Has Globalisation Really had no Effect on Unions?

Axel Dreher and Noel Gaston*

I. INTRODUCTION

One of the striking economic facts of the 1980’s and early 1990’s in many developed economies was the deterioration in the relative labour market outcomes for unskilled workers. Symptomatic of the deterioration was the increasing skilled wage premium. With the focus of academic and social concern turning to the welfare of the unskilled, institutional changes in developed country labour markets, such as deunionisation, the decentralisation of collective bargaining and labour market deregulation, have understandably attracted considerable attention. Since the early 1980’s, union membership has been declining in many OECD countries; in some cases the declines have been precipitous. The last two decades of the last millennium were relatively poor ones for unskilled workers and the link to deunionisation seems obvious. For instance, Blau and Kahn (1996) find that a lot of the difference in wage inequality between the United States and nine other OECD countries can be explained by what they term ‘union-pay levelling effects’, i.e., unions compress wage distributions.\(^1\)

Changes in the relative demand for labour, reflected by the changing composition of product demand (brought about, e.g., by falling trade barriers) and changes in the factor-mix driven by skill-biassed technical change have been the most popular explanations for the deteriorating labour market outcomes for unskilled workers. In particular, increasing integration is likely to lead to both greater product market and labour market competition.

---

* Dreher: KOF Swiss Economics Institute. ETH Zurich, Weinbergstrasse 35, CH-8092 Zurich, Switzerland. Gaston: School of Business, Bond University, Gold Coast, Queensland 4229, Australia. Correspondence: ngaston@bond.edu.au. The authors are grateful to Michael Lamla, David Peetz, Sarah Rupprecht and Jan-Egbert Sturm for their comments. All errors, of omission and otherwise, are attributable to the authors alone.

1. Generally speaking, there is far more wage compression, measured by 50–10 log wage differentials for instance, in countries with centralised wage bargaining structures, strong union movements and higher minimum wages (Davis 1992). Interestingly, compared to the United States the 90–10 log wage differential is much smaller in other countries, but the 90–50 differential is quite similar (Blau and Kahn 1996).
International trade, the multinationalisation of production and international migration have been subject of an enormous economics literature attempting to link globalisation and the poor labour market outcomes for unskilled workers. Some of this research also finds that union workers have been the most vulnerable to global forces (e.g., Gaston and Trefler 1995). Four channels through which this vulnerability is exposed are as follows. First, international competition reduces the economic rents for employers and workers to negotiate over. Secondly, the increasing mobility of capital shifts the threat points in the bargaining game over the dwindling economic rents. Thirdly, globalisation may encourage governments or unions to adopt policies that weaken union bargaining strength (Gaston 2002, Scruggs and Lange 2002). Finally, unionisation may be adversely affected by social integration, i.e., the variety of non-economic and non-political factors which seemed to have simultaneously affected many economies. For example, Friedman (1999) equates globalisation with ‘Americanisation’. Consequently, if globalisation implies institutional convergence to some common (U.S.) benchmark, then developed country labour markets are in the process of becoming less unionised and less regulated. The common element linking each of these factors is that they are all consistent with falling union membership.

In this paper we empirically examine whether union membership in OECD countries has been affected by globalisation. In addition to the covariates that are common in the literature, a novelty of our approach is the use of indices of globalisation that capture what some commentators argue to be the three distinct dimensions of globalisation – economic integration, political integration and social integration. The indices are developed in Dreher (2006a, 2006b) and are based on a large number of variables which relate to the different dimensions of globalisation. The variables have been combined to form six groups: actual flows of trade and investment, restrictions, variables measuring the degree of political integration, data quantifying the extent of personal contact with people living in foreign countries, data measuring trans-border flows of information and a proxy for cultural integration. These dimensions are combined to form three sub-indices and one overall index of globalisation with an objective statistical method – the same method as that applied by Gwartney and Lawson (2000) in the construction of their well-known economic freedom index.

Focussing on the separate dimensions of globalisation seems appropriate because a common finding in recent studies investigating the determinants of deunionisation is that economic globalisation does not seem to have mattered.

2. Appendix A describes the method in more detail. More recently, the economic freedom index is constructed by simply averaging the data. Gwartney and Lawson (2003) provide a recent discussion of the concept and measurement of the economic freedom index. See also de Haan and Sturm (2005) who find that the relationship between economic growth and economic freedom is invariant to the aggregation procedure applied.
While this finding may strike many economists as somewhat surprising, we argue that a narrow focus on the effects of trade and investment liberalisation on unions may involve adopting an insufficiently broad perspective on the effects of globalisation on unions.

The next section of the paper briefly describes the research linking deunionisation with globalisation, as well as some related empirical research. Section III contains our own estimates of the impact of the three dimensions of globalisation on unionisation in OECD countries. Section IV concludes.

II. DEUNIONISATION, GLOBALISATION AND THE LABOUR MARKET

According to Wallerstein and Western (2000), two crucial longitudinal features of union organisation and the centralisation of wage setting are as follows. First, labour market regulation, unionisation and bargaining centralisation in industrialised countries steadily diverged over the three decades from 1950. Second, there was a convergent pattern of decline in union density and centralised wage setting during the 1980s. Falling unionisation was especially severe in the English-speaking countries, where union density fell by 15 points in the United Kingdom, by 12 points in Australia and by 10 points in Ireland and the United States (Wallerstein and Western 2000, pp. 357–358). They also highlight the fact that most ‘standard’ models of union organisation failed to predict the large declines of unionisation that occurred during the 1980’s.

There is now a sizable body of research examining the relationship between the institutional structure of the unionised sector of an economy (i.e., the extent and centralisation of organisation) and various measures of macroeconomic performance. Countries with encompassing labour market institutions (i.e., large unionised sectors with centralised bargaining) are characterised by: lower wage inequality (Rowthorn 1992, Zweimüller and Barth 1994, OECD 1997); lower unemployment (OECD 1997); and higher growth (Calmfors and Driffill 1988, Rowthorn 1992, Calmfors 1993, Danthine and Hunt 1994). The usual explanation involves the ability of centralised bargaining institutions to internalise negative wage externalities (Calmfors 1993, Garrett 1998). That is, where strong sectoral unions pursue wage gains relative to some perceived market wage, resulting in cost-push inflation, reduced employment, lower growth and inter-sectoral inequality, the centralised union recognises these negative externalities and takes them into account in its bargaining. Thus, as unionisation has declined, there is some evidence that wage inequality has increased (Freeman 1998).

While the search for common factors in the trend of increasing earnings inequality in the last two decades has primarily focussed on the relative demand
for less-skilled workers, explanations for cross-national differences in labour market outcomes have increasingly resorted to comparative institutional analysis. In an important paper, DiNardo and Lemieux (1997) conclude that the greater deunionisation of the workforce in the United States relative to Canada can explain much of the difference in male earnings inequality between the two countries. Likewise, Fortin and Lemieux (1997) find that deunionisation can explain about a third of the increased earnings inequality for U.S. male workers. These studies contrast with earlier studies that tended to dismiss the role of deunionisation, because in a similar fashion to deindustrialisation, the related process of deunionisation has been an ongoing one.

One of the essential claims in much of the popular writing on globalisation, and surely a major source of the pervasive social concern about globalisation, is its transformative nature. That is, globalisation is taken to transform institutional structures in ways that might be obscured when we apply the standard toolkit of economic theory. For example, increased globalisation may initiate changes to labour market institutions, such as collective bargaining practices, that have historically served to bolster the position of less-skilled workers in the labour market. Bluestone and Harrison (1982, p. 170) argue that ‘... large corporations ... can build, expand, or acquire facilities outside the [United States] altogether. In fact, all the strategic innovations devised by multiplant companies for playing off one group of workers against another ... have become standard operating procedure in the global economy.’

Lindbeck and Snower (1996) show that in the age of the new global firm, which stresses multi-tasking activities by employees, centralised wage bargaining is inefficient. Efficiency dictates the switch to less-centralised forms of wage bargaining and a greater reliance on individual employment contracts. Greater reliance on market-based contracts and movements away from centralised wage bargaining and union-employer negotiations would by themselves increase the dispersion of labour market earnings. Some recent evidence consistent with this line of argument is provided by Haskel et al. (1997) who show that increasing labour market flexibility in the United Kingdom has resulted in labour input being more closely aligned to the business cycle.

Some authors have explicitly linked increased international competition and trade as a reason for a move towards more decentralised wage bargaining. For example, Marginson and Sisson (1988) note that British multinational corporations have been less likely to engage in multi-employer bargaining (see also Katz 1993 and Ehrenberg 1994). Katz (1993, p. 16) argues that the ‘... increasing prevalence of multinational trade and multinational firms may ... help to explain the declines in multi-employer bargaining that have occurred in a

---

3. Edwards and Podgursky (1986, p. 46) argue that ‘...unions now find themselves negotiating with increasingly centralised corporations at an increasingly decentralised level’. 

© 2007 The Authors. Journal compilation © 2007 Blackwell Publishing Ltd.
HAS GLOBALISATION REALLY HAD NO EFFECT ON UNIONS?

number of countries. Driffield and Taylor (2000) note, for instance, the insistence by Japanese corporations operating in the United Kingdom on single union deals. Standing (1997) argues that international trends towards increased labour market flexibility and deunionisation have been propelled by globalisation. In fact, the ‘erosion’ of labour security has been ‘fuelled by the international division of labour’ (p. 12).

Since countries with similar standards of living and economic development generally have access to labour and capital of similar quality, it is quite likely that the magnitude and nature of any technical change will also be similar. In fact, Katz et al. (1995) have argued that this must also be true for any changes on the demand-side, since European Union countries were also affected by import penetration from countries abundant in unskilled labour. Given the similarity in aggregate endowment, technology and shocks, it seems quite natural to investigate the different institutional forces operating in each country to understand cross-country differences in the trends and structure of earnings dispersion. In the United Kingdom and the United States, deunionisation has been a significant labour market development in economies in which bargaining structures are already relatively decentralised (see Layard et al. 1994, Katz 1993). Some authors have argued that these changes are explicitly linked to growing international competition (e.g., Freeman and Gibbons 1995).

In short, globalisation is widely thought to have affected unions and the way in which workers’ wages and employment are negotiated. On the one hand, globalisation is taken to imply increased competition that, even without any change in relative bargaining power, will squeeze sectoral rents and lead to reduced wages in post-globalisation bargains (see Abowd and Lemieux 1993). In a closely related fashion, by raising the elasticity of demand for labour, imports can be seen to directly reduce the market power of unions (see, e.g., Dumont et al. 2006). An alternative argument involves an expectation that firms and capital are globally more mobile than labour (e.g., Mezzetti and Dinopoulos 1991). The existence of an exit option or threat, even if not actually exercised, may also change the relative bargaining power of the firm and the union (see Gaston 2002). Each of these forces would likely lower the benefits of union membership for workers.

4. Katz lists Sweden, Australia, the former West Germany, Italy, the United Kingdom and the United States as having bargaining structures that have to varying degrees experienced decentralisation of their collective bargaining structures. At the beginning of the 1980’s, Sweden and Australia had ‘extremely centralised’ collective bargaining.

5. A contrary view is taken by Agell (1999, 2002) who presents cross-country evidence suggesting that more open economies have stronger unions and more centralised wage setting. He argues that bargaining institutions which compress the wage distribution are better at satisfying workers’ demand for social insurance against wage risk, which is the stronger the more open an economy is.
In view of the rather strong theoretical presumption that globalisation has adversely affected unions, it is then somewhat surprising that recent empirical studies find so little evidence that globalisation has contributed to the decline of union membership. At the outset it should be noted that some authors argue that there is no crisis in contemporary trade unionism (see Golden and Wallerstein 1995, 1999, and Wallerstein et al. 1997). For instance, despite falling union membership in a number of countries, the majority of workers in Western Europe are still covered by collective bargaining agreements (Wallerstein and Western 2000). Moreover, there are few common trends in contemporary trade unionism and no sustained decline of organised labour or the decentralisation of collective bargaining underway across all countries. More pointedly, Golden and Londregan (1998) and Golden (2000) find little or no evidence that increasing trade and financial openness is bad for labour or that it has had significant adverse effects on union organisation and membership. Scruggs and Lange (2002) also find insignificant effects of economic globalisation on union membership trends. In addition, Wallerstein and Golden (1997) argue that while there is no general decentralisation of wage setting underway in the four Nordic countries, that Swedish decentralisation is largely the result of a deliberate, politically-motivated attack on the political power of organised labour.

III. HAS GLOBALISATION AFFECTED UNIONISATION?

In this section we focus on whether the decline of union density can be explained by global factors. A first major task of any empirical study of the effects of globalisation is to have a workable, but not overly narrow, definition of globalisation. Many studies in the pertinent economics and political economy literatures often provide very detailed analyses of individual components of globalisation, but few studies examine the overall consequences of globalisation on economic outcomes and institutions. The effects reported for one dimension of globalisation might therefore appear only because other important aspects of globalisation are omitted from a regression analysis. Most dimensions of globalisation are strongly related to one other, so that including them separately in a regression analysis induces collinearity problems. Excluding dimensions which are not the primary focus of the analysis – the prevailing approach in the literature – can, however, severely bias the coefficient estimates.

Throughout our paper globalisation is taken to mean the process of creating networks of connections among actors at multi-continental distances, mediated through a variety of flows including people, information and ideas, capital and goods (Clark 2000). It is a process that erodes national boundaries, integrates national economies, cultures, technologies and governance and...
produces complex relations of mutual interdependence (Norris 2000). In the political economy literature, it is now common to distinguish the following dimensions of globalisation (see Keohane and Nye 2000, e.g.):

- **economic globalisation**, characterised as the long distance flow of capital, goods and services as well as information and perceptions that accompany market exchanges;
- **political globalisation**, characterised by the diffusion of government policies; and
- **social globalisation**, as expressed by the spread of ideas, information, images and people.

To measure the degree of economic globalisation, two indices constructed in Dreher (2006a, 2006b) are employed. One index measures actual flows: trade, foreign direct investment and portfolio investment. Income payments to foreign nationals and capital employed are included to proxy the extent to which a country employs foreign people and capital in its production processes. The second index measures restrictions on trade and capital using hidden import barriers, mean tariff rates, taxes on international trade and an index of capital controls. Given a certain level of trade, a country with higher revenues from trade taxes is considered to be less globalised. To proxy restrictions of the capital account most previous studies employed rather crude measures. Rodrik (1998) used the proportion of years for which the capital account was free of restrictions. Alesina et al. (1994) coded a dichotomous dummy variable. Since the degree of openness is likely to vary across countries and time, the more continuous index constructed by Gwartney and Lawson (2002) is used. It is based on the IMF’s *Annual Report on Exchange Arrangements and Exchange Restrictions* and includes 13 different types of capital controls. The data on actual flows and on restrictions are aggregated into two sub-indices and one overall index (Dreher 2006b). All variables, their precise definitions and data sources are listed in *Appendix B*.

To proxy the degree of political globalisation, the number of embassies in a country, the number of international organisations in which the country is a member and the number of United Nations peace missions a country participated in are used.

Without doubt, the aspect of globalisation that is hardest to pin down relates to the flow of information and ideas. According to Keohane and Nye (2000) these constitute the most pervasive form of globalisation. Thus, they are an essential component of any measure of globalisation. These flows are measured as three distinct categories: data on personal contacts, data on information flows and data on cultural proximity. To proxy flows of information and personal contacts, measures on international tourism, internet users, number
of radios and other variables are used. Following Saich (2000), cultural
globalisation is interpreted as the domination of U.S. cultural products.
Arguably, the United States is the trend-setter in much of the global social-
cultural realm (see Rosendorf 2000, e.g.). Cultural proximity could be proxied
by the number of English songs in national hit lists, English books or
newspapers sold in a particular country or movies shown in national cinemas
that originated in Hollywood (Dreher 2006a). However, the only proxy
available is the number of McDonald’s restaurants located in a country. 
Appendix Table 1 reports the individual components of globalisation. As can be
seen, economic, political and social integration obtain roughly equal weights6.

We estimate combined cross-section time-series regressions to analyse
whether the various elements of globalisation have affected unionisation. We
use panel data for 17 OECD countries and 20 years, 1980 to 19997. As the index
of globalisation is only available in five-year-intervals, all data are averages
over five years8. One advantage of employing averaged data is that it allows us
to focus on medium-term changes and our results are thus not driven by cyclical
fluctuations in union membership. The obvious disadvantage is that we have to
base our conclusions on only 58 observations. We found significant fixed
country effects in all specifications9. All standard errors are estimated robustly
(i.e., the standard errors are heteroscedasticity-consistent). All variables, their
precise definitions and data sources, are listed in Appendix B. Appendix C
presents descriptive statistics.

Our model takes the following form:

\[ DU_{i,t} = \alpha + \beta G_{i,t} + \gamma X_{i,t} + \eta_i + \varepsilon_{i,t} \tag{1} \]

where \( i \) indexes countries and \( t \) time, \( DU \) is the change in union density, \( G \)
represents the measure of globalisation, \( X \) is a vector of exogenous variables, \( \eta_i \)
is a country fixed effect and \( \varepsilon_{i,t} \) is a normally distributed random disturbance10.

6. The principal components analysis employed to construct the index attributes smaller weights
to each individual component, the more components of one category there are. Comparing the results
for McDonald’s restaurants and foreign direct investment, for example, does not imply that
restaurants are more important than foreign direct investment. If the analysis were to include a
greater number of cultural indicators, the individual weights would be lower.
7. The choice of countries is driven by data availability. We use data for Australia, Austria, Belgium,
Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Netherlands, Norway,
Sweden, Switzerland, the United Kingdom and the United States.
8. One reason for not constructing the index on a yearly basis is that some of the data included are
unavailable (see Dreher 2006b).
9. However, the coefficients of the country effects are not reported in the tables. We also perform a Wald
test for the presence of first order serial correlation (see Wooldridge 2002). The null hypothesis of no
serial correlation in the residuals is unable to be rejected at conventional levels of significance.
10. We omit period fixed effects which turned out to be jointly insignificant.
Apart from the index of globalisation, the explanatory variables capture the effects of left-leaning parties in government, population density, the percentage of the workforce in industrial employment, inflation and the unemployment rate. All variables are measured as averages over the respective five-year period. Wallerstein and Western (2000) argue that a strong economy should bolster union membership. Accordingly, higher inflation and low unemployment should be associated with higher union density. The percentage of workers in industry is intended to capture the underlying process of deindustrialisation. Left-wing governments are commonly thought to favour union rights and a legislative environment more supportive of unions. Population density is included to capture the costs of union organisation.

The results appear in Table 1. Column (1) includes the overall index of globalisation. First, unsurprisingly, the level of unionisation rises with population density, with a coefficient significant at the one percent level. The coefficient implies that a doubling of population relative to land area (in square kilometres) increases unionisation by almost 1.5 percentage points. For example, an increase in Sweden’s population density in 2000 (22) to that of Turkey’s in the same year (82) would increase Sweden’s union density by 4.3 percentage points. At the one percent level, the rate of inflation and unionisation are negatively correlated. Bearing in mind our use of five-yearly data, this is not necessarily contradictory to the business cycle-based explanation of union membership growth (Wallerstein and Western 2000). Quantitatively, a one standard deviation increase in the inflation rate would reduce unionisation by about 0.75 percentage points. In reality, in today’s environment of inflation targeting, higher inflation probably denote weakness rather than strength in the underlying economy. Moreover, when we replace the inflation and unemployment rate with the growth in GDP in the model specification, the effects of the business cycle on union density are statistically insignificant. Note that the trend term is also significant at the one percent level. Its coefficient implies a reduction in union density of more than half of a percentage point every five years. Despite the disparate experience of different countries, deunionisation is a general trend and pervasive phenomenon in the sample of OECD countries we investigate.

11. We use a dummy that equals one for left-wing governments according to the definition of Beck et al. (2001). To check our results, we also measure the political persuasion of governments as = 1 if there is right-wing domination in both government and parliament; = 2 if right-wing or centre parties make up between 33.3% and 66.6% of government; = 3 if centre parties make up 50% or more of government; = 4 if left-wing or centre parties make up between 33.3% and 66.6% of government; and = 5 if left-wing parties dominate the government. These data are from Woldendorp et al. (1998). As we lose one observation by employing the latter definition we employ the former. The results are unchanged.
Column (2) employs the disaggregated globalisation indices and columns (3) to (5) include each sub-index separately. The results for the covariates are fairly similar across the various specifications, both qualitatively and quantitatively. In no specification does the unemployment rate significantly affect unionisation. The same is true for the ratio of industrial employment to the total labour force. The dummy for left wing governments enters significantly in two specifications, with a coefficient significant at the ten percent level. According to these specifications, union density is about 0.6 percentage points lower in countries with left-wing governments.

Most importantly for our analysis, the results of Table 1 show that globalisation indeed affects unionisation. While the overall index of globalisation is marginally insignificant, the disaggregated analysis shows that unionisation significantly decreases with rising social globalisation. This is in line with the hypothesis that unionisation has been adversely affected by globalisation. The magnitude of the coefficient is quantitatively relevant as well.
An increase in the index of social globalisation by one point reduces unionisation by about 0.3 percentage points. Given that the average five-period-change for union density across our sample is −0.28 and that the average social globalisation index is 2.6, this represents a substantial impact. (Incidentally, the estimated impact mirrors the change in the union density of Switzerland’s labour force from 1981–1985 to 1986–1990.) The standardised regression (beta) coefficient is −0.41. For example, an increase in social integration for Canada in 1980 (2.6) to that of Denmark in the same year (3.3), implies a reduction in union density by 0.05 percentage points, all else equal.

In summary, social globalisation is an important determinant of deunionisation; the estimated coefficients for economic and political integration are insignificant – when included individually and when employed at the same time. Given the low degrees of freedom, it is not surprising that the two insignificant variables dominate when it comes to the impact of the overall index. In fact, the overall index of globalisation becomes significant at the five percent level when the insignificant variables are dropped from the regressions (not reported here).

Recall that the social globalisation index is intended to measure the spread of ideas, information, images and people. Boockmann and Dreher (2003) argue that the means of information and communication are important since they relay information about economic performance in other countries. Exposure to such information may promote the acceptance of new concepts, policies and institutions (Brown et al. 2000). Successful technologies and institutions are adopted which promote competitiveness and better economic performance. Mayer-Schöenberger and Hurley (2000) argue that global communication networks promote international trade and economic integration because they lower cross-border transaction costs. In part, this speaks to the difficulty in completely distinguishing between economic and social integration. Marketing information can be accessed by customers worldwide, which implies a decline in the importance of geographic proximity. Given an increasing amount of information about economic policies in other countries, cultural proximity could reduce resistance against those ideas.

Deunionisation is associated with social integration. As noted, for some commentators social integration is synonymous with ‘Americanisation’ (e.g., Friedman 1999, Rosendorf 2000). Hence, social integration may imply that the labour market institutions of non-U.S. developed countries are converging to their non-unionised, deregulated U.S. counterpart. This is particularly the case

12. In a similar fashion, it has been argued that globalisation increases the general credibility of orthodox (i.e., market-oriented) policy advice and solutions, thus reducing the plausibility of arguments supporting welfare state expansion and enhancing the credibility of arguments in favour of welfare state retrenchment (Evans 1997, Krugman 1999).
for the management and labour relations practices in the other Anglo-Saxon countries (see Peetz 1998).

Other, possibly more tangible, factors associated with the effects of social integration on labour market institutions are mentioned by Ebbinghaus (2002, 2003). First, longer-term socio-economic changes, associated with deindustrialisation and the growth of the atypical and part-time work forces, as well as the growing normative orientation towards individualism rather than collectivism make collective organisation more difficult (Ebbinghaus 2002). Secondly, the recent wave of immigration, particularly from non-EU countries to Western Europe, changes the composition of the supply of potential union members. Many of these immigrants came from countries where workers do not have the same propensity to unionise and/or migrated to countries where racism and xenophobia among native union workers make unionisation unattractive (Ebbinghaus 2003). Further, given that many immigrants are, on average, younger than native workers in host countries, and to the extent that the young tend to view unions as old-fashioned and anachronistic institutions, also mitigates against the growth of union membership (Ebbinghaus 2002).

Table 2 omits the fixed country effects as they are collinear with the dummy variables, Ghent and Anglo. The panel is now estimated with random effects. The Ghent dummy equals one for the four high union density countries in which unions play an active role in the administration of (publicly-financed) unemployment benefits. A standard argument is that the Ghent system enables unions to shelter their members from the effects of labour market competition (see, e.g., Wallerstein and Western 2000). The Anglo dummy equals one for Anglo-Saxon countries. In contemporary times at least, Anglo-Saxon countries generally have more flexible labour markets and wage systems and have experienced greater growth in wage inequality (e.g., Cahuc and Zylberberg 2004). The dummy variable is also included in order to capture any of the ‘Americanisation’ influences discussed above (as in Peetz 1998, e.g.), which are likely to be stronger for English-speaking countries.

As can be seen, the key result holds. Specifically, the coefficient for the social globalisation index is again negative (and now significant at the one percent level), with a similar coefficient as compared to the fixed effects estimates of Table 1. The coefficient for the overall globalisation index is now also significant (at the five percent level). An increase in the globalisation index by 1 point implies a reduction in unionisation by almost half of a percentage point.

13. However, note that the Hausman test rejects random effects in favour of fixed effects at conventional levels of significance for most specifications.
HAS GLOBALISATION REALLY HAD NO EFFECT ON UNIONS?

Table 2
Deunionisation and Globalisation, 17 Countries, Random Effects

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index of Globalisation</td>
<td>−0.449</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic Integration</td>
<td>0.079</td>
<td>−0.139</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political Integration</td>
<td>−0.026</td>
<td>−0.010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Integration</td>
<td>−0.374</td>
<td></td>
<td></td>
<td>−0.340</td>
<td>(2.95***)</td>
</tr>
<tr>
<td>Population density</td>
<td>−0.002</td>
<td>−0.002</td>
<td>−0.002</td>
<td>−0.002</td>
<td>−0.002</td>
</tr>
<tr>
<td>Left wing governments, dummy</td>
<td>−0.231</td>
<td>−0.240</td>
<td>−0.381</td>
<td>−0.382</td>
<td>−0.267</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>−0.006</td>
<td>−0.045</td>
<td>−0.002</td>
<td>−0.001</td>
<td>−0.045</td>
</tr>
<tr>
<td>Inflation</td>
<td>−0.072</td>
<td>−0.094</td>
<td>−0.058</td>
<td>−0.053</td>
<td>−0.094</td>
</tr>
<tr>
<td>Industrial employment to total labour</td>
<td>−0.059</td>
<td>−0.077</td>
<td>−0.052</td>
<td>−0.051</td>
<td>−0.077</td>
</tr>
<tr>
<td>Ghent, dummy</td>
<td>0.681</td>
<td>0.636</td>
<td>0.500</td>
<td>0.432</td>
<td>0.645</td>
</tr>
<tr>
<td>Anglo, dummy</td>
<td>0.819</td>
<td>0.811</td>
<td>0.842</td>
<td>0.927</td>
<td>0.764</td>
</tr>
<tr>
<td>Trend</td>
<td>−0.129</td>
<td>−0.203</td>
<td>−0.189</td>
<td>−0.196</td>
<td>−0.209</td>
</tr>
<tr>
<td>Constant</td>
<td>4.665</td>
<td>4.776</td>
<td>3.426</td>
<td>2.801</td>
<td>4.911</td>
</tr>
<tr>
<td>Number of observations</td>
<td>58</td>
<td>58</td>
<td>58</td>
<td>58</td>
<td>58</td>
</tr>
<tr>
<td>$R^2$ (overall)</td>
<td>0.46</td>
<td>0.48</td>
<td>0.43</td>
<td>0.42</td>
<td>0.48</td>
</tr>
</tbody>
</table>

Notes: Dependent variable is the change in unionisation. $t$-values in parentheses: *denotes significant at 10% level. **significant at 5% level. ***significant at 1% level. Ghent equals one for Belgium, Denmark, Finland, and Sweden, and zero otherwise. Anglo equals one for Australia, Canada, Ireland, United Kingdom and the United States, and zero otherwise.

The dummy for Ghent countries is significant at the five percent level in three specifications, with a positive coefficient. This suggests that the Ghent countries not only have higher levels of unionisation, but have also been the most successful in resisting the forces driving the process of deunionisation. The large and significant negative coefficient for Anglo-Saxon countries captures the very sharp declines in unionisation in those countries.\(^{14}\) Quantitatively, being a Ghent country increases unionisation from 0.64 to 0.68 percentage

\(^{14}\) Also note that the inflation effect present in Table 1 disappears. This is at least partly attributable to the fact that Anglo-Saxon countries had relatively lower inflation rates in contemporary times (the correlation between inflation and Anglo is −0.27).
points, while unionisation is between 0.76 to 0.93 percentage points lower in Anglo-Saxon countries. The fact that the size and significance of the coefficient for social integration did not become significantly smaller suggests that the effects of social integration on unions are not attributable to a simple Americanisation story.

Finally, we provide some tests for the robustness of our results (not reported in tables). First, to examine the sensitivity of our results to influential observations, we checked for the influence of outliers using robust regression. The estimates indicate that the results are not driven by outliers, i.e., the impact of the index of social integration remains significant. Figure 1 further illustrates the relationship between the change in unionisation and globalisation. The figure depicts partial leverage plots which show the correlation of the change in unionisation and the globalisation index once the impact of the other

15. The robust regression technique weights observations in an iterative process. Starting with OLS, estimates are obtained using weighted least squares where observations with relatively large residuals receive a smaller weight. Accordingly, the resulting estimates are not driven by any specific observation.
independent variables has been controlled for. The figure also indicates that the reported results above are not driven by any influential observations.

As an additional test for robustness, we exclude the number of McDonald’s restaurants from our social globalisation index. This is because it is the variable with the greatest individual weight and there may be cause for concern that the results are being driven by this dimension. Note that the results are completely unchanged by this adjustment.

Finally, we examine whether the particular weighting scheme used to derive the index of globalisation drives our results. An obvious shortcoming of the procedure used to derive the globalisation indices is that changes in the index over time could reflect the effects of missing data instead of real changes in globalisation. To address this shortcoming, Dreher (2006b) suggests an alternative weighting procedure. Specifically, in those years where there are no data for some categories, the latest available data are used to construct the indices. Changes in the index therefore only reflect changes in the underlying data. Again, the results are completely robust to this change.

IV. DISCUSSION AND CONCLUDING COMMENTS

One of the striking economic facts of the 1980s and early 1990s in many Western economies was the deterioration in the relative labour market outcomes for unskilled labour. Over the same period, it has been argued, these same countries experienced an increase in a number of components of something widely called ‘globalisation’. Globalisation has accelerated in recent decades, as evidenced by, among other things, the growth in the trade of goods and services and the growth in foreign direct investment. The driving forces seem to be the decline in administrative barriers to trade, sharp falls in the costs of transportation and communication, and the fragmentation of production processes.

From an academic perspective, the labour market developments have stimulated research on a broad range of policy-related issues: from trade, macroeconomic and labour market policy coordination through to the internationalisation of non-border measures. The essential empirical issue is macroeconomic: accounting for the economy-wide rise of the skill-premium at a time when the share of skilled to unskilled workers is rising. The interpretation of the empirical results, as well as the appropriate implementation of the framework, is not without controversy, but the aggregate professional prior

16. Figure 1 is based on the specification in Table 1, column 2.
17. The same holds true for an arbitrary increase of the weight for international tourism – which is the variable with the lowest weight in the social globalisation index – by a factor of ten.
would seem to have settled on the conclusion that international trade has a small effect on the skill-premium, but that other factors, such as skill-biassed technological change, are more important. The analysis of the effects of immigration on the skill premium has generally produced even smaller empirical estimates.

With a strong suspicion that globalisation still 'matters', some commentators have argued that it is useful to consider the possibility that the widespread concern with globalisation emerges as a result of changes that are, to some extent, obscured when we apply standard labour- or trade-theoretic methods to understand globalisation. In particular, the indirect effects of globalisation raise the possibility that institutions which have compressed wages in the past have been eroded or altered by the various elements of globalisation (see Gaston and Nelson 2004). A prominent example is the possibility that deunionisation is to some extent explained by globalisation. Given the traditional role that unions have played in supporting the wages of less- and semi-skilled workers, the erosion of union bargaining power would lead to a widening in the skilled wage premium that would superficially appear to be unrelated to the direct effects of globalisation.

Since the early 1980s, union membership in most OECD economies has fallen. The process of deunionisation roughly coincides with the rapid globalisation of the very same economies. It has been common practice to associate these developments. Somewhat surprisingly previous studies have failed to find a systematic link between measures of union strength and the usual measures of economic openness. We revisited the issue of whether the decline of union density can be explained by global factors. In addition to the covariates that are commonly used in the literature, our regression analysis employed an index of globalisation and its different components as independent variables. The globalisation index was developed in Dreher (2006a, 2006b) and is further decomposed into three sub-indices which represent the three different dimensions of globalisation – economic integration, political integration and social integration.

In a finding similar to that found in previous studies, we confirm that economic integration has not affected union membership. However, we found that social integration has been very important. This is our main contribution to what is already a large literature. That is, the social dimension of globalisation has adversely affected union membership. Social integration is concerned with the spread of ideas, information, images and people. Some authors have argued that social integration implies an Americanisation of institutions and policies. Regardless of whether this is considered to be a Race-to-the-Top or a Race-to-the-Bottom, the implication for many developed countries is that their labour markets are now less unionised with wage bargaining occurring at increasing decentralised levels.
APPENDIX A: CONSTRUCTION OF THE GLOBALISATION INDEX

To construct the indices of globalisation, each variable (in Appendix Table 1) is converted into an index with a zero to ten scale. Higher values denote greater globalisation. When higher values of the original variable indicate greater globalisation, the formula \(\frac{(V_i - V_{\text{min}})}{(V_{\text{max}} - V_{\text{min}})} \times 10\) is used for transformation. Conversely, when higher values indicate less globalisation, the formula is \(\frac{(V_{\text{max}} - \bar{V})}{(V_{\text{max}} - V_{\text{min}})} \times 10\). This procedure is employed by Gwartney and Lawson (2000) in the construction of their economic freedom index. The weights for the sub-indices are calculated using principal components analysis. The base year is 2000. For this year, the analysis partitions the variance of the variables used. The weights are then determined in a way that maximises the variation of the resulting principal component, so that the index
captures the variation as fully as possible. If possible, the weights determined for
the base year are then used to calculate the indices for each single year back to 1970. Where no data are available, the weights are readjusted to correct for this. Dreher (2006b) provides further details of the method employed.

APPENDIX B: SOURCES AND DEFINITIONS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Union density</td>
<td>Union density is measured by the total union membership (less self-employed) weighted by the total dependent workforce.</td>
<td>Ebbinghaus and Visser (2000) for European countries; Golden et al. (1998) for Australia, Canada, Japan and the United States</td>
</tr>
<tr>
<td>Index of globalisation</td>
<td>Index constructed with principal components analysis comprising 23 variables measuring globalisation.</td>
<td>Dreher (2006b)</td>
</tr>
<tr>
<td>Economic integration</td>
<td>Sub-index comprising measures of actual economic flows and restrictions. Ranges from 1 to 10, with higher values representing greater globalisation.</td>
<td>Dreher (2006b)</td>
</tr>
<tr>
<td>Political integration</td>
<td>Sub-index comprising data on political engagement. Ranges from 1 to 10, with higher values representing greater globalisation.</td>
<td>Dreher (2006b)</td>
</tr>
<tr>
<td>Social integration</td>
<td>Sub-index comprising data on personal contacts, information flows, and cultural proximity. Ranges from 1 to 10, with higher values representing greater globalisation.</td>
<td>Dreher (2006b)</td>
</tr>
<tr>
<td>Population density</td>
<td>Population density is mid-year population divided by land area in square kilometres. Population is based on the de facto definition of population which counts all residents regardless of legal status or citizenship - except for refugees not permanently settled in the country of asylum, which are generally considered part of the population of their country of origin.</td>
<td>World Bank (2003)</td>
</tr>
<tr>
<td>Left wing governments, dummy</td>
<td>Dummy that equals 1 if the chief executive is from a left-wing party and 0 otherwise.</td>
<td>Beck et al. (2001)</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>Unemployment rate in percent. Inflation as measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a fixed basket of goods and services.</td>
<td>OECD (2001)</td>
</tr>
<tr>
<td>Ghent</td>
<td>Dummy variable that equals 1 for Belgium, Denmark, Finland and Sweden; and equals 0 for the other countries in our data set.</td>
<td>OECD (2001)</td>
</tr>
<tr>
<td>Anglo</td>
<td>Dummy that equals 1 for Australia, Canada, Ireland, United Kingdom and United States; and equals 0 for the other countries in our data set.</td>
<td>OECD (2001)</td>
</tr>
</tbody>
</table>
APPENDIX C: DESCRIPTIVE STATISTICS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Union density (change)</td>
<td>−0.28</td>
<td>−1.72</td>
<td>1.58</td>
<td>0.76</td>
</tr>
<tr>
<td>Index of globalisation</td>
<td>4.53</td>
<td>3.29</td>
<td>6.00</td>
<td>0.61</td>
</tr>
<tr>
<td>Economic integration</td>
<td>5.10</td>
<td>3.53</td>
<td>6.98</td>
<td>0.78</td>
</tr>
<tr>
<td>Political integration</td>
<td>5.99</td>
<td>3.46</td>
<td>8.33</td>
<td>1.21</td>
</tr>
<tr>
<td>Social integration</td>
<td>2.92</td>
<td>0.90</td>
<td>5.24</td>
<td>0.97</td>
</tr>
<tr>
<td>Population density</td>
<td>140.79</td>
<td>1.87</td>
<td>463.67</td>
<td>129.79</td>
</tr>
<tr>
<td>Left wing governments, dummy</td>
<td>0.40</td>
<td>0.00</td>
<td>1.00</td>
<td>0.38</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>7.43</td>
<td>0.60</td>
<td>15.60</td>
<td>3.68</td>
</tr>
<tr>
<td>Inflation</td>
<td>4.27</td>
<td>0.35</td>
<td>13.77</td>
<td>2.96</td>
</tr>
<tr>
<td>Industrial percentage</td>
<td>27.68</td>
<td>19.64</td>
<td>38.28</td>
<td>4.63</td>
</tr>
<tr>
<td>Ghent</td>
<td>0.26</td>
<td>0.00</td>
<td>1.00</td>
<td>0.44</td>
</tr>
</tbody>
</table>

REFERENCES


HAS GLOBALISATION REALLY HAD NO EFFECT ON UNIONS?


AXEL DREHER/NOEL GASTON


SUMMARY

For a number of OECD countries, the deterioration of labour market outcomes for less-skilled workers since the early 1980s has coincided with a steady decline in union membership. Globalisation is commonly believed to have contributed to both developments. However, recent studies fail to find support for the presumption that globalisation adversely affects unions. Revisiting this issue by using a novel globalisation index we find that globalisation has indeed contributed to deunionisation. In delving further into the issue, we find that it is social integration, rather than economic or political integration, that has been the main contributor to the decline in union membership.