmented regularly to correct for plant closures, exits and newly founded units. The number of observations in the dataset has been growing over the years, from 4,265 establishments in 1993 to close to 16,000 in recent years. The IAB Establishment Panel is a nationally representative dataset including establishments from all regions, industries and size, unlike other large scale German datasets such as the Hannover Firm Panel and the NIFA Panel that consist of a sample of establishments in the manufacturing sector in Lower Saxony and in the German machine-tool industry, respectively (Addison et al. 2004).

The survey focuses on a wide range of employment-related matters. Structural data such as employment level and composition, turnover and investments are collected alongside information on business policy and development, vocational training, government labor market subsidies, recruitment and dismissals, personnel search, training programs, wages and working hours. While many of the questions in the questionnaire are repeated every year, some information is collected biennially or triennially. For this reason, we consider estimations focused on both a 2002 cross-section of establishments, providing the broadest cross-section of units surveyed, as well as a true and balanced panel for three years (1996, 1999, and 2002), as many years as the data allow for comparison across waves.

3.1. DEPENDENT VARIABLES: STANDARD HOURS AND JOB FLEXIBILIZATION

The IAB surveys ask questions that measure both standard working hours and several features of job flexibility (Herrlinger et al. 2005). For the former, the measure is *weekly standard hours for full-time workers*, taken from the following question in the survey (English translation): “How long is the presently agreed average weekly working time for full-time workers in your establishment?”

⁶ Generally, the questionnaire is filled in by the owner or senior management of the establishment in a

Respondents are asked to report the weekly hours at the 1-digit level after the comma (e.g. 38.5 hours per week).⁷ Although this measure misses part-time workers and the deviations across months and weeks in standard hours that inevitably occur (more on that below), agreed standard weekly hours for full-timers provides a direct and politically-salient measure of how much core employees of an establishment spend on the job on average.

Such average weekly standard hours vary across and within industries in Germany, even though sector-level collective agreements remain important determinants of agreed and actual hours worked. In recent years an increasing number of industries have introduced opening clauses to such agreements that delegate allocation of working hours to actors at firm or establishment level. “Working-time corridors” (*Arbeitszeitkorridor*) are one of the instruments used, allowing companies to reduce or extend working times within limits. For instance, the 1994 collective agreement in the western chemicals industry provides for such a corridor, whereby the average work week of 37.5 hours can be raised to 40 or lowered to 35 hours with proportional increases and reductions in pay, respectively.⁸ Other agreements contain opening clauses (*Beschäftigungssicherungstarifverträge*) for a working-time reduction without wage compensation in exchange for job guarantees. In the banking sector, a firm can for a limited period of time decrease its average weekly work time from 39 to 31 hours (with pay reduction) in exchange for employment guarantees.⁹ Finally, establishments not covered by collective bargaining can deviate at will from collectively-agreed standard hours. And the share of establishments *not* covered by branch-level agreements has steadily increased in recent years to 55.4 and 77.9 per cent, respectively, in western and eastern Germany in 2001 (Kohaut and Schnabel 2003).¹⁰ In short, plant-level social partners do have considerable room for maneuver to decide the amount of hours worked in most industries.

personal interview. The reference date of the data collection is 30th of June of each year.

⁷ The weekly standard hours question was not asked in every wave of the panel, it is “missing” in 1994, 2000, 2003 and 2005.

⁸ By the mid-1990s, the textiles and clothing industries in western Germany had a similar arrangement, allowing extension or reduction of annual work time by as much as 130 hours in exchange for job security (EIRO 1997).

⁹ By the mid-1990s, similar opening clauses existed in western printing and western iron and steel industries (with possible reduction of weekly work time from 35 to a minimum of 30 hours), and in western metalworking (reduction of weekly hours from 35 to either 30 or 29 hours depending on the region) (EIRO 1997). A study of 151 metalworking establishments that have used such an arrangement between 1994 and 1999 showed that the period of the agreement varied between one and sixty months, with agreements of twelve or more months accounting for about 60 percent of agreements (Richter 2002). In a 1997-8 VWSI-survey, agreements with a duration of more than one year accounted for 85 percent of all agreements – the industries sampled is here much broader, included public sector and privatized (e.g., utilities, post, railway) establishments (Richter 2002).

¹⁰ Based on IAB Establishment Panel data. Between 1996 and 2001, the share of establishments covered by a branch-level collective agreement decreased by 9 per cent in the West and 5.5 per cent in the East.

This shows up in the IAB data, where the sample mean is 38.9 hours per week, with a minimum of 21 and a maximum of 56 hours per week and with the 1st-percentile being 33 hours and the 99th being 45 hours per week (see summary statistics in Appendix One).¹¹ Across sectors, divided at the 41-branch level, the branch with the highest average standard hours is “Hotels and Restaurants” with 40.6 hours, and the branch with the lowest average is “Manufacture of paper, printing and publishing,” with 37.2 hours.¹² Summarized at the same branch level, most of these sectors experienced modest declines in average hours between 1996 and 2002 – from an average in the panel data of 40.6 in 1996 to 39 hours in 2002.

Our measure of job flexibility is a composite variable of contract flexibility and working-time flexibility. With respect to employment contract flexibility, we consider the incidence of two atypical work contracts: whether or not an enterprise has in the last year had employees with *temporary work contracts* (i.e., employment via a temporary work agency); and whether in the last year they have had employees with *fixed-term contracts*, such as arrangements to work a given set of weeks or months. With respect to working-time flexibility, we consider the incidence of *overtime* (whether workers in the last year have worked overtime hours) and the presence of a *working-time account*.¹³ Such a working-time account might appear ambiguous as a measure of flexibilization, since they increase workers’ sovereignty over the weekly distribution of hours. However, the negative individual and collective consequences of having a working-time account offset such gains in worker sovereignty: on the one hand, working-time accounts decrease the likelihood that employees will work overtime hours at premium pay; on the other hand, the existence of accounts decreases the works councils’ ability to use co-determination over overtime as a bargaining-counter over other issues (Herrmann et al. 1999; Lindecke 2000). In any event, we measure the incidence of each of these aspects of flexibilization, recoded as binary variables, as follows: 0=no temporary work contracts in the establishment (no fixed-term contracts, no overtime, no working-time account); 1=presence of temporary work contracts (presence of fixed-term contracts, overtime or working-time account). In the cross-sectional sample for 2002, the incidence of each varies substantially:

¹¹ Although the IAB survey includes enterprises reporting fewer than 20 hours and more than 60 hours per week, we exclude these as highly likely to be mis-reported hours: a work contract of 20 hours or fewer per week does not fit with existing definitions of full-time work (and the survey question about hours explicitly specifies “for full time workers”), and, on the other hand, a 60-hour week is difficult to reconcile with the condition in the survey question of an *average agreed* weekly working time. Such restrictions, it should be emphasized, only drops some 20 observations in the three waves for the many thousands of establishments surveyed.

¹² In 2003, the collectively-agreed regular weekly hours for the main industries were: metalworking and electrical industry, 35 hours (East: 38); printing, 35 hours (38); textiles, 37 hours (40); chemicals, 37.5 hours (40); retail, 37.5 hours (38); wholesale and foreign trade, 38.5 hours (39); insurance, 38 hours (38); public service, 38.5 hours (40); construction, 39 hours (39); and private banking, 39 hours (39) (EIRO 2003).

¹³ In 1996 the survey question refers to flexitime (*Gleitzeit*) and in 1999 and 2002 to working-time accounts (*Arbeitszeitkonten*). It has to be remembered that working time accounts are a recent invention.

with 68 percent of establishments having some overtime; 43 percent having working-time accounts; 11 percent having temporary work contracts; and 39 percent having fixed-term contracts. Significantly and as one would expect, all four elements correlate positively and significantly with one another, with coefficients of correlation ranging from .19 to .36.

These components were themselves analyzed separately, but yielded similar enough results that we have elected to report a composite measure of job flexibilization that combines the information of the components. Our composite is a simple addition of the binary elements of flexibilization. The number of elements included in the composite differs, however, across the cross-section and panel analyses, due to changes in the measurement of variables across different years of the panel, or to “missing” information about one or another variable-year.¹⁴ For the cross-section in 2002, thus, our composite variable is the sum of four variables (higher scores indicating greater flexibilization): the sample’s average score being 1.62, with the full range of 0 to 4 represented among the enterprises. For the panel data, on the other hand, the composite covers only fixed-term and overtime accounts, ranging thus from 0 to 2, and averaging .91. For analytical purposes, we recognize that this is not a true ordinal measure of flexibilization, since incidence of one of the components is not theoretically or politically the same as the incidence of another. But we see the aspects of flexibilization as cumulative in the basic sense of capturing how much work-time and job flexibilization are present in a firm.

3.2. EXPLANATORY VARIABLES: GLOBALISATION AND WORKS COUNCILS

We report three measures of economic globalization (and consider a range of others in sensitivity tests), one of which is directly in the IAB survey and two of which can be surmised from information about branch or sector positions of enterprises. The first measure is *foreign sales*, based on one of the IAB-dataset’s limited direct information on international pressure. In every wave of the panel respondents are asked to report the share of foreign sales for the previous year. While the question was asked directly in the first waves, since 1998 respondents have to provide the breakdown of sales for the four regions of West Germany, East Germany, the EMU countries, and the rest of the world, providing a basis for constructing the same measure. *Foreign sales*, in any event, we define as the export share of total sales ($X/sales$) at the establishment level – the most

¹⁴ Overtime is measured over a time period of 6 months prior to 1999 (e.g. the question in the wave 1996 is: “Were overtime hours performed in your establishment in the first half of 1996”) compared to 12 months after 1999 (e.g. the question in the 2002 survey is: “Were overtime hours performed in your establishment in the previous year, that is in 2001”). The question about temporary work contracts is missing in 1999, 2000 and 2001.

fine-grained globalization measure we have and that can exist in such a dataset.¹⁵ The main advantage is that *foreign sales* is an internal variable to the IAB Establishment Panel dataset, where the match between this measure and the establishment is very accurate. The disadvantage is that the question is not asked of firms in the financial and some service sectors, tending to be less internationally exposed than many other sectors, and therefore plausibly introducing selection bias.

Our second and third measures are generated from information external to the dataset but that can be matched to the respondent's sector of employment. This was facilitated by the change of industry classification in the IAB Establishment Panel operated in 2000 (wave 08), when the WZ93/NACE was adopted.¹⁶ With the answers to survey question "please indicate which branch of the industry your establishment is now active in using the industry classification table on the next page", the sector of activity of each establishment in the NACE industry classification is known. Using this information, we compile various measures of trade and FDI flows at the same two-digit NACE classification level using statistics on imports, exports, production, and domestic and foreign employment for goods and services found in three databases: the OECD's STAN Database for Industrial Analysis¹⁷ and the OECD's Statistics on International Trade in Services give imports, exports, production and domestic employment data for most of the sectors; and the Deutsche Bundesbank's *Kapitalverflechtung mit dem Ausland* gives statistics on foreign employment by German MNCs and domestic employment controlled by foreign firms for a given sector.

The constitution of a panel is complicated due to the change of industry classification in 2000. However, one notable advantage of the IAB Establishment Panel is that it is possible to track establishments on an annual basis, allowing us to impute the industry position of establishments in earlier waves from the industry position of establishments in one of the more recent waves (2000 and following), such that the establishments in the older waves get recoded into the NACE industry classification. By following establishments over time, this imputation technique restricts the sample to those establishments who participate in every wave of a given panel. The related loss of information -- given that not all establishments in each wave are considered -- is a modest price to pay for the clear advantage of having the time dimension included into the analysis at all.

These reliable statistics on branch or sector allow us to develop a range of globalization measures, of which we focus on and report two. First, *trade total share* is the sum of exports and imports in the sector, as a proportion of total production in that sector $((X+M)/\text{production})$. Second, *FDI total share* is defined as the sum of the German MNCs' foreign employment and the foreign MNCs-

¹⁵ It is worth emphasizing that this is not a *company*-level, but an *establishment*-level measure.

¹⁶ WZ93 is the German appellation of the NACE.

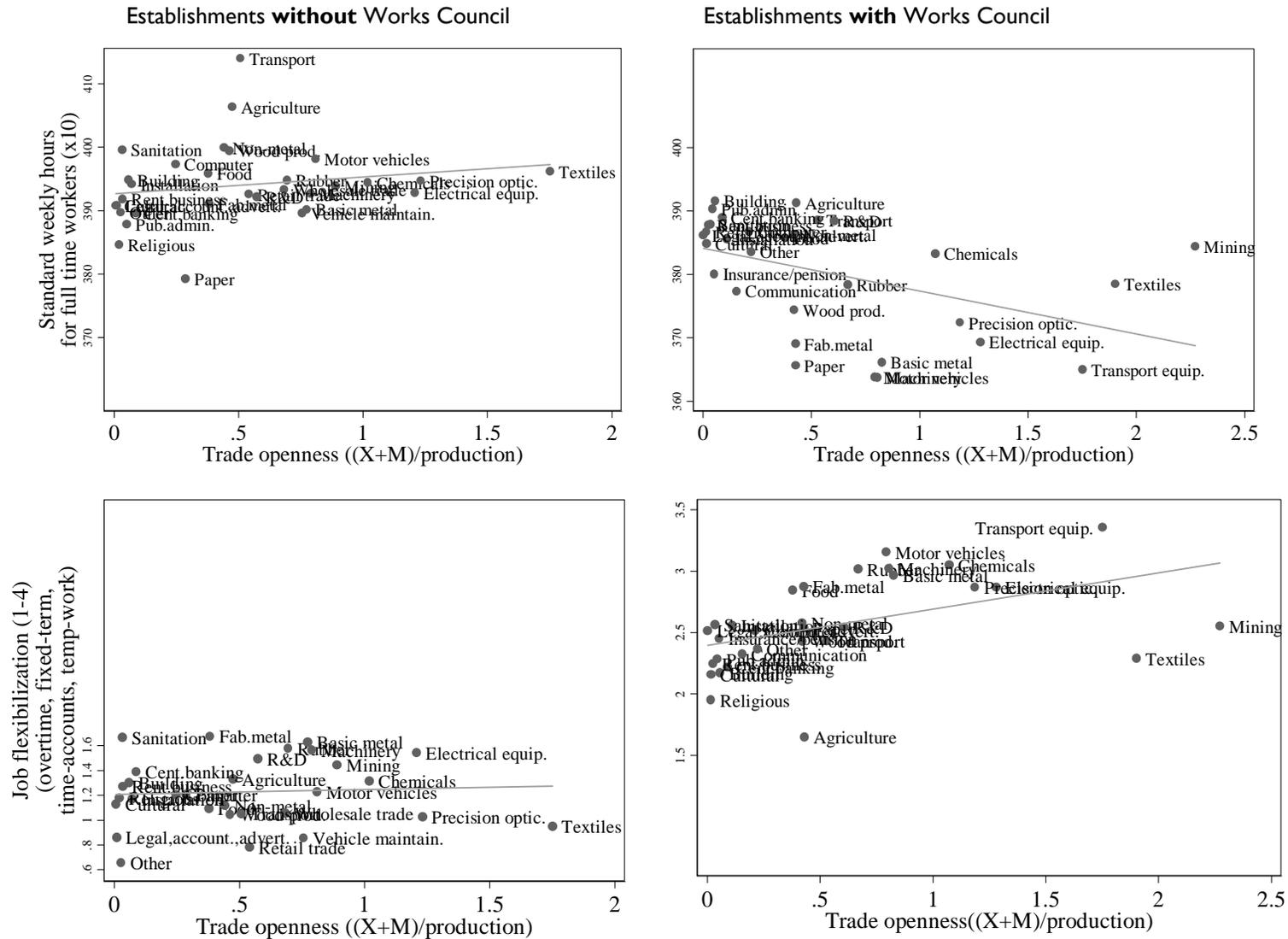
¹⁷ Specifically, the STAN Indicators database and the STAN Industry database.

controlled domestic employment, as a proportion of the sum of total domestic employment and German MNCs' foreign employment in a given sector. It is worth emphasizing that measuring FDI openness in terms of (foreign and domestic) employment is similar to measuring FDI stocks, but unlike FDI flows and stocks are not so sensitive to exchange rate fluctuations. The created globalization measures, in any event, are lagged by one year in relation to a given wave of the panel to take account of possible delays in negotiated responses to economic conditions. In any event, we also consider in addition to the three reported measures several others – a measure of foreign ownership (found in the IAB survey waves), and of export orientation, import-penetration, net export shares, and outward and inward FDI – all of which can be built up using similar methods to those for FDI and trade shares.

Works council incidence. The works/staff council variable, present in each wave, is a binary variable that takes the value of one if the establishment has a works/staff council and zero otherwise. The expectations, in line with the discussion above, is that having a works council ought to be associated with fewer hours but likely greater flexibilization. Because we are interested in the role that works council incidence might have in mediating the effects of globalization, we restrict the sample to firms with five or more employees. German labor law stipulates that works councils are authorized (but not mandatory) in all establishments with five or more employees. Restricting the sample, thus, is crucial to investigating potential differentiated work-floor consequences of the workforce's *real choice* for or against the set-up of a works council under globalization. In the cross-sectional sample, the percentage of enterprises with a works council is 38.6 percent (50.3 percent in the panel sample).

We can now state in terms of these parameters for standard hours, flexibilization, globalization and works councils our main expectations: that all the globalization measures ought to correlate more strongly positively or less negatively with flexibilization than with standard hours, and that works councils ought to more positively mediate globalization's implications for flexibilization than for standard hours. Figure One provides a descriptive-statistic illustration that this is borne out in the data (the cross-sectional data is used). Shown are how average standard hours and flexibilization are correlated with average trade openness, where one restricts the data sample to establishments without works council (the scatterplots on the left-hand panel) and to establishments with works councils (the right-hand panel).

Figure One: Trade and weekly hours and flexibilization (with and without works councils)



The patterns for standard hours suggest that where works councils are not present, the relationship is weakly positive, but that when works councils are present trade tends to reduce standard hours for full-time workers. On the other hand, the lower two scatterplots for flexibilization show the opposite pattern: that trade has little impact on flexibilization where works councils are absent, but tends to have significantly higher flexibilization when they are present. Note also that the presence of works councils also appears to have negative effects for standard hours (shown by the lower hours on the right-hand than the left-hand panel), but to have positive effects for flexibilization (shown by the higher flexibilization scores on the right-hand than on the left-hand panel). The same sort of illustrative analysis with other measures of globalization yield similar patterns. Such illustration, however, is only a very rough hint of what the data might harbor, not taking into account the much-finer-grained establishment-level variation, nor the possible effects of a range of other factors.

Controls. This brings us to the controls. We consider a range of explanatory variables familiar in the extant literature as control variables on working time. Establishment size, measured as total employees (including trainees but excluding temporary workers), can be expected to be negatively associated with standard hours because larger plants tend to enjoy economies of scale that reduce unit costs, allowing for more workforce power to decrease hours (Cappelli 1985). A positive association is expected between size and job flexibility as large firms tend to have own HR department with legal expertise to organize internal flexibility (Thelen and Kume 1999). The location variable takes the value of one if the establishment is based in East Germany and zero if it is located in West Germany. There is a strong expectation that employees in establishments in the East work longer hours. This is because significant differences remain in the statutory and collectively agreed working hours between West and East, despite the labor movement's attempts to fully equalize conditions across the national territory as a result of the reunification agreement (EIRO 2003; Raess 2006). However, there is a less clear cut expectation with regard to job flexibilization. On the one hand, reflecting the greater leaning towards neoliberalism of at least some employers in East Germany, greater flexibilization can be expected there (Schroeder 2000, 2003). On the other hand, if union organizing is a precondition for organizing internal flexibility, then the correlation should be negative (Schroeder 2000). We also control for skill level by the proportions of unskilled and production workers, and expect both measures to be negatively associated with hours.

We use an external unemployment variable, defined as the change in unemployment at $t-1$ measured at the regional level of the Bundesländer.¹⁸ The broad expectation is that an increase in unemployment is associated with increases in hours worked and in job flexibilization, because high unemployment weakens trade unions and other worker representation and empowers employers (Wallerstein 1998). But rising unemployment can also push unions and works councilors to demand shorter hours to safeguard employment -- as the campaign for the working time reduction in the German metalworking has shown -- such that how unemployment affects working hours is an empirical question.

The status of an establishment as a single establishment-firm is a binary variable that simply equals one when the establishment is a single independent plant and zero otherwise (e.g., subsidiary of a larger firm, headquarters of a company). We expect the single establishment-firm status to be positively associated with standard hours and negatively with job flexibilization -- such firms tend to be smaller, less profitable, which altogether makes them less likely to have the financial resources and expertise to implement complicated flexibilization schemes and policies. The establishment age is also a binary variable where the coding one is given to the more recent plants that have been founded in and after 1990, and zero to older plants. The intuition here is that newer plants have a longer working week and more flexible conditions, partly because they are more difficult to organize by the trade union movement, and partly because they are less likely to join an employers' organization and hence to follow the pattern bargaining (Hassel 1999). Finally, we take the survey question used to generate our measure of kinds of ownership to create a private – public variable, with the value one associated to public ownership and zero to private ownership. The broad expectation is that the public status of an establishment stands in a negative association with both hours and job flexibilization, because public sector labor regulations tend to be more stable and worker-friendly (Keller 2004). Due to large number of missing values, the three controls establishment status, size, and age are not used in the panel analysis.¹⁹

3.3. ESTIMATION STRATEGY

Both standard hours and for our composite of work-time flexibilization, we consider both cross-sectional estimations for 2002, and estimations from a true, balanced panel from 1996 to 2002. The former captures the most representative cross-section of establishments in the data, and the latter allow us to take more explicit account of time dynamics in that data. Standard hours is a continuous

¹⁸ Unemployment is measured for employees in a dependent employment relationship (*abhaengige Erwerbsspesonen*) (Bundesagentur für Arbeit – Statistik (Zeitreihen), 2007, *Arbeitsmarkt in Zahlen*, Januar).

¹⁹ For instance, there are 435 missing values for the variable single establishment-firm and 488 for the ownership question in the 2002 wave.

variable, for which coefficients are OLS, but the flexibilization composites are ordinal measures ranging from 0 to 4 for the cross-section (0 to 2 for the panel), making ordinal probit the more appropriate estimator. Given the presence of unit-level heteroskedasticity and correlation, together with the panel's unit-domination and small-number of observations per unit (three years, spaced by three years), we combine these OLS or ordered-probit estimation of coefficient estimates with the Huber-White *robust-cluster* “sandwich” estimator of standard errors, clustered over branches (41 branch categories). This provides correct coverage in the face of any correlations among errors *within* clusters, including correlation within and between units. As robustness checks, however, we consider alternative estimators – e.g. FGLS-correcting – yielding results that are stronger *but in the same direction* as the robust-cluster results.

The base models for standard hours and flexibilization, respectively, take the following general forms:

$$\text{Standard weekly hours}_{it} = \alpha + \beta_1 \text{Globalization}_{it-1} + \beta_2 \text{Works-council}_{it} + \beta_3 \text{Globalization}_{it-1} * \text{Works-council}_{it} + \beta_4 \text{Controls}_{it-1} + \text{Industry}_i + \text{Year}_t + \varepsilon_{it} \quad (1)$$

$$\text{Flexibilization}_{it} = \alpha + \beta_1 \text{Globalization}_{it-1} + \beta_2 \text{Works-council}_{it} + \beta_3 \text{Globalization}_{it-1} * \text{Works-council}_{it} + \beta_4 \text{Controls}_{it-1} + \text{Industry}_i + \text{Year}_t + \varepsilon_{it} \quad (2)$$

The base models consider how works council presence might mediate how globalization affects *standard hours* and *flexibilization* by interacting globalization with works-council incidence, taking fuller advantage of the data than splitting the panel by such incidence. The expectation in all estimations is that the effects of globalization for standard hours be more negative or less positive than for job flexibilization, and that works councils more strongly negatively mediate these effects for standard hours than for flexibilization. In terms of the models, this means that we expect $\beta_1 \text{Globalization}_{it-1}$ coefficients to be more negatively or less positively signed and significant for standard hours than for flexibilization. We also expect $\beta_2 \text{Works-council}_{it}$ coefficients to be negatively related to standard hours, and either less so or perhaps positively-related for flexibilization. Finally, we expect the interaction term ($\beta_3 \text{Globalization}_{it-1} * \text{Works-council}_{it}$) to be statistically significant and negative in the case of standard hours, and less so or perhaps positive and significant in the case of flexibilization.

For the cross-section versions of (1) and (2), of course, there is no variation across time (hence the subscript t in the above notation drops out). For the estimations of job flexibilization, we are more interested in the cross-sectional results for the 4-point scale composite than in the 2-point panel composite, because the former provides a more encompassing measure of our theoretical interest in work-time and job flexibilization.

Our preferred models also consider the globalization measures separately, mainly because these pose off-setting constraints on the sample of enterprises for which we have full information, such that the sample size is significantly reduced by simultaneous inclusion of the globalization measures on the right-hand side. To consider the possible net effects among the globalization measures, however, we do consider estimations with all three together, and these tend to pose only modest collinearity problems (e.g. with variance-inflation factor scores for individual globalization measures always below 10 in the cross-sections). In all estimations, though, the FDI and trade measures of globalization are lagged one year (but not the foreign sales directly in the survey).

All estimations, in any event, include 10 industry dummies (u_i), to account for unobserved effects of industries and to further address unit-level heteroskedasticity.²⁰ The panel estimations for both standard hours and flexibilization include also dummies for year of the survey, to account for unobserved time effects. Both such sets of dummies are highly jointly significant. And for the panel version of standard hours, estimation form (1), we also report results with and without a lagged dependent variable, to provide a further check on possible autocorrelation.²¹

²⁰ We use 10 industry dummies: (1) Agriculture, hunting and forestry fishing; (2) Mining and quarrying, electricity, gas and water supply; (3) Manufacturing Industries; (4) Construction; (5) Trade and Repair; (6) Transportation and Communication; (7) Financial Intermediation; (8) Industrial services; (9) Other services; (10) Non-industrial organizations, public administration.

²¹ We show only the unlagged dependent variable for the job flexibilization.

4. RESULTS

Tables One and Two summarize the results for standard hours and for flexibilization, respectively. The first two columns summarize results from the 2002 cross-section, with all the globalization variables included simultaneously, first without interactions with incidence of works councils (column 1) and then with such interactions (column 2). The remaining six columns summarize results from the panel data, showing separately the effects of foreign sales, total FDI, and trade, conditional upon incidence of works councils. For each globalization measure and its interaction with works-council incidence, we show two estimations – one with and one without a lagged dependent variable.

Before turning to the main results, it is worth mentioning that most of the controls performed in line with expectation. Larger companies tended to have fewer standard hours, significantly so in the case of the cross-sectional analyses. East-German location tended to correlate significantly positively with hours. And regional unemployment tended to correlate negatively significantly. Industry and year dummies were very highly jointly significant. And in the panel runs, lagged hours were highly significantly correlated with existing hours – also tending to increase R-squared by some thirty percent on average. The other parameters tended to be insignificant. The overall performance of the models was modest – with adjusted R-squared never above .67 – and stayed so even when we considered throwing virtually all measures from the survey into the alternative estimations.

Table One: Standard weekly hours and globalization (Dependent Variable: Standard Weekly Hours)

	Cross-section (2002)		Panel (1996-2002)					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Foreign sales _{t-1}	-0.079** (0.030)	0.002 (0.021)	0.057 (0.041)	-0.012 (0.028)				
FDI _{t-1}	-5.225 (6.587)	-4.847 (5.854)			33.808*** (11.734)	12.803** (6.259)		
Trade _{t-1}	1.496 (1.279)	4.308** (1.671)					9.018*** (2.685)	2.615** (1.278)
Works Council	-11.167*** (1.595)	-7.196*** (2.319)	-9.022*** (1.719)	-4.540*** (0.869)	-2.971 (2.038)	-1.773* (0.954)	-4.686*** (1.696)	-2.141** (0.816)
Foreign sales* Works council		-0.110*** (0.029)	-0.218*** (0.063)	-0.046 (0.035)				
FDI * Work council		-2.100 (9.694)			-46.294*** (10.498)	-18.610*** (6.107)		
Trade * Works council		-4.676* (2.432)					-12.871*** (3.298)	-3.977*** (1.386)
Hours _{t-1}				0.631*** (0.060)		0.596*** (0.071)		0.690*** (0.077)
Size	-0.002*** (0.000)	-0.002*** (0.000)	-0.001 (0.001)	-0.000 (0.000)	-0.001 (0.000)	-0.000 (0.000)	-0.001 (0.000)	-0.000 (0.000)
Location East- Germ.	13.463*** (1.864)	13.298*** (1.889)	13.113*** (1.751)	2.860*** (0.810)	12.584*** (1.553)	3.111*** (0.758)	14.407*** (1.777)	3.062*** (1.001)
Unskilled prop.	2.416 (1.950)	2.124 (1.902)	2.258 (1.969)	0.196 (1.004)	1.033 (1.650)	-0.130 (0.843)	-0.825 (2.301)	-0.877 (1.125)
Production workers prop.	0.215 (2.180)	0.183 (2.180)	1.927 (2.085)	0.679 (0.821)	0.752 (2.133)	-0.304 (0.880)	-3.405* (1.851)	-2.105** (0.979)
Unemployment _{t-1}	-2.078*** (0.600)	-2.111*** (0.619)	-1.587*** (0.338)	0.333 (0.434)	-1.604*** (0.358)	0.821 (0.574)	-1.419*** (0.312)	-0.250 (0.527)
Stand-alone firm	1.208 (0.778)	1.122 (0.781)	-	-	-	-	-	-
Age	0.301 (0.737)	0.205 (0.735)	-	-	-	-	-	-
Public ownership	-2.654 (2.714)	-3.733 (2.356)	-	-	-	-	-	-
Constant	391.7*** (2.102)	390.4*** (2.074)	406.4*** (1.787)	148.9*** (24.31)	404.7*** (1.943)	162.4*** (28.23)	406.5*** (1.909)	125.9*** (30.79)
10 industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3 yearly dummies	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5734	5734	5059	3342	6558	4303	5100	3350
R-squared	0.31	0.31	0.38	0.63	0.32	0.52	0.44	0.67

OLS coefficients with robust standard errors (in parentheses), clustered over branch.

* significant at 10%; ** significant at 5%; *** significant at 1% or lower.

Reference: IAB Establishment Panel, waves 2002; 1996-1999-2002, remote data access via the Research Data Centre (FDZ) of the Federal Employment Agency (BA) at the Institute for Employment Research (IAB)

Turning to the main results, both the cross-sectional and panel results paint a similar picture – that measures of globalization tend in general to have either a negative or insignificant direct effect on standard hours, but that these measures of globalization tend to significantly *increase* standard hours among firms without works council representation but significantly *decrease* such hours among firms with such representation. Column (1) provides a snapshot of the unmediated effects, suggesting that foreign sales has the strongest *and negative* direct effect on standard hours, net of the insignificant negative effect of FDI and insignificant positive effect of trade openness. These effects are net of a range of controls, including works councils. And they provide modest support for the idea that, in general, at least the foreign sales measure of globalization – the measure most tightly matched to the enterprise level of the survey, though excluding some less tradable industries – tends to be good news for the standard working hours of full time workers. These results are very similar to what emerges, also in the cross-section, of considering each globalization measure separately. Substantively, however, the effects are modest, in that a 1 percent increase in foreign sales yields a .0079 hour decrease in weekly standard hours. Such would imply that moving from 0 to 50 percent foreign sales – roughly moving from the 10th to the 90th percentile in the sample – predicts a decrease of .40 hours per week.

Column (2), however, suggest that the interaction with works councils is in general strong, in a way that modifies the message of the general, direct effects. In all cases, the results for the globalization parameters must be interpreted together with the works council and the interaction term. And the results are in line with expectations above, in that all the interaction terms are negative, and statistically significant at the .01 and .1 levels for foreign sales and trade, respectively – and the three globalization measures are each jointly significant with their interaction term and the works council component. This suggests that the predicted effects of the globalization measures are more negative and less positive in establishments with works councils than with those without. The globalization variables can be read as the conditional effects of globalization in establishments without works councils (that is, where the incidence of works councils is 0). In establishments without works councils, thus, trade significantly positively affects standard hours, while foreign sales and FDI tend to have no significant effect on such hours. The substantive size of this conditional effect for trade is modest: a one percent increase in total trade yields an increase in .004 hours per work week for full time workers. And moving from the 25th to the 75th percentile in trade (roughly from .02 to 90.2 percent of production) yields an increase from 39.3 to 40.4 standard hours per week. With works councils, however, further analysis shows that the coefficients for all three globalization measures become negative and in all three cases statistically significant at the .05 (for foreign sales) or .1 level (for trade and for FDI). In the case of foreign sales, the substantive results under such conditions (where enterprises have a works council) are stronger than for the unmediated results: a one

percent increase in foreign sales predicts a decrease in standard weekly hours of .013 hours per week, and moving again from 0 to 50 percent of foreign sales predicts .65 fewer hours per week.

The remaining columns – columns (3) through (8) – summarize the panel results for standard hours. These paint a somewhat sharper picture in line with the cross-sectional results – but again very much in line with expectation. The results for foreign sales are the weakest in this regard, in that the negative interaction with works council-incidence is significant only in the estimation without lagged standard hours (column 3). There the results are very similar to the conditional effects of foreign sales just reported for the cross-section. But with the lagged dependent variable (column 4), the interaction loses significance; it is worth mentioning, however, that the individual components (foreign sales and works council) and the interaction term are jointly significant and signed in the expected directions. Columns (5) and (6) show how total FDI tends to significantly increase standard hours where establishments have no works council representation, and the substantive size of this increase is more substantial than that reported for foreign sales: in the case of the estimation without the lagged dependent variable, a one percent increase in total FDI raises standard weekly hours by .034 hours per week (.013 hours per week for the lagged-dependent-variable estimation in column 6). Where works councils are present, however, this effect becomes negative and modestly significant for most of the distribution (where FDI is above the 20th and below the 90th percentile). Finally, trade shows the same strong pattern of interaction with works councils, where increased trade significantly increases standard hours where establishments have no works councils. Here the substantive effect is between that for foreign sales and total FDI, and in the case of the estimation in column (7) (without the lagged dependent variable) the results are somewhat stronger than the cross-section results reported in column (2): for the panel results, moving from the 25th to the 75th percentile in trade (roughly from .02 to 90.2 percent of production) yields an increase from 39.6 to 41.1 standard hours per week (note that the substantive effect declines by almost two-thirds, and to below the cross-section results, when one adds the lagged dependent variable).

These results are substantively modest, to be sure. But they show a clear pattern of globalization influencing standard weekly hours – modestly negatively in general, but strongly mediated by incidence of works councils. Where works councils are present, globalization increases sweat for core workers, but when establishment workers choose to elect a works council to represent them in negotiations, globalization becomes a friend rather than foe to their work hours. Such results stand up to alternative estimators, such as FGLS estimation with random or fixed effects, yield often stronger results in line with theoretical expectations. And the results are virtually identical if one log-transforms the dependent variable standard hours. They are also identical if one considers all standard hours (including suspiciously low and high reported hours). And the basic patterns stand

up if one considers fewer or other arrays of controls, including the inclusion of the job flexibilization measures on the right-hand side.²² Further, the results are similar with other measures of globalization, including import penetration and foreign ownership.

Table Two summarizes the results for job flexibilization. Columns (1) through (5) show the patterns from the cross-section data, with the 4-point measure of flexibilization, and columns (6) through (8) show the results for the 2-point measure on the panel data. Here, the controls perform broadly in line with expectation, with size significantly though substantively modestly spurring flexibilization; proportion of unskilled workers correlating negatively with flexibilization; stand-alone firms being less likely to introduce the flexibilization standards; regional unemployment tends to correlate positively with such flexibilization; newer establishments having more flexibilization, and public ownership modestly more. East-German sites, however, tend in the 4-point cross-sectional composite to be less likely to flexibilize, whereas in the panel they are more likely to do so. Why the former might be so is unclear to us, but one possibility is that temp work might be generally less developed as an institution and overtime less necessary in settings where the standard hours are so high, and from supplemental analyses discussed above where we find that such elements of flexibilization correlate negatively with standard hours.

The main results are a striking contrast to those for standard hours for full-time workers – and clearly in line with expectations developed above. Here, the general pattern is that globalization measures tend to significantly spur flexibilization, and that works councils tend not only themselves to spur flexibilization but to either not diminish or to even strengthen globalization's positive effect. The first three columns show the results taking the globalization measures separately, where in all cases having a works council tends to make the effect of globalization on flexibilization more positive – significantly so in the case of FDI and works councils interaction (column 2). In the case of foreign sales, the interaction is weakest, but the main positive effect strongest: the main punch line being that (even) in establishments without works councils, statistically-significantly increases in foreign sales spurs incidence of flexibilization measures.

²² Flexibilization tends to correlate significantly negatively with standard hours, a plausible pattern given that standard hours and flexibilization might well be imperfect substitutes – as discussed above.

Table Two: Work-time Flexibilization and Globalization
(Dependent Variable: Composite Variable of Contract and Work-time Flexibilization)

	Cross-section (2002) ^a					Panel (1996-2002 all industries) ^b		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Foreign sales _{t-1}	0.007*** (0.002)			0.008*** (0.001)	0.009*** (0.002)	0.007*** (0.003)		
FDI _{t-1}		-0.07 (0.208)		0.357* (0.210)	0.039 (0.302)		-0.637* (0.372)	
Trade _{t-1}			-0.025 (0.093)	-0.077 (0.076)	-0.003 (0.106)			-0.031 (0.096)
Works-Council	0.996*** (0.053)	0.863*** (0.076)	1.051*** (0.083)	1.003*** (0.054)	0.957*** (0.102)	1.083*** (0.074)	0.84*** (0.093)	1.047*** (0.106)
Foreign sales * Works-council	0.000 (0.002)				-0.001 (0.002)	0.002 (0.003)		
FDI * Work- council		0.859*** (0.241)			0.532* (0.296)		1.823*** (0.459)	
Trade * Works- council			0.088 (0.117)		-0.111 (0.088)			0.264** (0.131)
Size	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000 (0.000)	0.000* (0.000)	0.000** (0.000)
Location East	-0.093* (0.051)	-0.145*** (0.055)	-0.071 (0.061)	-0.035 (0.072)	-0.030 (0.074)	0.145** (0.059)	0.15*** (0.058)	0.166** (0.073)
Germany								
Unskilled prop.	-0.178*** (0.065)	-0.133** (0.063)	-0.071 (0.085)	-0.168* (0.097)	-0.171* (0.096)	-0.017 (0.089)	0.012 (0.078)	0.118 (0.094)
Production workers prop.	0.144*** (0.055)	0.072 (0.07)	0.014 (0.072)	0.169*** (0.062)	0.172*** (0.063)	-0.139 (0.096)	-0.124 (0.087)	-0.465*** (0.147)
Unemployment _{t-1}	0.06 (0.04)	0.072* (0.038)	-0.009 (0.041)	0.003 (0.048)	0.003 (0.048)	0.057* (0.032)	0.052* (0.029)	0.010 (0.256)
Stand-alone firm	-0.277*** (0.039)	-0.182*** (0.05)	-0.159** (0.07)	-0.285*** (0.043)	-0.285*** (0.044)			
Age	0.118*** (0.023)	0.115*** (0.03)	0.109*** (0.039)	0.119*** (0.034)	0.118*** (0.033)			
Public ownership	0.201** (0.102)	-0.01 (0.096)	0.073 (0.08)	0.149 (0.145)	0.160 (0.140)			
10 industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3 yearly dummies	No	No	No	No	No	Yes	Yes	Yes
Observations	9242	10271	7580	5752	5752	5086	6586	5120
Log pseudo- likelihood	-12313.5	-13852.4	-10244.8	-7705.5	-7702.8	-4529.1	-6066.5	-4614.8
Pseudo R-squared	0.13	0.11	0.11	0.13	0.13	0.18	0.16	0.17

Ordered probit coefficients with robust standard errors (in parentheses), clustered over branch. Cuts, and industry and year dummies not shown.

^a Dependent variable is categorical measure of work-time flexibilization, ranging from 0 to 4, representing unweighted sum of: fixed-term contract (yes=1; no=0); work-time accounts (yes=1; no=0); overtime (yes=1; no=0); temporary work contracts (yes=1; no=0).

^b Dependent variable work-time flexibilization (from 0 to 2), representing the unweighted sum of: fixed-term contract (yes=1; no=0); and work-time accounts (yes=1; no=0).

* significant at 10%; ** significant at 5%; *** significant at 1% or lower.

Reference: IAB Establishment Panel, waves 2002; 1996-1999-2002 (remote data access via FDZ)

The substantive size of this effect can be captured by in-sample counterfactual predictions based on the model in column (1), taking all controls at their means and varying levels of foreign sales, works council incidence and their interaction. Among establishments without works councils, moving from the 10th through the 90th percentile in the sample distribution of foreign sales – from 0 to 90 percent of sales – the model predicts a statistically significant increase in the probability that an establishment have high flexibilization (a composite score of 3 or 4): a doubling in the chance of having high flexibility, .1227 probability at 0 foreign sales, and a .26 probability at 90 percent foreign sales. Where works councils are present, furthermore, this effect of globalization is similar: a predicted probability of .45 that establishments will have high flexibilization (3 or 4 on the composite index) when foreign sales are zero; but a .71 probability when foreign sales are 90 percent.

Columns (4) and (5) show the results of taking all the globalization measures together, yielding a significant decrease in the sample size but allowing some judgment of how the globalization effects compare to one another. Column (4) shows the general effect, controlling for but not interacting with works councils. And here we see that both foreign sales and FDI are significantly positively correlated with increases in flexibilization; trade is not significant. The substantive effects are similar to those just reported for the conditional effects in column (1) when works councils are present. In any event, the conditional effects show that works councils have a more modest and less negative mediating effect on how globalization affects flexibilization than we saw in the standard hours estimations. The interaction is modestly significant *and positive* in only one case, for FDI.

Columns (6) through (8) show that these results hold up when one considers a panel context for the years 1996 through 2002 on a 2-point measure of flexibilization (for the incidence of fixed-term contracts and working-time accounts). For foreign sales, the results are substantively similar to those in column (1) and (5) – a significant spurring of flexibilization regardless of works-council incidence. For FDI and trade, however, the interaction is stronger and in a positive direction – such that one can surmise from the estimates that globalization has little or perhaps a negative effect on flexibilization where enterprises have no works councils representation, but significantly more such flexibilization where works councils are present.

As with the results for standard working hours, these results stand up to a range of robustness and sensitivity checks. Most importantly the results are broadly similar to the disaggregated estimates of each component of flexibilization – with one exception, that works-council incidence tends to modestly diminish how globalization increases overtime incidence. Also, step-wise exclusion and inclusion of various controls do not change the main results. And alternative estimators (e.g. ordered logit) and calculations of standard errors also leave the main results intact.

5. CONCLUSION

These results show that economic globalization has significant and quite varying implications for enterprise-level working hours for full-time workers and for job flexibilization, and that those implications appear also to be mediated in different ways by the presence of enterprise-level worker representation. Consistent with a “globaphilic” take on globalization and working time, the general (unmediated) results for standard hours suggest that globalization may sooner lighten than increase the work-time load for full-time core workers. But consistent with the “globaphobic” take, the results for the composite of job flexibilization (incidence of overtime, temporary work, fixed-contract work, and working-time accounts) all suggest that economic globalization tends to increase flexibilization. Such apparently contradictory patterns are actually consistent with our expectations, given how employers can be expected to be more committed to flexibilization than to raising hours for core workers, and given how core employees can be expected to defend their hours and often prefer some kinds of flexibilization.

Equally important, however, are the varying results for how works-council representation mediates these above effects of globalization. With respect to standard hours, we expected and find evidence that the creation of a works council creates political bargaining leverage at the level of the firm to strengthen core-employee interests in protecting or lowering standard hours for full time employees – such that globalization in such settings actually tends to modestly reduce hours for such core workers. Without such works councils, conversely, we expect and empirically show that globalization spurs total working hours of full-time workers – plausibly an artifact of weaker representation of such workers in the face of globalization and competitiveness-sensitive employers. With respect to job flexibilization, however, we expect and find evidence that works council incidence is generally less important in mediating the flexibilizing effects of globalization. And to the extent that works councils do play a mediating role, it is in a positive direction – that is, increasing the tendency of globalization to spur flexibilization. This pattern, again somewhat counterintuitive, makes sense in light of worker preferences works councils putatively represent, and in light of the bargaining dynamics between works-councils and employers in setting elements of flexibility, where works councils (and unions) have been seen to exchange flexibilization to secure a lowering of hours and job protections for core workers.

We have, thus, results that clarify in some counter-intuitive ways the relationship between economic globalization and working-time patterns in industrialized countries – contributing to our understanding of how globalization affects industrialized political economies, and of where differences in working time come from. To be sure, all of these results are substantively modest,

and they are based on evidence from one country. But the data is a very broad and representative sample of thousands of enterprises over almost ten years, capturing the full gamut of a nation's variation in globalization and work-place working-time experiences. The results of analysis of these data, moreover, are robust to a range of estimation techniques and specifications.

Further research should extend the theoretical and empirical findings of this study in at least two basic ways. First, there needs to be more research into the range of experiences in other countries, where worker and employee representation are different than the relatively organized German setting. The external validity of the existing study is helped by the data capture a lot of variation not only in industry, skill and exposure to globalization, but includes a majority of enterprises without work-place representation. But other national settings differ in enough cultural and national-level and political terms to make studies in other national settings meaningful – especially if data can be found with the coverage and detail of the IAB panel. Second, there needs to be more thought and research into how working time arrangements set at various levels of governance interact. Work-place rules and practices are crucial, but are also embedded in sectoral and regional legal arrangements, as well as national and (in the case of the European Union) supranational regulations on working-time. The question, here, is whether the same uneven effects of globalization, mediated by worker representation, show up on other levels of work-time regulation, and how and whether these other levels affect and are affected by the work-place level examined in this study.

The existing findings, in the meantime, are a reminder of the complexity of globalization's effects for political-economic life – extending in uneven ways not only to the terms of employment and wage experiences of workers, but also their working time. And the findings are, more importantly, a reminder that the responses of workers and employers to various faces of economic globalization leave open substantial room for agency, resting on the work-place political representation of workers. Such representation constitutes a choice in most political economies, certainly in the German setting surveyed here – as well as in most other industrialized settings, albeit in less institutionalized forms. And the theory and evidence above show that this choice can matter very much to working time, and to how globalization plays out with respect to such time.

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APPENDIX I.- SUMMARY STATISTICS, CROSS-SECTION, YEAR 2002

Variable	Obs.	Mean	Std. Dev.	Min	Max
Standard hours	15432	388.8744	20.96	210	560
Job Flexibilization	15611	1.619115	1.184819	0	4
Foreign Sales	12135	6.843098	17.57611	0	100
FDI	12869	.1613034	.1673083	.007	1.047
Trade	9241	.3844321	.5400595	.001	5.879
Works Council	15634	.3859537	.4868353	0	1
Size	15683	186.7022	832.54	1	50524
Location East-Germ.	15683	.3471912	.4760924	0	1
Unskilled prop.	15682	.2073075	.2656795	0	1
Production workers prop.	15682	.4352164	.3495306	0	1
Unemployment	15683	-.2404387	.458566	-1	0.6
Stand-alone firm	15245	.6993768	.4585441	0	1
Age	15444	.3652551	.4815172	0	1
Public Ownership	14925	.1091457	.3118324	0	1

Reference: IAB Establishment Panel, wave 2002, remote data access via FDZ

APPENDIX II.- SUMMARY STATISTICS, PANEL, YEARS 1996,1999 AND 2002

Variable	Obs.	Mean	Std. Dev.	Min	Max
Standard hours	8816	389.2	20.16	220	560
Job Flexibilization	8942	.9081861	.8042792	0	2
Foreign Sales	6112	7.143979	18.20666	0	100
FDI	7520	.1177742	.1387313	.002	1.047
Trade	5642	.2887577	.4727083	.001	5.879
Works Council	8926	.5025767	.5000214	0	1
Size	8979	352.1839	1242.472	1	48711
Location East-Germ.	8979	.4714333	.4992111	0	1
Unskilled prop.	8965	.2066973	.2606335	0	1
Production workers prop.	8966	.4463018	.3478537	0	1.007874
Unemployment	8979	-.3015815	.5623438	-1.5	0.9

Reference: IAB Establishment Panel, waves 1996-1999-2002, remote data access via FDZ

Working Papers

- 07-58 “Determinants of subjective job insecurity in 5 European countries”
August 2007
Rafael Muñoz de Bustillo and Pablo de Pedraza
- 07-57 “Does it matter who takes responsibility?”
May 2007
Paul de Beer and Trudie Schils
- 07-56 “Employment protection in dutch collective labour agreements”
April 2007
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- 07-54 “Temporary agency work in the Netherlands”
February 2007
Kea Tijdens, Maarten van Klaveren, Hester Houwing, Marc van der Meer & Marieke van Essen
- 07-53 “Distribution of responsibility for social security and labour market policy – Country report: Belgium”
January 2007
Johan de Deken
- 07-52 “Distribution of responsibility for social security and labour market policy – Country report: Germany”
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Bernard Ebbinghaus & Werner Eichhorst
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