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The Economics of Trade Unions: Recent Meta-Analysis on the Economic Impact of Trade Unions

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A recent publication by Richard Freeman, Hristos Doucouligos and Patrice Laroche¹ summarizes the available economic evidence on the effects of trade unions by using a meta-analysis. The latter allows presenting a median of all the estimated effects of trade unions (minimum wages) across the wide range of studies. The method also allows observing how these estimates are driven by factors such as the different research methods used, the different periods or countries that are covered by the studies or by differences in institutional settings such as (de)regulated labour market regimes. This TUAC paper describes the key conclusions from this meta-analysis and concludes with some comments.

The Economics of Trade Unions

In *what do unions do?* which was published in 1984, Freeman and Medoff summarized the available evidence on the effects of trade unions for the United States. Their seminal work allowed, amongst others, to address the usual ‘insiders-outsiders’ argument claiming that trade unions were *increasing* inequalities by setting wages of trade union members higher than those for non-members. Freeman and Medoff replied to that criticism by showing that trade unions, by limiting managerial discretion in wage setting, were at the same time reducing wage inequalities *within* the unionised sector, thus more than offsetting this ‘insider-outsider’ effect.

Basing themselves on a wave of 301 new studies reporting 2.257 estimates of union effects, this new work by Freeman, Doucouliagos and Laroche (FDL) represents an update of *What do unions do?*. While the authors state that “unions are one of the few social institutions with the potential to limit further growth of inequality and to reduce it to more socially desired levels”, the focus of their current work is however not on inequalities but instead on the impact trade unions may have on productivity levels, productivity growth and the financial performance of firms. The studies used also go beyond the US, covering the UK, some other advanced economies and some developing countries.

Impact on productivity

FDL start from the same theoretical approach as the 1984 publication. Trade unions have two faces: A monopoly face that aims at capturing economic rents by driving wages higher than the competitive market equilibrium. And a collective voice face whereby individual workers are provided with a way to “voice” their concerns collectively, thus opening up channels of communication with management which then can result in improved workplace management, reduced worker dissatisfaction and job quit rates but also in ‘integrative’ rather than ‘distributive’ bargaining. Hence, according to FDL, what matters is the *net* balance between, on the one hand, a negative productivity effect from possible monopolistic wage setting (acting as a “tax on return of investment”) and, on the other hand, a positive productivity effect coming from improved workplace organisation and reduced worker turnover.

¹ <https://www.routledge.com/The-Economics-of-Trade-Unions-A-Study-of-a-Research-Field-and-Its-Findings/Doucouliagos-Freeman-Laroche/p/book/9781138888302>

Combining all the estimates from the hundreds of studies, FDL obtain in their meta-analysis a partial correlation coefficient between trade unions and productivity that is positive but small (see column 3, row for all countries with a coefficient of 0,016). There are however clear country differences: The coefficient is very close to zero or statistically not significant for the US, Germany, France and Italy but positive in Japan, Canada and developing countries. The UK is the only economy here with a negative coefficient.

Table 3.2 Number of estimates and meta-average by country

	<i>Number of estimates (studies)</i> (1)	<i>Simple unweighted average</i> (2)	<i>FEE-WLS weighted average</i> (3)
All countries	710 (111)	0.049*** (3.01)	0.016* (1.76)
USA	458 (62)	0.078*** (3.58)	0.003 (0.52)
UK	65 (10)	-0.102*** (-4.03)	-0.066*** (-3.79)
Germany	27 (6)	0.059 (1.55)	0.013 (0.70)
Japan	22 (6)	0.086** (3.47)	0.076*** (11.87)
Italy & France	23 (6)	-0.040 (-0.90)	0.009 (0.33)
Canada	21 (5)	0.090 (2.13)	0.072*** (18.99)
Developing	82 (9)	0.014 (0.71)	0.020*** (3.61)
Other	10 (6)	-0.064 (-0.68)	0.016 (0.35)

Notes: Column 1 reports the number of estimates and the number of studies for each country (in brackets). Column 2 reports the simple unweighted meta-average for each country. Column 3 reports the fixed-effect (FEE-WLS) weighted average using inverse variance weights (unrestricted WLS). Figures in brackets in columns (2) and (3) are *t*-statistics using standard errors adjusted for within study clustering. *Developing* includes China, Brazil, Guatemala, Malaysia, Mexico, Peru, and Uruguay. *Other* includes Australia, Korea, New Zealand, Sweden, and studies that pool estimates from several countries.

***, **, * denote statistical significance at the 1%, 5% and 10% levels, respectively.

When delving deeper into the factors driving these estimates of how trade unions and productivity are associated, FDL unveil that:

- The correlation of trade unions with productivity is almost absent in manufacturing, positive and robust in construction and education and positive and small in other sectors.
- A peculiar finding is that the degree of labour market regulation (captured by the famous Frazer Institute index on “Economic Freedoms”) appears to influence the impact of trade unions on productivity in the manufacturing sector (but not in other sectors). In less regulated labour markets, the coefficient becomes more positive/less negative. This, according to the authors is “consistent with the view that labour market regulation insulates insiders from competition” and/or the view that “unions and management are more willing to cooperate in more competitive markets”.
- Direct participation of employees in the management of the firm or any financial participation scheme such as employee share ownership improves the positive correlation between unionisation and productivity.
- Illustrating the potential economic importance of these findings, FDL use their (conditional) meta-analysis based estimates to calculate that, at current unionisation rates, the negative partial correlation for the UK translates into a 23% negative productivity disadvantage for unionized firms in manufacturing but a 22% productivity advantage for unionised construction firms in the US. There is also a positive productivity effect found for unionisation in the UK construction but this is not used to estimate a concrete number.

Behind the aggregate correlation of trade unions on productivity

Besides looking at the aggregate correlation, FDL also explore the impact of the different channels through which trade unions influence productivity. They find that unions have:

- *A zero to modest negative association with investment in physical capital:* Higher wages may accelerate investment by substituting labour for capital but at the same time the ability of trade unions to capture rents from investment reduces the employers' incentive to invest. The net association FDL turns out to be moderately negative but this also depends on the degree of product market competition (which is found to improve the link between unionisation and physical investment) and the size of the firm (which worsens the link).
- *A larger negative correlation with investment in intangible capital.* Unions may either push firms to invest in technology and innovation to offset higher wages or they may discourage such investment by generating the expectation that the returns from investing in technology would be fully appropriated afterwards by wages. Unions may also influence the speed of the diffusion of new technology by being receptive to the adoption of such technologies at the workplace or they may resist such implementation. Once again, it all depends on the net effect. The FDL finding is that, in net terms, unionisation is associated with lower investment in intangibles.

The latter effect however also depends on whether trade unions are operating in a regulated labour market: More regulated labour markets (characterised by minimum wages, centralised collective bargaining and job protection) induce less union resistance to technology.

- *A positive effect on employee behaviour.* Unionisation limits employee turnover, thus reducing hiring costs for firms and preventing the loss of firm-specific human capital as well as the cost of rebuilding it all the time. Unions are also found to promote organizational commitment. The link with worker satisfaction however is weak or even negative in the UK. DFL attribute the latter to the rise of a shop steward movement that occurred after the severe weakening of union organization in the 1980's. In the case of the UK, where trade unions "expand in struggle", joining a union may be more of a militant act that is related to job dissatisfaction

Summarizing, FDL argue that the overall small but positive association between trade unions and productivity performance that is found in their meta-analysis is based on dynamics that offset each other. Unionisation may be associated with lower productivity performance by hindering investment in physical capital and innovation but these negative effects appear to be offset by the positive impact a trade union has on the stability and commitment of the workforce.

Impact on profits

Finally, FDL are also looking into the body of research that explores the link between trade unions and profitability. Here, the conclusion is that trade unions have the effects that can be expected. Trade unions increase wages and reduce profits and this is even more so the case when labour markets are deregulated.

By stressing that "at the heart of trade union effects on the economy is a shift in income from capital", FDL echo a bit the 1984 Freeman and Medoff research finding that trade unions are able to reduce inequalities substantially while having no or only small negative effects on productivity once all the different channels through which unions influence productivity are taken into account.

Comments

The main conclusion that can be drawn from this meta-analysis is that the "neoclassical view that unions are invariably harmful to productivity" is to be rejected. At the same time, the analysis also shows that the impact of trade unions on productivity may depend on a number of factors such as the sectors and countries concerned, the time period investigated and the institutional settings such as labour market regulation.

In understanding the FDL findings, a number of caveats need to be kept in mind:

- First, as FDL themselves insist, ‘correlation is not causality’. DFL explicitly state that the majority of studies examined in their meta-analysis actually ignores this question of causality and instead automatically assume that the statistical link they find goes from trade unions to productivity. It may however be the case that the causality also runs the other way around, with low productivity workplaces providing the incentive for workers to unionise. If the possibility of ‘reverse causation’ would (could) be taken into account, this could change results and unveil a much more outspoken positive influence of trade unions on productivity; This is for example the case in a recent analysis on the impact of trade unions on the efficiency of workplaces of workplaces in Norway².
- Moreover, the correlation coefficients examined all reflect a ‘partial’ not a ‘general’ equilibrium. Hence, the final or complete effect of trade unions on the productivity of an economy may not be detected in full. For example, and using an illustration which DFL also refer to, trade unions may also impact the productivity performance of an economy in a positive way by encouraging public infrastructure investments, full employment policies, or investment in good and widely accessible education.
- There is also the problem that the research collected and used by the FDL meta-analysis tends to underreport findings from continental European and Nordic economies. This is important since one institutional setting that undoubtedly determines the economic outcomes of trade union is the extent to which collective bargaining strategies are coordinated. Such coordination, by putting in wage floors that sanction non-performing companies while at the same time shielding successful innovative companies from short term rent extraction strategies, is able to boost overall innovation and productivity. This dimension appears to be missing from the FDL meta-analysis.
- Another drawback of FDL is that their theoretical approach remains heavily based on a typical neo classical framework where wages are supposed to align themselves on marginal productivity. The negative impact trade unions would have on the economy by hiking wages above (marginal) productivity then needs to be prevented by improving productivity performance at the same time thanks to increased employee involvement (lower staff turnover, higher loyalty).

FDL do step somewhat outside this neo-classical framework by invoking the possibility of non-competitive, highly concentrated product markets. In that case, trade unions increasing wages above the competitive level has little adverse effect on investment because higher wages simply come at the expense of monopoly profits.

At the same time, FDL are overlooking the possibility that the labour market itself is not fully competitive. In a labour market *monopsony*, employers do have some power to set wages at a level *below* what would be the competitive equilibrium. In that case, by bargaining collectively, trade unions push wages higher and closer to the market equilibrium, hence improving employment, investment and productivity. Despite several indications testifying to the existence of such labour market monopsony³, FDL do not allow for this possibility.

² Barth, Bryson and Dale-Olsen (2017) the effect of Union Density on Productivity and Wages. Mimeo accessible at http://www.tinbergen.nl/wp-content/uploads/2017/03/The-Effect-of-Union-Density-on-Productivity-and-Wages_new2.pdf

³See https://obamawhitehouse.archives.gov/sites/default/files/page/files/20161025_monopsony_labor_mrkt_cea.pdf

- Finally, the question can be raised whether the use by FDL of the Frazer Institute Index on “Economic Freedoms” is entirely without problems. As argued by the ILO⁴, there are flaws with this index, in particular the ⁵fact that there is a trend break for several of its sub-indexes in 2002. To the extent the pre 2002 versions of the Frazer index is being used, the findings of FDL may be biased.

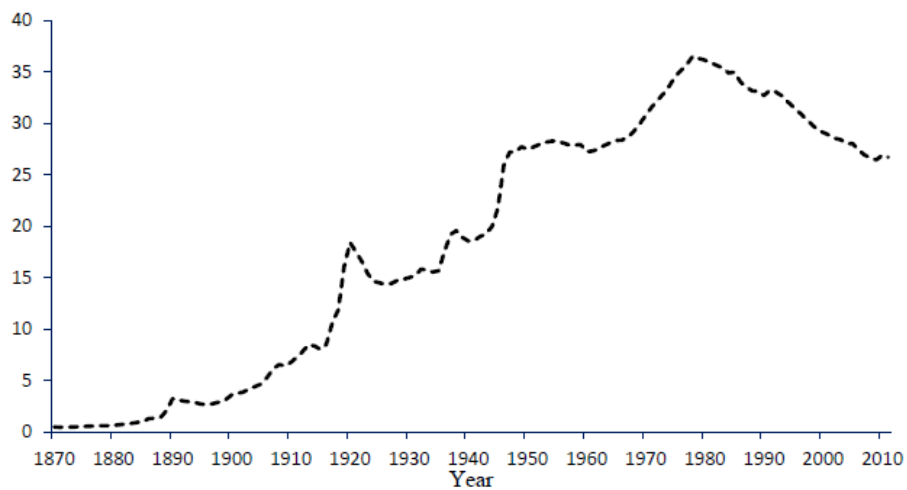


Figure 0.1 Union density, 21 OECD economies, 1870-2011
Source: Islam et al. (2016)

⁴ <http://s01.s3c.es/imag/doc/2014-05-07/08.InformeOIT.pdf>