

Rent Sharing and Inclusive Growth

DIAL Working Paper Series 1/2020

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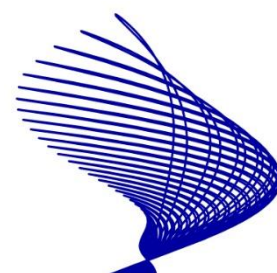


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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 724363



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Abstract

The long-run evolution of rent sharing is studied. Based upon a comprehensive and harmonized panel of the top 300 publicly quoted British companies over thirty-five years, the paper reports evidence of a significant fall over time in the extent to which firms share rents with workers. It confirms that companies do share their profits with employees, but at a much smaller scale today than they did during the 1980s and 1990s. This is a robust finding, corroborated with industry-level analysis for the US and EU. The temporal decline in rent sharing is coincident with rising product market power. Whilst it was the case that firms with more market power previously shared more of their profits, they experienced stronger falls in rent sharing after 2000.

Keywords: Rent sharing, Inclusive growth

Acknowledgments

This research was partly funded by the Economic and Social Research Council at the Centre for Economic Performance and by the project PII, which is financially supported by the NORFACE Joint Research Programme on Dynamics of Inequality Across the Life-course, which is co-funded by the European Commission through Horizon 2020 under grant agreement No 724363.

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Introduction

The real wages of workers across a number of advanced economies have been stagnating and growing slower than productivity (Dustmann et al. 2009; Acemoglu and Autor 2011; Stansbury and Summers 2017; LSE Growth Commission 2017). Since the early 1970s, UK and US hourly labour productivity grew by 115% and 85% respectively, but median real wages grew by only 70% and 20% (Pessoa and Van Reenen 2013; 2014; Fleck et al. 2011).⁴ This has stimulated a renewed interest in the question of how, and to what extent, workers benefit from growth. It has rekindled debates, some of which date from as least as far back as Ricardo (1817) through to the highly influential contemporary inequality work of Piketty (2014).⁵

At the same time, one key thrust in recent empirical research on wage determination has been to intensively study the role of firms. A key development has been the resurrection of earlier work on rent sharing (e.g. Nickell and Wadhvani, 1990; Blanchflower et al., 1996; Van Reenen, 1996; Hildreth and Oswald, 1997) where more recent studies have significantly advanced that body of research in several directions. This includes the use of linked employee-employer data (Card et al. 2014; Card et al. 2018), explicitly modelling matching processes (Manning 2011; Lamadon et al. 2019) and generating causal estimates (Kline et al. 2019; Garin and Silverio 2018).

One reality that remains, despite such progress, is that little is known about long-run patterns of rent sharing. One obvious reason why is that the data requirements to study the long-run evolution of rent sharing are extremely demanding. We therefore undertook a very significant data collection exercise to assemble a major new dataset that enables the study of changes over time in rent sharing. Much more detail is given later in the paper, but we have constructed a comprehensive and consistent panel of the top 300 companies each year in the UK over a 35 year time period from 1983 until 2016. This was not a straightforward exercise, especially when one goes further back in time. Firm-level information was manually collected from annual reports, and combined with various existing databases. The construction of the dataset ensures the coverage of the entire economy and so limits sample selection bias. Overall, the panel consists of 843 firms, which in 2016 together employ over 7 million workers worldwide and constitute around 95% of total UK market capitalization.

The empirical approach used to analyse these data draws on and extends beyond the older and newer rent sharing literatures. An orthodox approach in line with the literature is the starting point. A rent-sharing coefficient is estimated using a dynamic firm fixed-effect model that regresses log compensation per employee on contemporaneous and lagged profits per employee, and measures of external forces (the unemployment rate, industry-level wages, and time fixed effects). This generates a positive and statistically significant rent-sharing parameter. Estimated over the whole sample, the rent sharing elasticity is fairly modest in

⁴ US median real wages have been stagnant since the 1972. The UK evolution is different, as real wages experienced a period of healthy growth between 1972 and mid-2000. However, between 2007 and 2015, real hourly wages fell by around 8%, which was the largest fall in Europe after Greece (OECD Stats, 2016).

⁵ The literature initially tended to focus on the macro- or sectoral-level determinants of income inequality, highlighting the influence of technology (Acemoglu, 2003a, Karabarbounis and Neiman, 2014; Lawrence, 2015), trade (Autor et al., 2014; 2016) and institutions (Acemoglu, 2003b).

magnitude and towards the lower end of estimates from other firm-level studies (Card et al., 2018).

We then move on to consider the time series evolution of rent sharing. A striking finding emerges. The long-run rent sharing elasticity drops a lot, going from 0.043 in the period 1983-2000 to 0.012 in the period 2001-2016. This finding of a significantly reduced rent sharing parameter is robust to various specification checks and alternative definitions of the sample. Moreover, the same result emerges for a panel of UK manufacturing companies, which provides data on domestic operations only. In addition, industry-level data for the US and for nine EU countries again show the same pattern. Consistent with the firm-level analysis, there is a strongly falling correlation between log compensation per employee and profits per employee for almost all countries since the early 2000s (EU) and the 1970-80s (US).

The third, and final, part of the study moves on to consider mechanisms. A firm-level measure of market power (market share) is computed and used to explore the extent to which companies with higher market power share more or less of their profits. First, and consistent with recent work that shows market power is rising over time (Autor et al., 2017; Barkai, 2016; De Loecker and Eeckhout, 2017; Hall, 2018)⁶, the median market share has increased among UK companies since 1983. Second, companies with higher market power share on average more of their rents than companies with low power. Third, the positive association between market power and rent sharing is significantly weaker in the period 2001-2016 compared to 1983-2001. In other words, the fall in rent sharing was more pronounced among the companies that enjoy monopolistic mark-ups.

These findings have wider implications. They speak to the burgeoning literature on the labour share. In this work, Kaldor's (1957) long-held stylised fact that the fraction of national income going to labour is fixed has been questioned – for example, by Karabarbounis and Neiman (2014), who show that the global labour share has dropped from 65% in 1980 to 59% today. The fall of rent sharing that our study uncovers implies that the labour share falls *more* with rising profits. This could partially explain the observed fall in labour share and the simultaneous rise of the profit share (Barkai, 2017). A second implication that follows is related to the work, built on the seminal work of Michal Kalecki (1938), of several authors who have recently reconnected the rising capital share with the behaviour of firms and their increasing market power (Autor et al., 2017; De Loecker and Eeckhout, 2017; Adrjan, 2018). Consistent with this literature, we find that companies with higher market power experience relatively larger falls in rent sharing, suggesting that competition policies should also be analysed from the labour market perspective. As these companies are increasingly global, one might expect these trends to become world-wide phenomena. A third relevant area is the recent literature on wage inequality in the US and the UK, which documents a diminishing contribution of firm-specific wage premia (after controlling for worker composition), to earnings dispersion, especially among large firms (Song et al. 2019; Lamadon et al. 2019; Schaefer and Singleton 2019).

⁶ For an opposite view that criticises the detail of this work, see Traina (2018). Hall (2018) looks at the issue in a different way, computing shifts in market power from industry price/marginal cost mark-ups (in similar ways to his earlier classic study of market power), concluding similarly to De Loecker and Eeckhout (2017) that mark-ups have risen through time in the US, but not at quite the same rate as their study (where costs are measured only using accounting information on costs of goods sold).

The rest of the paper is organised as follows. Section II briefly discusses the related theoretical and empirical literature on the links between firm rents and wages. Section III provides details of the data construction and presents summary statistics on performance and compensation in the sample. The firm-level results are presented in Section IV and the industry-level results in Section V. Section VI provides evidence for the links between market power and the fall in rent sharing. Section VII concludes.

II. Rent Sharing

II.A. Theoretical Considerations

A positive correlation between wages and profit is not a feature of a standard perfect competition model. Wages are given and do not depend on firm characteristics. If a company experiences a productivity or demand shock, it will increase employment, but keep wages fixed. In more realistic models, a portion of the shock is captured by workers in the form of higher wages. There are at least three ways this result can occur (Blanchflower et al., 1996). The first is a monopsonistic model with an upward sloping short-run labour supply curve. The second is an incentive pay model, where risk-averse workers and firms share gains and losses. The third approach incorporates a wage bargaining process between workers and firms.

In the monopsonistic model with an upward sloping short-run labour supply curve, a positive correlation between wages and profits appears only in the short run because of a demand shock. When the economy is hit by a positive shock, companies move up along the supply curve, and profits will rise together with employment and wages. As long as the elasticity of labour demand is less than unity, profits per worker and wages will increase at the same time but this co-movement disappears once the economy reaches a new equilibrium. However, the evidence suggests that rent sharing is a long-run phenomenon (e.g. Nickell and Wadhvani, 1990; Blanchflower et al., 1996; Van Reenen, 1996; Hildreth and Oswald, 1997).

The incentive pay model with job contracts that share gains and losses between risk-averse firms and workers is characterized by equilibrium rent sharing. When effort is hard to monitor, but output observable (e.g. sales), it might be optimal to offer a piece rate pay scheme, which directly links wages with the output. Because the level of output is only partially explained by a worker's effort, one can observe a positive correlation between wages and productivity shocks in the short and long run (Baily, 1974; Azariadis, 1975; Lazear, 1986; Brown, 1990). The problem with this hypothesis is that piece rate systems are rarely used outside very specific occupations and jobs.

Given the shortcomings of the two previous theories, the most widely used approach assumes a bargaining model over wages. Suppose that a firm has market power in the product market and earns economic rent. Firms and employees engage in bargaining, which results in a division of the rent into profits and a wage mark-up over the market level. In particular, firms maximize profits $\pi = f(y) - rk - wn$, and employees maximize the difference between their firm's wages w and the outside option \bar{w} . Let ϕ denote the bargaining power of workers. Both sides engage in a Nash bargain, with a standard maximization problem:

$$\max[\phi \ln[(u(w) - u(\bar{w}))n] + (1 - \phi)\ln(\pi)]$$

In the event of a bargaining breakdown, the firm earns zero profits and the employees earn the outside option. The first-order condition with respect to wages is:

$$\frac{n\phi u'(w)}{(u(w) - u(\bar{w}))n} - \frac{n(1 - \phi)}{\pi} = 0$$

Using a first order Taylor approximation: $u(\bar{w}) \cong u(w) + (\bar{w} - w)u'(w)$, one can rewrite the above equation to produce:

$$w \cong \left(\frac{\phi}{1 - \phi}\right)\frac{\pi}{n} + \bar{w}$$

This equation relates the firm's wages with the outside option, the worker's bargaining power and the firm's profits per employee. The outside option depends on market wages in other companies (w^o) and the unemployment rate (U) – the probability of finding an alternative job. The insider force is profit per employee. The equilibrium wage can be then expressed as a function of all the above factors:

$$w = W(w^o, U, \phi, \pi, n)$$

This relationship motivates the main empirical specification described in Section IV.

II.B. Existing Empirical Evidence

There is by now a vast literature investigating the relationship between wages and profits. The early studies used a panel of US manufacturing industries. Katz and Summers (1989) find evidence for a positive and significant correlation between wages and profits, with an implied rent-sharing elasticity of around 0.04. Since profitable industries might employ more high-skill workers, it is important to control for the time-varying quality of the workforce. Blanchflower, Oswald and Sanfey (1996) supplement the industry data with measures of worker quality from the CPS and estimate the rent-sharing coefficient between 0.01 and 0.06. Estavao and Tevlin (2003) use similar data but find a much larger elasticity of 0.14 when rents are instrumented with demand shocks in downstream sectors.

An increased focus on firm-level studies arose during the 1990s after a series of influential papers analysing British companies. Nickell and Wadhvani (1990) use a panel of UK listed firms from 1975 to 1982 and estimate an elasticity in the range of 0.068-0.093. In follow-up work, Nickell, Vainiomaki and Wadhvani (1994) find no relationship between product market power and rent-sharing. In an early attempt to account for the potential endogeneity problem between wages and firm performance, Van Reenen (1996) employs a measure of technology innovations (patents) as an instrument for quasi rents in a panel of large British manufacturing firms. The author finds that instrumenting rents more than doubles the rent-sharing elasticity, from 0.11 to 0.29. These findings were later confirmed by Hildreth and Oswald (1997) and Hildreth (1998), who report the elasticity in the range of 0.02-0.03 when rents were instrumented with lagged values, and much larger - around 0.17 - when instrumented with a measure of innovation. Similarly, Abowd and Lemieux (1993) using a panel of Canadian

collective bargaining agreements, find a zero correlation between quasi-rents and negotiated wages in a simple OLS regression, but a large elasticity of 0.22 when quasi-rents are instrumented with industry import and export prices.

More recently, there has been a revival of interest in rent sharing. The newer studies often exploit employee-employer matched data and document a relatively small elasticity of individual wages with respect to firm-level measures of rents. Drawing on a Portuguese panel of workers and firms, Cardoso and Portela (2009), Martins (2009) and Card, Cardoso and Kline (2016) find an elasticity in the range of 0.03-0.09, even when rents are instrumented with a potential exposure to export shocks (Martins, 2009). Using an administrative data set from Italy, Guiso, Pistaferri and Schivardi (2005) and Card, Devicienti and Maida (2014) document an elasticity ranging from 0.06 to 0.08, with rents instrumented by firm-averages of sales and workers from other Italian regions (Card et al., 2014). Bagger, Christensen and Mortensen (2014) use Danish data to show heterogeneity in rent sharing across industries, with the elasticity between 0.05 and 0.13 – with trade at the upper end of the spectrum and transportation and communication at the lower end. Elasticities within the range of 0.01-0.12 are also reported in France (Margolis and Salvanes, 2001; Fakhfakh and FitzRoy, 2004), Germany (Guertzgen, 2009) and Sweden (Arai, 2003; Arai and Hayman, 2009; Carlsson, Messina and Skans, 2016).

The availability, and if available validity, of instrumental variables estimates in this literature remains a contentious issue. Studies that exploit firm-level variation in a plausibly exogenous instrument tend to suffer from a weak instrument problem. Klein et al. (2019) overcome this problem using patent allowance data, however the result are hard to generalize to companies without patent applications. As a result, most studies instrument firm-level rents with industry-level rents. As Manning (2010) points out, if labour has an industry-specific component and there is a positive shock to industry profits, then this raises the demand for labour in a competitive model and should lead to higher wages (represented by a rise in \bar{w} in the above equation). In such a case, it is not clear that industry-level rents serve as a valid instrument for firm-level rents. In most of this paper, Arellano-Bond estimates based upon two-period (and before) lags to instrument are used. However, estimates using a leave-out industry measure as an instrument for firm-level rents are also reported, with similar findings emerging.

Perhaps surprisingly not many studies have investigated the evolution of rent sharing. The likely reason is the lack of a consistent firm-level panel which would be long enough to capture changes, that would be comprehensive enough to cover all sectors and that include information on compensation and profits. For instance, US company-level data from Standard and Poor's (S&P) Compustat goes back to the 1960s. However only a small (and changing) subset of firms contains information on compensation, as disclosure of this information is not obligatory. A notable exception is a study by Bell and Van Reenen (2011), which uses the matched US manufacturing worker-industry data from the Current Population Survey (CPS) and National Bureau of Economic Research (NBER) Productivity Database. The authors report an elasticity of around 0.05 in the period between 1964 and 1985, which falls to zero between 1986 and 2005. Benmelech, Bergman and Kim (2018) also report a fall in the elasticity of wages with respect to labour productivity between 1977 and 2009 for US manufacturing companies.

Overall, the literature shows that the predictions of the perfectly competitive model that wages do not depend on firm's rents is not supported in the data - a proportion of rents has been shared with workers. Across various countries and industries, the rent-sharing elasticity is usually estimated to be below 0.10, but this estimate tends to increase when instrumental variables are used. Due to the lack of data, however, very little is known about the temporal evolution of rent sharing. In the following sections, a novel dataset on UK-domiciled firms is used to fill this gap.

III. Data

III.A. Firm-Level Data

UK publicly listed companies have been required to report staff costs in their company accounts since 1983. However, the existing datasets on listed companies (e.g. Worldscope) have very poor coverage of the 1980s and early 1990s. The alternative is to use official surveys of firms, but until 1995 the surveys were either short lived (e.g. Cambridge DTI) or were limited to only the manufacturing sector (e.g. ARD). Since the existing data are not suitable for the research questions posed here, we constructed a comprehensive and consistent panel of British public companies by drawing from published annual reports and existing databases.

The top 300 companies by market capitalization listed on the London Stock Exchange (LSE) between 1983 and 2016 are studied. To obtain these data, several steps were taken. First, the universe of listed companies was obtained from the London Share Price Database (LSPD), which records information on all listings that have been traded on the London Stock Exchange since 1955. The universe of listings was restricted to only those domiciled in the UK and excluded investment trusts, unit trusts and real estate trusts, as well as secondary share issues. The black lines in Figure 1 display the total and selected number of firms listed on the LSE in the sample window (1983-2016). The population of companies is on average 27% smaller than the raw number of listings, but the two series have an almost identical evolution. Next, for every year between 1983 and 2016 the top 300 companies by market capitalization were selected, but those in the top for less than three years in total were excluded. Having established the list of companies, data were collected for all years (within 1983-2016) when a company was publicly listed, even when it was outside the top 300. The resulting panel consists of 13,512 observations for 843 companies, which together employ over 7 million workers worldwide (2016) and constitute around 95% of total UK market capitalization. The construction of the dataset ensures coverage of the entire economy and limits the sample selection bias. This is of crucial importance for the long-run analysis given the dramatic shift of employment from manufacturing to service sectors over the sample period. In the remainder of the paper, this panel is referred to as the 'top 300' sample.

The grey line in Figure 1 shows the top 300 sample size in comparison to the total number of companies listed on the LSE. Figure 2 decomposes the sample into observations that are at the top in a given year and observations outside the top (but are at the top in another year). By construction, the number of observations peaks in the middle period (1994-1998) because that period captures three types of companies: companies at the top in that period,

companies at the top in the beginning of the time window (which are still alive in 1994-1998) and companies at the top in the end of the window (which already existed in the 1990s). The edges of the window (e.g. 1983 or 2016) have fewer observations as they capture fewer of those companies which were at the top in other years. The fluctuation in the number of companies at the top (the dashed line) is a result of the rule that companies must be at the top for at least three years to enter the sample. In particular, the dot-com bubble of 1999-2001 created a lot of high-valued but short-lived tech companies.

The LSPD contains limited information on a firm's characteristics and accounts. Financial data were collected either manually from annual reports or from existing datasets. The main data provider is Thomson Reuters Worldscope, complemented with S&P Compustat, Exstat, Bureau van Dijk (BvD) ORBIS, BvD FAME and Cambridge DTI. Company-years were matched across the dataset using unique identifiers (SEDOL and ISIN) and company name. Over 1,700 company-year observations in the sample are not covered by the existing datasets and these observations were manually collected from scans of published financial reports available at Mergent Archive and Companies House.

When looking at more than thirty years of data, changes in the formal organization of companies are the norm rather than the exception. Most of the companies in the sample encountered some form of reorganization, merger or acquisition (M&A). This often leads to a discontinuous change in wages and profits per employee, which might introduce noise into the estimates. Whenever a company takes over another one and a new legal entity is created, the time series of the two companies are separated out and given a specific id/fixed effect for the new entity (if publicly listed). In many cases, however, the takeovers are relatively minor and do not result in substantial legal changes (except for the purchased company, which disappears). These cases were manually identified and a dummy variable control for them was incorporated into regressions.

The data in the 'top 300' sample refers to the global operations of UK-domiciled companies. To see whether the main results hold for domestic operations, a panel of UK manufacturing (production sector) companies was set up using data from Annual Respondents Database (ARD) for 1979 - 2008 and Annual Business Survey (ABS) for 2008 - 2018.⁷ Although the companies might operate in many countries, the ARD and ABS focus exclusively on the UK operation. The data include all companies larger than 250 employees⁸ and an annual sample of smaller ones. However, numerous companies with employment around the cut-off were occasionally dropping in and out of the main sample, and for this reason, only firms with employment larger than 300 and for which data availability was for at least four years were considered. After these adjustments, the sample consists of 36,912 firm-year observations for 3,409 firms.

The main measure of rents is profit before tax per employee. Since profits are very volatile and outliers might drive the results, the approach used in Card et al. (2014) was

⁷ ARD until 1997 has only data on companies from production sector. Since 1998 ARD and ABS cover the entire economy, but we only keep the production sector for consistency.

⁸ To be more precise, all firms larger than 250 are included since the survey year of 1998. Between 1995 and 1997 all firms larger than 200 employees, and between 1980 and 1994 all firms larger than 100 employees.

followed and for every year observations with profits per employee outside the 1st-99th percentile range were trimmed.

The wage bargaining model outlined in Section II suggested that the wage-setting process is a function of ‘outsider’ forces. These are accounted for by including the industry average wage and the nationwide unemployment rate. The data on the industry average wage comes from the UK files of EU-KLEMS and the unemployment rate comes from the ONS. For the panel of manufacturing companies from ARD and ABS, data on regional-level unemployment rates were matched from the Labour Force Survey (1979-1991) and NOMIS/LFS (1992-2016). The data on regional-level average hourly wages come from the New Earning Survey Panel Database (NESPD).

III.B. Industry Level Data

The analysis of industries for nine EU countries (Austria, Denmark, Finland, France, Germany, Italy, Netherlands, UK and Spain) draws from the EU-KLEMS data. For the US, the data source is the NBER-CES Manufacturing Industry Database. Both sources provide information on productivity, employment and compensation. EU-KLEMS covers the entire economy for 28 1-digit (2-digit for manufacturing) sectors and the data are available since the 1990s until 2015 (coverage differs by country). NBER-CES Manufacturing Industry Database is limited only to the manufacturing sector but provides data for 459 industries in the period from 1963 to 2011.

III.C. Descriptive Statistics

Table 1 reports the top five companies based on market capitalization, employment and revenue for 1983, 2000 and 2016 for the top 300 UK firms. In the early 1980s, the UK economy was dominated by the manufacturing sector, with companies such as British Petroleum, General Electric Company or British American Tobacco making it to the top in all categories. Seventeen years later, there is a rise of the banking and finance (HSBC, Aviva, and Prudential), telecommunication (Vodafone) and retail (Tesco, Sainsbury) sectors. Within the manufacturing sector, pharmaceutical firms (GlaxoSmithKline, AstraZeneca) replaced the more traditional electronic and machinery producers at the top. Today, the British ‘superstar’ companies operate in finance, banking and business services, such as G4S and Compass Group - providers of outsourced services. Interestingly, British Petroleum and British American Tobacco are found at the top in 1983 and 2016, which testifies to the continued importance of the oil and tobacco industries.

Table 2 and Figure 3 report the average firm size in the top 300 sample (with trimmed profits). A U-shaped evolution of mean employment since 1983 until today is seen. At the beginning of the 1980s, the average company in the sample employed over 15,000 workers and grew until the end of the decade. After a drop to around 13,000 employees in 1994, firm size has experienced undisrupted growth until 2016. Today the average company in the sample has more than 22,000 employees. However, the standard deviation is over twice as large as the mean, indicating a sizeable variation in firm size – the smallest company in the sample has 5 employees whereas the largest employs more than half a million. The time-series might be

extremely volatile for firms with low employment, and as a robustness check Appendix Table A1 reports results that limit the top 300 sample to companies with at least 50 employees.

Table 2 and Figure 4 document the evolution of mean real revenue, compensation and profit per employee expressed in thousands of £2016 (weighted by employment). Average revenue and compensation per head grew steadily from 1983 until the Great Recession, after which they started falling and, in 2015, they dropped to the levels reported in the early 2000s. The year 2016 witnessed a recovery of revenue and wages. Although the reported numbers refer to global operations, the sample mean annual compensation in 2016 is £34,400, which is close to the UK average for full-time workers. The mean profit per employee is more volatile. The positive trend between 1983 and 2011 was interrupted by the recession of 1991-92, the dot-com bubble of 1999-2001 and the Great Recession. Profits peaked in the years before and after the latter but since 2011 they have been steadily falling.

IV. Trends in Firm-Level Rent Sharing

IV.A. Empirical Specification

The theoretical considerations in Section II suggested a formulation of the wage-setting process as a function of outside forces (unemployment, industry wages), the bargaining power of workers and profits per employee. In particular, the equation for log wages was as follows:

$$w \cong \left(\frac{\phi}{1 - \phi} \right) \frac{\pi}{n} + \bar{w}$$

This equation is taken as the basis for formulating and implementing the empirical strategy, together with introducing a set of modifications to account for potential endogeneity bias. First, the existence of long-term employment contracts can generate a certain amount of inertia in wage determination. This possibility is allowed for by the inclusion of lagged wages and profits into the equation. Second, firm fixed-effects are included, so as to absorb time-invariant company characteristics affecting firm performance and wages. Finally, the model is first-differenced which, by construction, leads to a correlation between the lagged dependent variable and the error term (Nickell, 1981). In addition, omitted time-varying firm characteristics might drive the correlation between wages and profits. These two sources of possible bias are addressed by instrumenting the lagged dependent variable and the current and lagged profits in the first-differenced model with their lagged levels (Arellano and Bond, 1991). Overall, the rent-sharing elasticity is estimated using a dynamic firm fixed-effect model of the following form:

$$\begin{aligned} \log w_{ijt} = & \alpha \log w_{ijt-1} + \sum_{l=0}^L \beta_l \frac{\pi}{n_{ijt-l}} + \sum_{l=0}^L \gamma_l \log U_{t-l} + \sum_{l=0}^L \delta_l \log \bar{w}_{jt-l} \\ & + f(\text{time}) + \mu_i + \epsilon_{ijt} \end{aligned}$$

where the outcome variable w_{ijt} is log compensation per employee for company i , in industry j at time t . The variable of interest π/n_{ijt-l} is profit before tax per employee, and μ_i

captures all time-invariant firm effects. Two strategies to control for the outside forces are employed. The first controls for the nationwide unemployment rate U_{t-l} , the 1-digit industry (2-digit for manufacturing) log average wage \bar{w}_{jt-l} and for a polynomial time trend (e.g. for a quadratic, $f(time) = \lambda_1 t + \lambda_2 t^2$). The second includes the log industry average wage and year fixed effects, which account for all nationwide time effects (i.e. $f(time) = \mu_t$). Up to three lagged values of profits and the outside forces are included (e.g. as in Blanchflower et al., 1996). In addition, every regression includes a dummy for significant episodes of mergers and acquisitions. Since profits can take negative values, profits per employee are entered in levels but the reported coefficients are transformed into elasticities.

In the above model, the short-run (SR) elasticity is captured by the coefficient β_0 , that is, the effect of contemporaneous profits on wages. The long-run (LR) elasticity, for the specification with three lags of profits, is given by $(\beta_0 + \beta_1 + \beta_2 + \beta_3)/(1 - \alpha)$, since in the long run $\pi/n_{ijt} = \pi/n_{ijt-1} = \pi/n_{ijt-2} = \pi/n_{ijt-3}$ and $w_{ijt} = w_{ijt-1}$.

IV.B. Orthodox estimates

An orthodox approach to estimate a single rent sharing elasticity for the entire period of analysis is the starting point. Table 3 presents baseline estimates for the whole period 1983-2016. Columns 1 to 4 use the unemployment rate, the average industry wages and a quadratic polynomial of time to account for the outside forces. Various different lag structures are explored across the specifications. All columns, except 4, instrument profits with their lagged values. The LR elasticities of pay with respect to profits are estimated within the range of 0.010-0.013 and the SR elasticity within the range of 0.006-0.010. Columns 5 to 8 use the average industry wages and year fixed effects to account for the outside forces. The results remain virtually the same, with the LR elasticity within the range of 0.011-0.013 (SR 0.006-0.009). Specifications without the instrumented profits (columns 4 and 8) produce a smaller elasticity of 0.006-0.007, which is likely due to simultaneity problems with contemporaneous profits. The effects of the outsider forces are consistent with the basic theory. The unemployment rate has a null or negative LR effect on wages, meaning that worse employment prospects lead to downward pressure on wages. The average industry wage has a positive impact, indicating an upward pressure on wages, when the outside wage is growing.

The baseline results indicate positive and significant rent sharing among these UK companies. How do these estimates compare to the existing empirical studies? As pointed out by Card et al. (2018), rent-sharing elasticities estimated using profits should be multiplied by the average ratio between value-added and profits (roughly equal to two) in order to compare them to estimates based on value-added or revenue. After this adjustment, the estimates of LR rent sharing are within the range of 0.020-0.026, which is similar to the UK firm-level estimates from Hildreth and Oswald (1997) and Hildreth (1998), but below the estimates from Nickell and Wadhvani (1990) (0.068-0.093). They are also at the lower end of the estimates typically found using worker-level data, for instance, from Portugal by Card et al. (2018) (0.04-0.05) or from Italy by Card et al. (2014) (0.06-0.08).

IV.C. Temporal patterns

We extend beyond the older and newer rent sharing literatures, by estimating the evolution of rent sharing over time. Columns 1 and 2 of Table 4 look separately at the two sub-periods: 1983-2000 and 2001-2016. According to these estimates, there is a marked fall in rent sharing since 1983. In the period 1983-2000 the LR elasticity is 0.043, which is comparable to the existing estimates from that period (Nickell and Wadhvani, 1990; Hildreth, 1998). However, in the subsequent period 2001-2016, the elasticity is approximately three and half times smaller. How economically significant a fall is this? To assess this, Lester's Range (Lester, 1952), that is the spread of wages which can be attributed to the dispersion of profits, was calculated.⁹ Assuming that the distribution of profits is four standard deviations, moving from the bottom to the top of the distribution of profits, increases wages by approximately 45% in the first period, compared to 20% in the second period. In other words, before 2000 almost a half of firm-level wage inequality could be attributed to rents, but after 2000, only one-fifth.¹⁰

Next, the fall in rent sharing is considered further as Columns 3 to 6 of Table 4 report the estimates for four sub-periods: 1983-1991, 1991-2000, 2000-2009 and 2009-2016.¹¹ The rationale for such division is to look separately at the periods before and after the significant decline of unions (the early 90s) and at the period after the recent economic crisis (2008-2009). The rent-sharing elasticity in the first period is noisily measured, but large and positive at the level of 0.050. During the 1990s the elasticity falls to 0.035 but is strongly significant. The falling trend continues after 2000, when the elasticity drops to 0.016, and practically reaches zero in the decade after the Great Recession. A similar pattern is reported for the estimates of Lester's Range. At its peak during the 1980s and early 1990's, rent sharing can account for over a half of the firm-level wage inequality, while today only one-tenth.

Finally, the industry-level leave-out mean profits is used as an alternative instrument for firm-level profits. Columns 7 to 10 of Table 4 report the estimates for the four sub-periods. Consistent with the literature, instrumenting profits with the industry-level measures tends to lead to higher estimates of rent sharing (Card et al., 2018). The first two periods (1983-1991 and 1991-2000) have a very similar elasticity of 0.060-0.065 and Lester's Range of around 63%. However, in the following two periods (2000-2009 and 2009-2016) there is no evidence of rent sharing.

An additional robustness check compares the estimated changes in the rent sharing coefficients for nine industries, for specifications with and without instrumented profits by the industry-level leave-out means. Each circle in Figure 5 represents the estimated change in the industry-specific rent-sharing coefficient between the two periods 2001-2016 and 1983-2000, the size of circle marks the average (across time) industry share in the total value added. The

⁹ Lester's Range is defined as the rent-sharing coefficient multiplied by four and by the ratio of the standard deviation to the mean of profits (Blanchflower et al., 1996).

¹⁰ Is the observed fall in rent sharing merely a result of attenuation bias? Table 2 reports an increasing number of small companies with potentially more volatile series. As an additional robustness check, in Table A1 we estimate the rent-sharing coefficients only for the sample of companies larger than 50 employees. The results are practically unchanged.

¹¹ Because the data start in 1983, including too many lags of independent variables in the first-period regression leads to noisy estimates. Therefore, the number of lags is restricted to two for all specifications.

X-axis is for specifications with industry-level profits as an IV, the Y-axis without. The fitted line is very close to a 45-degrees line. Although instrumenting profits changes the estimated *levels*, Figure 5 shows that instrumenting does not matter for the estimated *changes*.

IV.C. Manufacturing Companies

Modern companies are increasingly global, with boundaries crossing not only countries, but also continents. Consequently, one should interpret the above results as evidence for UK-*domiciled* companies, since many firms in the sample have operations extending beyond the border. While this analysis is still informative about rent sharing in the British economy, it can be complemented with a similar analysis of domestic operations from the panel of UK manufacturing companies. The same methodology as previously is adopted, with the exception that the outsider effects (i.e. average wages and unemployment) are now defined at the regional level. In particular, the model now becomes:

$$\log w_{irt} = \alpha \log w_{irt-1} + \sum_{l=0}^L \beta_l \frac{\pi}{n_{irt-l}} + \sum_{l=0}^L \gamma_l \log U_{rt-l} + \sum_{l=0}^L \delta_l \log \bar{w}_{rt-l} + f(\text{time}) + \mu_i + \varepsilon_{irt}$$

where i indexes firms, r stands for region and t indicates time. The remainder of the notation is the same as previously.

Columns 1 and 2 of Table 5 present the estimates for the whole period 1983-2016. Three lags of each independent variable are included. Column 1 includes a second-order polynomial of time, column 2 includes year fixed effects. The LR elasticities of pay with respect to profits are estimated between 0.012 and 0.015, with the specification including year fixed effects located at the lower end of the range. These estimates are almost identical to those reported in Table 3 for the top 300 sample over the same period.

Turning to the evolution of rent sharing, Columns 3 to 6 of Table 5 look separately at the four sub-periods: 1983-1991, 1991-2000, 2000-2009 and 2009-2016. Again, there is seen to be a substantial fall in rent sharing since 1983. In the first period the magnitude of the rent-sharing elasticity is almost 0.070. In the following periods, however, the coefficient gradually falls. Between 1991 and 2000 it is 0.037, between 2000 and 2009 it is 0.033, and finally reaches zero after 2009.

Figure 6 summarizes the evolution of the Lester range for the two UK firm-level samples. The lines show a remarkable similarity, indicating that the dramatic fall in rent sharing was a characteristic of the whole economy and was not unique to global UK-domiciled public companies or the domestic manufacturing sector. The next section shows that the fall in rent sharing is, in fact, also visible for EU and US industries.

V. Trends in Industry-Level Rent Sharing

V.A. Evidence from EU Industries

The firm-level data show that the rent-sharing coefficient has been falling for the global operations of UK-domiciled companies from all sectors, and for the domestic operation of UK-based manufacturing companies. In this section, industry-level data, which allow study of domestic operations across all sectors for the UK and other advanced economies, are analysed.

The starting point is an analysis of the EU-KLEMS industry-level data, which provides information on wages and rents for the same 28 industries across EU countries since the 1990s until 2015¹² (O'Mahony and Timmer, 2009; Jäger, 2016). The UK and eight countries for which the data goes back to the early 1990s (Austria, Denmark, Germany, Italy, Finland, France, Netherlands, and Spain) are studied. The evolution of rent sharing for all the pooled countries and industries comprising a panel of 25 years (T) of data for 28 industries (N) is considered. These data are “small N , large T ” and therefore not feasible for Arellano-Bond estimation and, in general, for dynamic panel models (Roodman, 2009). Therefore, long-run changes in wages are regressed on long-run changes in rents measured by profits per worker:

$$\log \bar{w}_{jct} - \log \bar{w}_{jct-l} = \beta \left(\frac{\bar{\pi}}{n_{jct}} - \frac{\bar{\pi}}{n_{jct-l}} \right) + \mu_j + \mu_c + \epsilon_{jct}$$

where $l = 14$ if $t = 2005$ and $l = 10$ if $t = 2015$.

The outcome variable w_{jct} is log compensation per employee in industry j from country c at time t . The variable of interest π/n_{jct} is profits per employee. Country (μ_c) / industry fixed effects (μ_j) are included. The time breakdown is the fourteen-year change 1991-2005 and the ten-year change between 2005 and 2015. In order to reduce measurement error, wages and profits for each year are smoothed and replaced with the three-year moving average \bar{w}_{jct} and $\bar{\pi}/n_{jct}$.

Table 6 presents the estimates of the rent-sharing coefficient for pooled industries and countries (the coefficient β).¹³ Each row displays results for separate periods, for instance, the first row shows the effect of the change between 1991 and 2005 in profits per employee on the change in the same period in log wages. In the first period, the correlation between profits and wages, 0.0012-0.0019, is consistently positive and significant. It corresponds to a Lester Range of 3-5%. In the second period, the estimates are practically zero. Interestingly, the inclusion of industry and country fixed effects matters little for the estimates, suggesting that the fall of rent sharing cannot be explained by a shift from high to low rent-sharing sectors or country-specific changes.

¹² We do not include the 1970s and 1980s, as the provided numbers are estimates.

¹³ We also run regressions for the UK industries only and find very similar levels and evolution of the rent-sharing coefficients as in the pooled sample. The results are available upon request.

V.B. Evidence from US Manufacturing

The evolution of rent sharing in the US is studied using the NBER-CES Manufacturing Industry data for the period from 1963 to 2011. Although the data covers only the production sector, it allows us to use 459 4-digit industries and avoid the “small N , large T ” problem. The rent-sharing elasticity is produced in a similar fashion as it was in the firm-level analysis by using a dynamic industry fixed-effect model of the following form:

$$\begin{aligned} \log w_{jt} = & \alpha \log w_{jt-1} + \sum_{l=0}^L \beta_l \frac{\pi}{n_{jt-l}} + \sum_{l=0}^L \gamma_l \log U_{t-l} + \sum_{l=0}^L \delta_l \log \bar{w}_{jt-l} \\ & + f(\text{time}) + \mu_j + \epsilon_{jt} \end{aligned}$$

where the outcome variable w_{jt} is log compensation per employee for manufacturing industry j at time t . The variable of interest π/n_{jt-l} is profit before tax per employee and μ_j captures time-invariant industry effects. Outsider forces are either controlled for via inclusion of the log nationwide unemployment rate U_{t-l} , the log 2-digit industry average wage \bar{w}_{jt-l} ¹⁴ and for a polynomial of time, or by the log industry average wage and year fixed effects. Up to three lagged values of profits and the outsider forces are incorporated. Again, the model is first-differenced and lagged dependent variable and the current and lagged profits are instrumented with their lagged levels (Arellano and Bond, 1991). The level of profits per employee is used in a log-levels specification, however we transform the reported coefficients into elasticities.

Column 1 of Table 7 reports the estimates for the whole period 1963-2011 for specifications with three lags and year fixed effects. There is a positive and significant rent-sharing parameter with magnitude 0.014 and Lester’s Range of 8%. This estimate is, nevertheless, almost five times smaller than those reported in Blanchflower, Oswald and Sanfey (1996) for the shorter period between 1964 and 1985. Can this difference be attributed to a fall in rent sharing after 1985? To check for this possibility, Columns 2 to 6 of Table 7 split the sample into five periods: 1963-1974, 1974-1983, 1983-1991, 1991-2000 and 2000-2011. Results from specifications with the log of average 2-digit industry wages and year fixed effects are reported. The rent-sharing elasticity over the first period (column 1) is 0.054, which is close to the estimates from Blanchflower, Oswald and Sanfey (1996). However already in the 1970s and 1980s (columns 2 and 3) there is a decline to around 0.014. The two most recent periods, 1991-2000 and 2000-2011 are marked by near-zero estimates, implying an almost complete lack of rent sharing in the US manufacturing sector. Lester’s Range declines as well, from around 17% in the first period, to around 5.5% between 1974 and 1991 to just 2.5% since 1991. These findings are consistent with Bell and Van Reenen (2011), who use the same data and find no evidence for rent sharing in the period 1986-2005.

Figure 6 summarizes the evolution of Lester’s Range for the EU-KLEMS and NBER-CES samples, in comparison with the UK firm-level samples. The results are consistent across samples and show a negative trend in rent sharing. The fall among the US manufacturing

¹⁴ Regressing a variable on its group’s mean mechanically leads to a coefficient of one for the mean and zero for other variables. To avoid this problem, we use the 2-digit average industry wages from the IPUMS-CPS March files (Flood et al., 2017).

industries happened earlier, in the 1970-80s, than in Europe, which experienced a dramatic fall after the turn of the millennium. Finally, the difference in the level of the Lester range and change between the industry and firm-level estimates, stems from the lower rent-sharing coefficients and smaller dispersion of profits at the industry level.

VI. Trends in Rent Sharing and Market Power

The evidence considered so far shows that UK-domiciled companies share profits with workers, but much less so now than they used to. The same pattern emerges for industries in the US and nine EU countries. What has driven this decline? One consistent finding in the recent literature that is focused on the labour share has been the connection between the falling labour share and growing market concentration (Autor et al., 2017; Barkai, 2016; De Loecker and Eeckhout, 2017; Adrjan, 2018). This begs the question whether the observed decline in rent-sharing has been more pronounced among those firms with more market power. This section offers some evidence on this question.

To do so, the firm-level data are returned to with an aim to explore whether companies with high market power share more or less of their profits, and whether this has changed over time. Firm market share is the measure of market power that is considered. However, it is often unclear for global companies how to define their market of reference. For supermarket chains that are primarily domestically focused (e.g. Tesco) one could argue that the UK retail sector is an appropriate reference market, but for more global companies (e.g. British Petroleum or HSBC) one should arguably look at the worldwide market. In other words, taking the UK industry revenue or employment from EU-KLEMS could be a valid option for Tesco, but not for British Petroleum. A lack of information on the size of the global operation, generates a need to take an alternative approach and define the company's reference market as the sample's industry total.

Therefore, firm-level market share is the firm's revenue or employment share in the sample's industry total. A composite sample for the industry total is constructed, in order to ensure that changes in sample size do not drive the results. By construction, the size of the sample varies, implying larger industry total for years with more observations. Without correction this would then underestimate market share in the middle of the sample window and overestimate at the ends. To adjust for this, the approach taken in Nickell (1996) is adopted. This imputes the number of 'outside the top' observations for all years using the sample composition from 1996-1999 (when the sample size peaks). Second, owing to the exclusion of companies which were within the top 300 for less than three years, the ends of the sample (1983-84 and 2015-16) have less 'at the top' observations. These are imputed using the sample composition from 1985 and 2014 correspondingly.

Market share for company i from industry j at time t is:

$$MS_{ijt} = \frac{R_{ijt}}{R_{jt}}$$

where the denominator R_{jt} is the sum of revenue for 1-digit (2-digit for manufacturing) industry j at time t , calculated for the adjusted composite sample. The market share of employment can be computed analogously.

Figure 7 illustrates the growth of the median and the upper quartile of the market share measures since 1983. Market share exhibits a U-shaped evolution through time, which is especially visible for the 75th percentile, which dips in the early 1990s and then peaks after the Great Recession. The median company in 1983 earned and employed around 1.5% of its industry total revenue and employment. Thirty-three years later the median share had grown to 2%.

The same empirical strategy as for the earlier firm-level analysis is adopted, but, in addition, now exploring whether companies with higher market power share more or less of their profits. In particular, profits are interacted with the measure of market share in the following way:

$$\log w_{ijt} = \alpha \log w_{ijt-1} + \sum_{l=0}^L \beta_l \frac{\pi}{n_{ijt-l}} + \sum_{l=0}^L \vartheta_l MS_{ijt-l} + \sum_{l=0}^L \theta_l \frac{\pi}{n_{ijt-l}} \times MS_{ijt-l} + \sum_{l=0}^L \delta_l \log \bar{w}_{jt-l} + \mu_t + \mu_i + \epsilon_{ijt}$$

The notation is as in Section IV. For the sake of brevity only the model with time fixed effects is reported (without the nation-wide unemployment rate). The model is estimated separately for the two sub-periods: 1983-2000 and 2001-2016.

Table 8 reports the estimated interaction terms between profits and measures of markets share, revenue-based and employer-based. Using these estimates, Figure 8 displays the long-run rent-sharing coefficients calculated for different moments of the revenue-based market share distributions (i.e. the 10th, 25th, 75th and 90th percentiles). Consistently across time periods, companies with high market power have on average higher rent sharing than companies with low power.¹⁵ However, the positive association between market power and rent sharing is significantly weaker in the period 2001-2016 compared to 1983-2001. In other words, the fall in rent sharing was more pronounced among the companies which enjoy monopolistic mark-ups. Virtually the same results are obtained using an employment-based measure of market power (available upon request). These results are at best indicative of the role of market power since the differences are not statistically significant and the measure of market power is imperfect, but they suggest an important area for further research.

¹⁵ A positive association between rent sharing and market power is also reported in Card et al. (2014).

VII. Conclusions

A growing body of research on the role of firms in wage determination has significantly developed our understanding of the importance of firm performance for workers' wages. One dimension of this has been evidence on the extent to which better performing companies share economic rents with their employees. This paper looks at a hitherto understudied aspect of this, namely whether there have been important cross-time shifts in the extent of rent sharing.

Beginning with conventional methods to estimate rent sharing, coupled with a time intensive data assembly, then moving on to consider temporal variations this paper shows that rent sharing amongst UK companies has declined over the last forty years. Whilst companies still share rents with workers, the magnitude of this has dropped substantially. The finding is corroborated with an array of different firm and industry data sources covering the UK, US and Europe. The decline is, if anything, more marked where firm market power has risen.

These findings add to related research on rising firm mark-ups, increased product and labour market concentration and the falling labour share. Coupled with these, lower rent sharing presents a difficult challenge if an aim is to try to counter rising inequality through inclusive growth. More needs to be done to better understand the ways that wage setting arrangements of modern corporations and their economic performance relate to this aim.

References

- Abowd, J., and Lemieux, T. (1993). The Effects of Product Market Competition on Collective Bargaining Agreements: The Case of Foreign Competition in Canada. *The Quarterly Journal of Economics*, 108(4), 983-1014.
- Acemoglu, D. (2003a). Labor-and Capital-Augmenting Technical Change. *Journal of the European Economic Association*, 1(1), 1-37.
- Acemoglu, D. (2003b). Cross-Country Inequality Trends. *The Economic Journal*, 113(485), F121–F149.
- Acemoglu, D., & Autor, D. (2011). Skills, tasks and technologies: Implications for employment and earnings. In *Handbook of Labor Economics* (Vol. 4, pp. 1043-1171). Elsevier.
- Adrjan, P. (2018). The Mightier, the Stingier: Firms' Market Power, Capital Intensity, and the Labor Share of Income. Unpublished manuscript.
- Arai, M. (2003). Wages, Profits, and Capital Intensity: Evidence from Matched Worker Firm Data. *Journal of Labor Economics*, 21(3), 593-618.
- Arai, M., and Heyman, F. (2009). Microdata Evidence on Rent-Sharing. *Applied Economics*, 41(23), 2965-2976.
- Arellano, M., and Bond, S. (1991). Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations. *The Review of Economic Studies*, 58(2), 277-297.
- Autor, D., Dorn, D., and Hanson, G. (2016). The China Shock: Learning from Labor-Market Adjustment to Large Changes in Trade. *Annual Review of Economics*, 8, 205-240.
- Autor, D., Dorn, D., Hanson, G., and Song, J. (2014). Trade Adjustment: Worker-Level Evidence. *The Quarterly Journal of Economics*, 129(4), 1799-1860.
- Autor, D., Dorn, D., Katz, L. F., Patterson, C., and Van Reenen, J. (2017). The Fall of the Labor Share and the Rise of Superstar Firms (No. dp1482). Centre for Economic Performance, LSE.
- Azariadis, C. (1975). Implicit Contracts and Underemployment Equilibria. *Journal of Political Economy*, 83(6), 1183-1202.
- Baily, M. (1974). Wages and Employment under Uncertain Demand. *The Review of Economic Studies*, 41(1), 37-50.
- Bagger, J., Christensen, B., and D. Mortensen (2014). Wage and Labor Productivity Dispersion: The Roles of Total Factor Productivity, Labor Quality, Capital Intensity, and Rent Sharing. Meeting Papers 473, Society for Economic Dynamics.
- Barkai, S. (2016). Declining Labor and Capital Shares. *Stigler Center for the Study of the Economy and the State New Working Paper Series*, (2).
- Bell, A., Chetty, R., Jaravel, X., Petkova, N., and Van Reenen, J. (2017). Who Becomes an Inventor in America? The Importance of Exposure to Innovation. CEP Discussion Paper No 1519.
- Bell, B., and Van Reenen, J. (2011). Firm Performance and Wages: Evidence From Across the Corporate Hierarchy. *CEP Discussion paper*, No 1088.
- Benmelech, E., Bergman, N., and Kim, H. (2018). Strong Employers and Weak Employees: How Does Employer Concentration Affect Wages? *NBER Working Paper Series*, 24307.
- Blanchflower, D., Oswald, A., and Sanfey, P. (1996). Wages, Profits, and Rent-Sharing. *The Quarterly Journal of Economics*, 111(1), 227-251.
- Brown, C. (1990). Firms' Choice of Method of Pay. *Industrial and Labor Relations Review*, 43(3), 165-S-182-S.
- Card, D., Cardoso, A. R., Heining, J., and Kline, P. (2018). Firms and Labor Market Inequality: Evidence and Some Theory. *Journal of Labor Economics*, 36(S1), S13-S70.
- Card, D., Cardoso, A., and Kline, P. (2016). Bargaining, Sorting, and the Gender Wage Gap: Quantifying the Impact of Firms on the Relative Pay of Women. *The Quarterly Journal of Economics*, 131(2), 633-686.

- Card, D., Devicienti, F., and Maida, A. (2014). Rent-Sharing, Holdup and Wages: Evidence From Matched Panel Data. *Review of Economic Studies*, 81(1), 84-111.
- Cardoso, A., and Portela, M. (2009). Micro Foundations for Wage Flexibility: Wage Insurance at the Firm Level. *Scandinavian Journal of Economics*, 111(1), 29-50.
- Carlsson, M., Messina, J., and Skans, O. (2016). Wage Adjustment and Productivity Shocks. *Economic Journal*, 126(595), 1739-1773.
- De Loecker, J. and Eeckhout, J. (2017). The Rise of Market Power and the Macroeconomic Implications. NBER Working Paper Series, 23687.
- Dustmann, C., Ludsteck, J., & Schönberg, U. (2009). Revisiting the German wage structure. *The Quarterly Journal of Economics*, 124(2), 843-881.
- Estevão, M., and Tevlin, S. (2003). Do Firms Share their Success with Workers? The Response of Wages to Product Market Conditions. *Economica*, 70(280), 597-617.
- Fakhfakh, F., and FitzRoy, F. (2004). Basic Wages and Firm Characteristics: Rent Sharing in French Manufacturing. *LABOUR*, 18(4), 615-631.
- Fleck, S., Glaser, J., and Sprague, S. (2011). The Compensation-Productivity Gap: A Visual Essay. *Monthly Labor Review*, 134(1), 57-69.
- Flood, S., King M., Ruggles S., and Warren, J.R. (2017). Integrated Public Use Microdata Series, Current Population Survey: Version 5.0. [dataset]. Minneapolis: University of Minnesota, 2017. <https://doi.org/10.18128/D030.V5.0>.
- Garin, A., & Silverio, F. (2018). How Does Firm Performance Affect Wages? Evidence from Idiosyncratic Export Shocks. Working Paper.
- Guiso, L., Pistaferri, L., and F. Schivardi. (2005). Insurance Within the Firm. *Journal of Political Economy*, 113(5), 1054-1087.
- Guertzen, N. (2009). Rent-sharing and Collective Bargaining Coverage: Evidence from Linked Employer–Employee Data. *Scandinavian Journal of Economics*, 111(2), 323-349.
- Hall, R. (2018). New Evidence on the Markup of Prices over Marginal Costs and the Role of Mega-Firms in the US Economy. NBER Working Paper No. 24574
- Hildreth, A. (1998). Rent-Sharing And Wages: Product Demand Or Technology Driven Premia? *Economics of Innovation and New Technology*, 5(2-4), 199-226.
- Hildreth, A., and Oswald, A. (1997). Rent-Sharing and Wages: Evidence from Company and Establishment Panels. *Journal of Labor Economics*, 15(2), 318-337.
- Jäger, K. (2016). EU KLEMS Growth and Productivity Accounts 2017 Release, Statistical Module1. December, http://www.euklems.net/TCB/2016/Methology_EU%20KLEMS_2016.pdf.
- Kalecki, M. (1938). The determinants of distribution of the national income. *Econometrica*, 97-112.
- Karabarbounis, L., and Neiman, B. (2013). The Global Decline of the Labor Share. *The Quarterly Journal of Economics*, 129(1), 61-103
- Katz, L., and Summers L., (1989). Industry Rents: Evidence and Implications. *Brookings Papers on Economic Activity*, 209.
- Kline, P., Petkova, N., Williams, H., & Zidar, O. (2019). Who profits from patents? rent-sharing at innovative firms. *The Quarterly Journal of Economics*, 134(3), 1343-1404.
- Krueger, A. B. (1999). Measuring Labor's Share. *American Economic Review*, 89(2), 45-51.
- Lamadon, T., Mogstad, M., & Setzler, B. (2019). Imperfect Competition, Compensating Differentials and Rent Sharing in the US Labor Market. National Bureau of Economic Research No. w25954.
- Lawrence, R. Z. (2015). Recent Declines in Labor's share in US Income: A Preliminary Neoclassical Account (No. w21296). National Bureau of Economic Research.
- Lazear, E. (1986). Salaries and Piece Rates. *The Journal of Business*, 59(3), 405-431

- Lester, R. (1952). A Range Theory of Wage Differentials. *Industrial and Labor Relations Review*, 5(4), 483-500.
- LSE Growth Commission. (2017). *UK Growth: A New Chapter*. Centre for Economic Performance, London School of Economics and Political Science.
- Manning, A. (2010). Imperfect Competition in the Labor Market. In Ashenfleter, O. and D. Card (eds.) *Handbook of Labor Economics*, North Holland.
- Margolis, D., and Salvanes, K. (2001). Do Firms Really Share Rents With Their Workers? *IZA Discussion Paper* No. 330
- Martins, P. (2009). Rent Sharing Before and After the Wage Bill. *Applied Economics*, 41(17), 2133-2151.
- Nickell, S. (1981). Biases in Dynamic Models with Fixed Effects. *Econometrica*, 49(6), 1417-1426.
- Nickell, S. (1996). Competition and Corporate Performance. *Journal of Political Economy*, 104(4), 724-46.
- Nickell, S., and Wadhvani, S. (1990). Insider Forces and Wage Determination. *The Economic Journal*, 100(401), 496-509.
- Nickell, S., Vainiomaki, J., and S. Wadhvani. (1994). Wages and Product Market Power. *Economica*, 61(244), 457-473.
- O'Mahony, M., and Timmer, M. (2009). Output, Input and Productivity Measures at the Industry Level: The EU KLEMS Database. *Economic Journal*, 119(538), F374-F403.
- Pessoa, J. P., and Van Reenen, J. (2013). Wage Growth and Productivity Growth: The Myth and Reality of Decoupling' (No. 401). Centre for Economic Performance, LSE.
- Pessoa, J. P., and Van Reenen, J. (2014). The UK Productivity and Jobs Puzzle: Does the Answer lie in Wage Flexibility? *The Economic Journal*, 124(576), 433-452.
- Piketty, T. (2014). *Capital in the Twenty-First Century*. Cambridge, Massachusetts: The Belknap Press of Harvard University Press.
- Ricardo, D. (1817). *On the Principles of Political Economy and Taxation*. London.
- Roodman, D. (2009). How to do xtabond2: An Introduction to Difference and System GMM in Stata. *Stata Journal*, 9(1), 86-136.
- Stansbury, A. M., and Summers, L. H. (2017). Productivity and Pay: Is the Link Broken? (No. w24165). National Bureau of Economic Research.
- Traina, J. (2018). Is Aggregate Market Power Increasing? Production Trends Using Financial Statements. Stigler Center for the Study of the Economy and the State, University of Chicago Booth School of Business, New Working Paper Series No. 17.
- Van Reenen, J. (1996). The Creation and Capture of Rents: Wages and Innovation in a Panel of UK Companies. *The Quarterly Journal of Economics*, 111(1), 195-226.

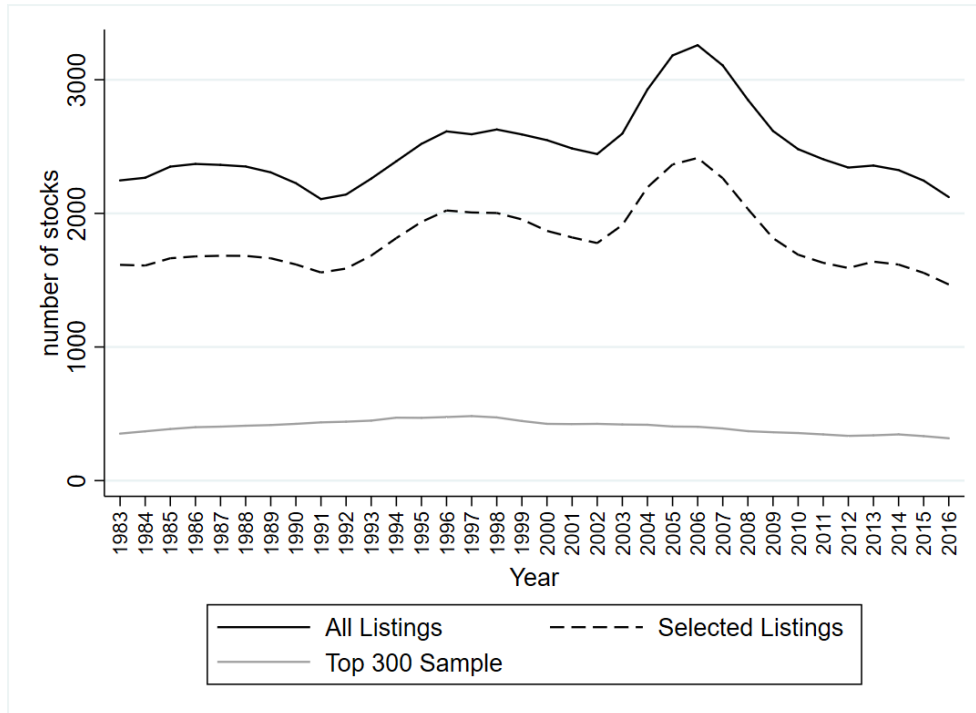
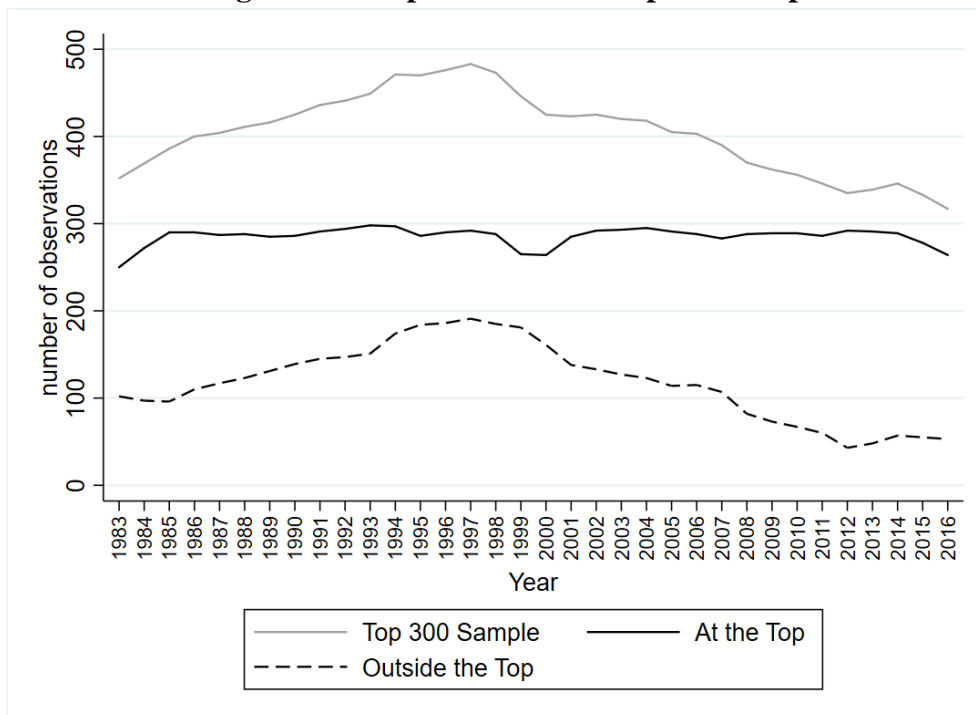


Figure 1: The Number of Listings on the London Stock Exchange

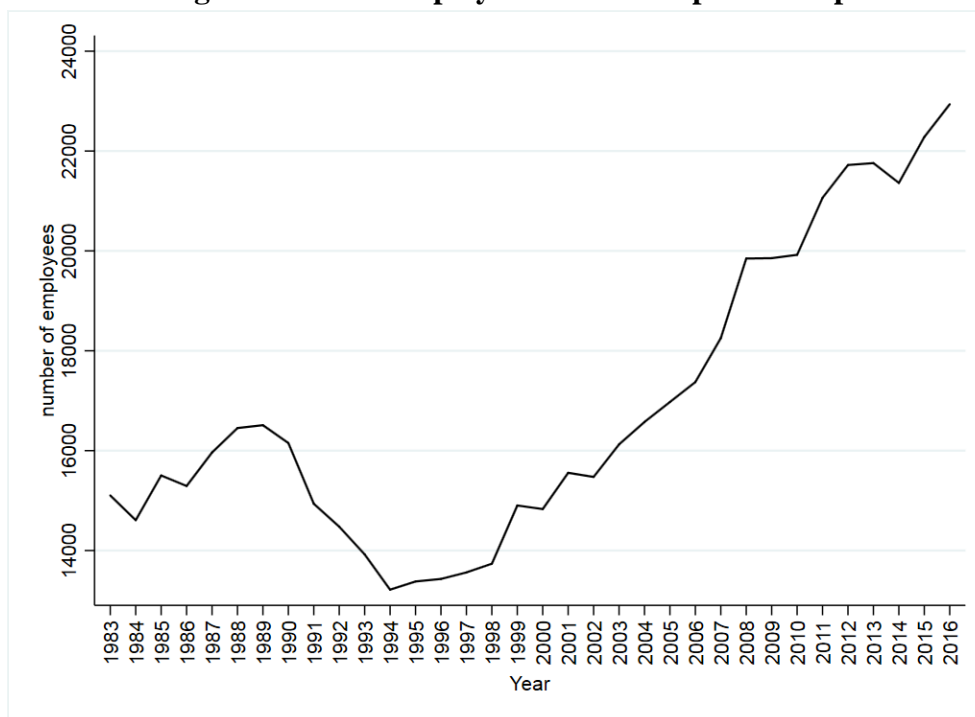
Notes: The black solid line denotes the total number of listings on the London Stock Exchange (LSE). The black dashed line marks the number of listings, which are used to construct the top 300 sample represented by the grey line. See the text for more details on the sample construction. Source: LSPD, own calculations.

Figure 2: Composition of the Top 300 Sample



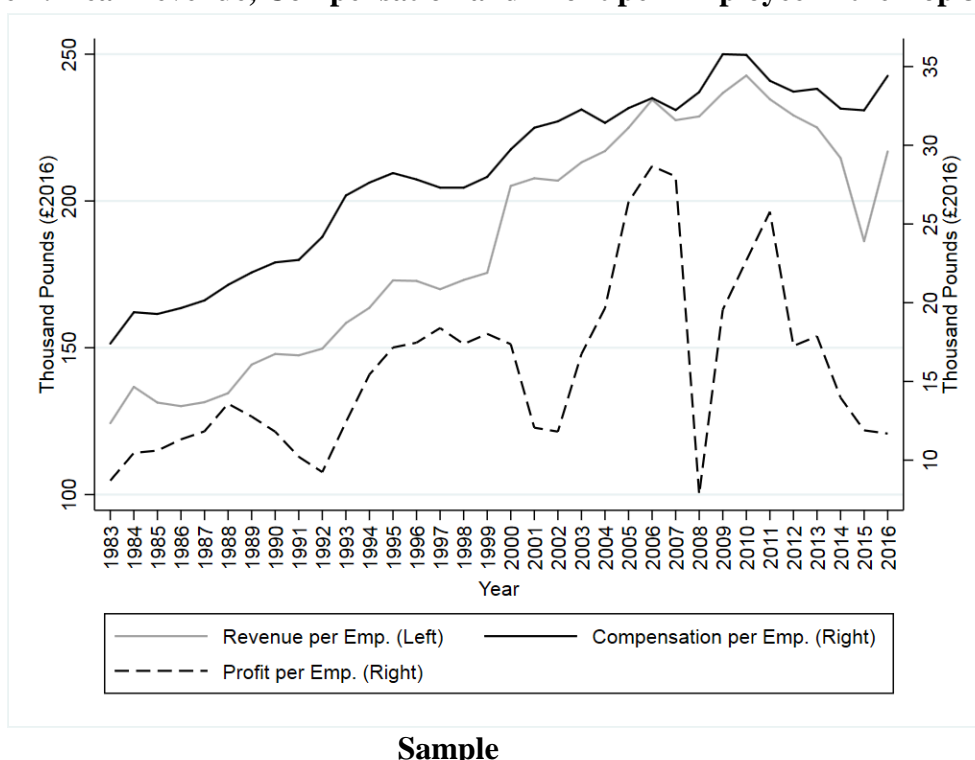
Notes: The grey line denotes the total number of companies in the top 300 sample. The black solid line marks the number of companies, which were within the top 300 in a given year. The black dashed line shows the number of companies, which were not within the top 300 in a given year, but were in the top for some other year between 1983 and 2016. Source: LSPD, own calculations.

Figure 3: Mean Employment in the Top 300 Sample



Notes: The graph presents the mean employment for companies in the top 300 sample with trimmed profits per employee (top/bottom 1%). Source: author's construction based on various sources (see the text).

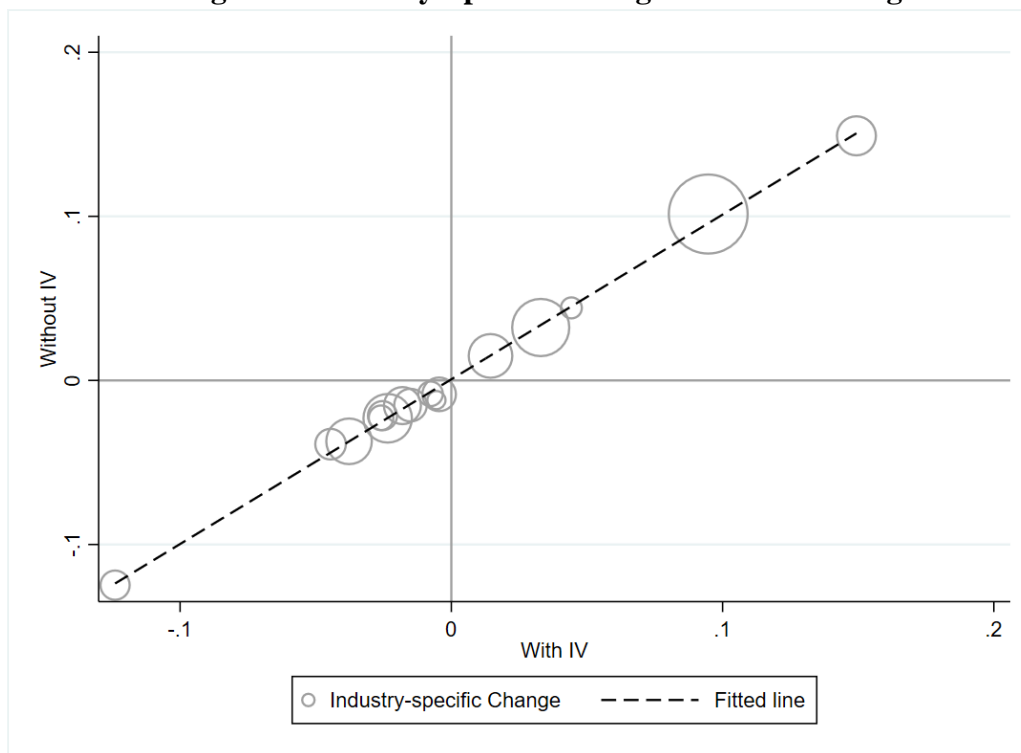
Figure 4: Real Revenue, Compensation and Profit per Employee in the Top 300



Sample

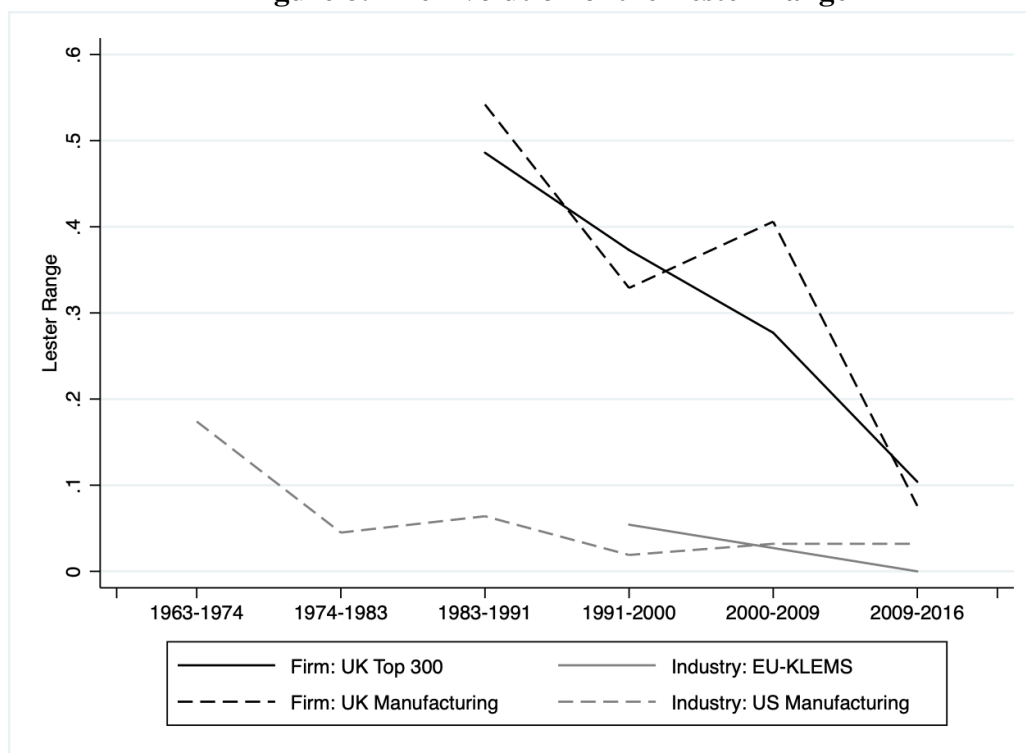
Notes: The graph presents the weighted mean of total revenue, compensation and profit before taxation per employee, deflated by the CPI. The data are for companies in the top 300 sample with trimmed profits per employee (top/bottom 1%). Source: author's construction based on various sources (see the text).

Figure 5: Industry-Specific Changes in Rent Sharing



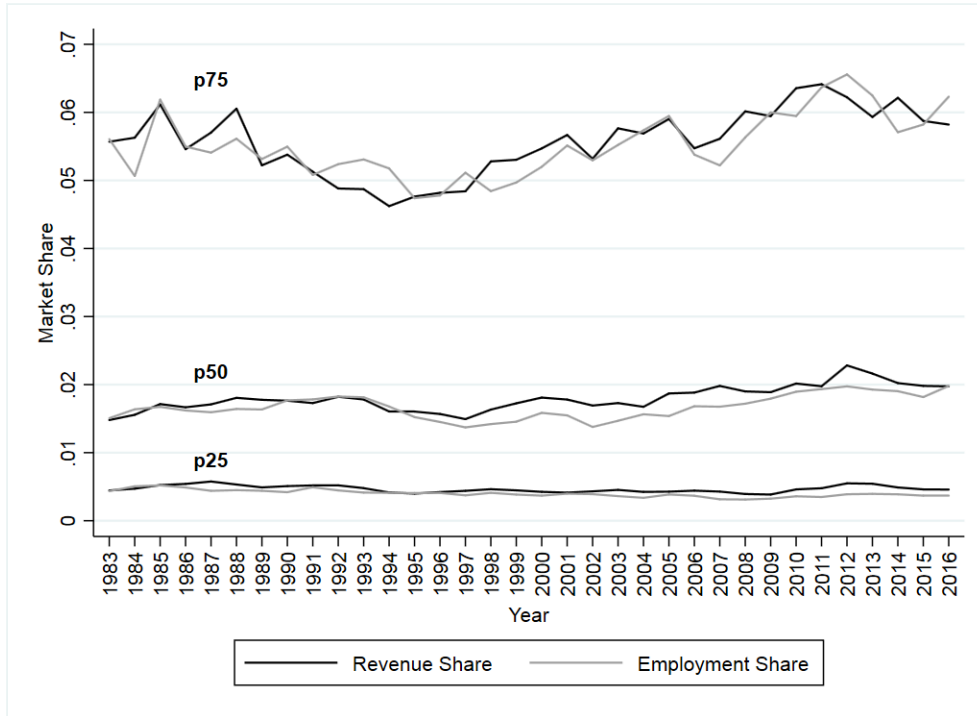
Notes: Arellano-Bond estimates from the first-differenced firm-level regression of log compensation per employee, on the lagged depended variable, profits per employee, the log average industry wages and year fixed effects. Profits were instrumented using the industry-level leave-out means of profits. Each circle represents the estimated change between the two periods 2001-2016 and 1983-2000, the size of circle marks the average (across time) sector share in the total value added.

Figure 6: The Evolution of the Lester Range



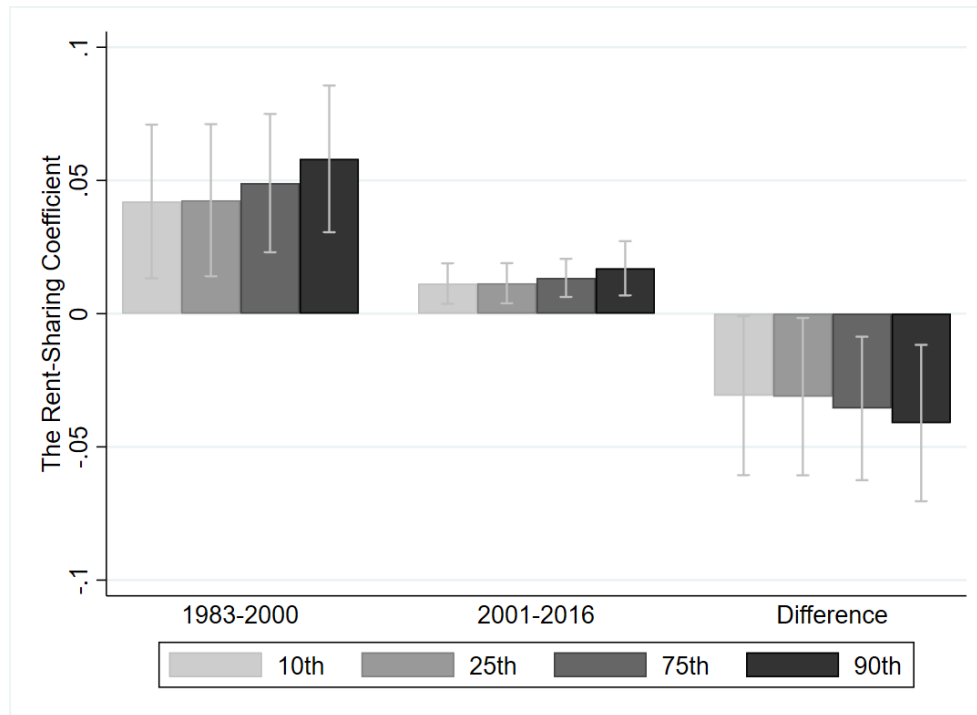
Notes: For “Industry: US manufacturing” the periods 2000-2009 and 2009-2016 are the same and correspond to 2000-2011. For “Industry: EU-KLEMS” the period 2009-2016 corresponds to 2009-2015.

Figure 7: Market Share



Notes: The graph presents the evolution of the 75th (p75), median (p50) and 25th (p25) percentiles of market share. The black lines marks estimates based on revenue. The grey line marks estimates based on employment. Data is for companies in the top 300 sample with trimmed profits per employee (top/bottom 1%). Source: author's construction based on various sources (see the text).

Figure 8: Firm-Level Rent Sharing and Market Share of Revenue



Notes: The Arellano-Bond estimates from the first-differenced firm-level regression of log compensation per employee on the lagged depended variable, profits per employee, market share of revenue, the interaction term between market share and profits, the log average industry wages and year fixed effects. Three lags of all independent variables are included. Data are for companies in the top 300 sample with trimmed profits (top/bottom 1%). Standard errors clustered at firm level

Table 1: Rankings of Companies in the Top 300 Sample

1983		2000		2016		
Market Capitalization (in mln)		Market Capitalization (in mln)		Market Capitalization (in mln)		
1	British Petroleum	7421	Vodafone Group	158124	HSBC Holdings	130498
2	General Electric Company	4888	British Petroleum	121844	British Petroleum	99236
3	Imperial Chemical Industries	3880	GlaxoSmithKline	118910	British American Tobacco	86162
4	Marks and Spencer Group	2830	HSBC Holdings	91284	GlaxoSmithKline	76695
5	British American Tobacco	2631	AstraZeneca	59619	AstraZeneca	56137
Employment		Employment		Employment		
		18717				
1	British American Tobacco	3	Unilever	295000	G4S	592897
		17086				
2	General Electric Company	5	Anglo American	249000	Compass Group	527180
		13629				
3	Grand Metropolitan	7	Sainsbury	185200	Tesco	464520
		13160				
4	British Petroleum	0	HSBC Holdings	161624	HSBC Holdings	235175
		12700				
5	Unilever	0	Tesco	152210	Sainsbury	181900
Revenue (in mln)		Revenue (in mln)		Revenue (in mln)		
1	British Petroleum	32381	British Petroleum	97900	British Petroleum	136100
2	Imperial Chemical Industries	8256	Aviva	40244	Legal and General Group	77969
3	British American Tobacco	7904	HSBC Holdings	33182	Prudential	71842
4	Barclays	7888	Unilever	28977	HSBC Holdings	60495
5	National Westminster Bank	6605	Prudential	28078	Tesco	55917

Table 2: Descriptive Statistics

	Year	N	Mean	SD	Min	Max
Employment	1983	337	15104	25974	27	187173
	2000	413	14831	30645	22	295000
	2016	307	22939	59283	5	592897
Compensation per Employee (in th £2016)	1983	323	18.6	7.5	1.8	75.4
	2000	413	29.7	16.0	0.6	315.8
	2016	307	34.4	24.4	1.1	525.0
Revenue per Employee (in th £2016)	1983	333	124.4	119.6	11.4	4734.2
	2000	413	205.1	262.1	2.9	7958.4
	2016	307	216.9	458.1	0.0	9447.4
Profit per Employee (in th £2016)	1983	337	8.7	9.4	-0.1	408.4
	2000	413	17.4	30.7	-160.9	1092.2
	2016	307	11.7	33.5	-722.3	914.5

Notes: *Compensation, Revenue and Profit before taxation per employee are deflated by the CPI and expressed in £2016. The data are for companies in the top 300 sample with trimmed profits per employee (top/bottom 1%).* Source: author's construction based on various sources (see the text).

Table 3: Firm-Level Rent Sharing 1983-2016

Dependent Variable: $\text{Log } w_{ijt}$								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\text{Log } w_{ijt-1}$	0.477*** (0.034)	0.488*** (0.034)	0.43*** (0.052)	-0.177*** (0.028)	0.478*** (0.035)	0.494*** (0.036)	0.445*** (0.054)	-0.187*** (0.028)
π/n_{ijt}	0.006*** (0.002)	0.008*** (0.002)	0.01*** (0.002)	0.008*** (0.002)	0.006*** (0.001)	0.008*** (0.002)	0.009*** (0.002)	0.008*** (0.002)
π/n_{ijt-1}	-	-0.002** (0.001)	-0.003 (0.002)	0 (0.003)	-	-0.002* (0.001)	-0.003 (0.002)	0.001 (0.003)
π/n_{ijt-2}	-	-	0.002 (0.002)	0 (0.001)	-	-	0.002 (0.002)	0.001 (0.001)
π/n_{ijt-3}	-	-	-0.001 (0.001)	-0.002** (0.001)	-	-	-0.001 (0.001)	-0.002** (0.001)
$\text{Log } \bar{w}_{ijt}$	0.004 (0.008)	-0.017 (0.016)	0.018 (0.017)	0.005 (0.012)	0 (0.009)	0.001 (0.018)	0.011 (0.019)	0.006 (0.012)
$\text{Log } \bar{w}_{ijt-1}$	-	0.045 (0.03)	-0.048 (0.03)	-0.021 (0.015)	-	0.005 (0.038)	0.003 (0.036)	-0.007 (0.015)
$\text{Log } \bar{w}_{ijt-2}$	-	-	0.11** (0.054)	0.03 (0.019)	-	-	0.102 (0.074)	0.004 (0.02)
$\text{Log } \bar{w}_{ijt-3}$	-	-	0.014 (0.053)	0.074*** (0.025)	-	-	-0.054 (0.07)	0.039 (0.026)
$\text{Log } U_{ijt}$	0.005 (0.009)	0.043*** (0.013)	-0.006 (0.015)	0.025* (0.015)	-	-	-	-
$\text{Log } U_{ijt-1}$	-	-0.047*** (0.013)	-0.034 (0.022)	-0.029* (0.016)	-	-	-	-
$\text{Log } U_{ijt-2}$	-	-	0.109*** (0.024)	0.066*** (0.019)	-	-	-	-
$\text{Log } U_{ijt-3}$	-	-	-0.124*** (0.018)	-0.048*** (0.016)	-	-	-	-
LR Coefficient	0.011 (0.003)	0.010 (0.003)	0.013 (0.003)	0.006 (0.004)	0.011 (0.003)	0.011 (0.003)	0.013 (0.003)	0.007 (0.004)
Lester Range	0.158	0.144	0.183	0.093	0.160	0.155	0.182	0.108
Firm-Years	11478	11380	9751	9751	11478	11380	9751	9751
Firms	832	829	731	731	832	829	731	731
Time	Quad	Quad	Quad	Quad	Year FE	Year FE	Year FE	Year FE
Instruments	Lag(2/.)	Lag(2/.)	Lag(2/.)	No	Lag(2/.)	Lag(2/.)	Lag(2/.)	No

Notes: OLS (Columns 4 and 8) and Arellano-Bond estimates from the first-differenced firm-level regression of log compensation per employee, on the lagged depended variable, profits per employee, the log average industry wages, the log unemployment rate and quadratic time trend (Columns 1-4) or year fixed effects (Columns 5-8). Various lags of all independent variables are included. Data are for companies in the top 300 sample with trimmed profits per employee (top/bottom 1%). Standard errors clustered at firm level. *** p<0.001, ** p<001, * p<0.05.

Table 4: The Evolution of Firm-Level Rent Sharing

Dependent Variable: Log w_{ijt}										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	1983- 2000	2001- 2016	1983- 1991	1991- 2000	2000- 2009	2009- 2016	1983- 1991	1991- 2000	2000- 2009	2009- 2016
Log w_{ijt}	0.376** *	0.428***	0.620***	0.438** *	0.512***	0.253***	0.351*	0.359***	0.597***	0.265** *
	(0.086)	(0.062)	(0.161)	(0.077)	(0.057)	(0.083)	(0.183)	(0.129)	(0.085)	(0.098)
π/n_{ijt}	0.017** *	0.01***	0.002	0.017** *	0.010***	0.004	0.013	0.033***	0.008*	0.005
	(0.004)	(0.003)	(0.006)	(0.003)	(0.003)	(0.003)	(0.021)	(0.009)	(0.005)	(0.006)
π/n_{ijt-1}	0	-0.003	0.014	-0.003	-0.005	0.002	0.014	0.006	-0.006	0.007**
	(0.004)	(0.003)	(0.010)	(0.003)	(0.004)	(0.002)	(0.025)	(0.011)	(0.008)	(0.003)
π/n_{ijt-2}	0.004	0.002	0.003	0.006*	0.002	-0.001	0.014	-0.001	-0.003	-0.008*
	(0.003)	(0.002)	(0.008)	(0.003)	(0.002)	(0.001)	(0.025)	(0.009)	(0.005)	(0.005)
π/n_{ijt-3}	0.006* (0.003)	-0.002* (0.001)	-	-	-	-	-	-	-	-
Log \bar{w}_{ijt}	-0.007 (0.026)	0.012 (0.021)	-0.136 (0.106)	-0.010 (0.028)	0.121* (0.066)	0.006 (0.018)	-0.066 (0.057)	-0.021 (0.026)	0.039 (0.070)	0.018 (0.017)
Log \bar{w}_{ijt-1}	0.077 (0.116)	0.002 (0.038)	0.184 (0.227)	0.152 (0.136)	0.118 (0.119)	0.001 (0.033)	-0.004 (0.060)	0.019 (0.028)	-0.039 (0.066)	-0.020 (0.026)
Log \bar{w}_{ijt-2}	-0.116 (0.116)	0.18* (0.101)	0.000 (0.210)	-0.199 (0.127)	-0.140 (0.140)	0.198 (0.126)	-0.021 (0.037)	-0.030 (0.029)	-0.142 (0.086)	0.159* (0.090)
Log \bar{w}_{ijt-3}	-0.04 (0.099)	-0.016 (0.09)	-	-	-	-	-	-	-	-
LR Coeff.	0.043 (0.013)	0.012 (0.004)	0.050 (0.042)	0.035 (0.009)	0.016 (0.007)	0.007 (0.004)	0.065 (0.053)	0.060 (0.021)	-0.003 (0.028)	0.006 (0.012)
Lester R.	0.445	0.200	0.486	0.373	0.277	0.104	0.627	0.642	-0.056	0.095
Firm-Years	4719	5032	1,901	3,748	3,437	2,474	1,897	3,748	3,437	2,474
Firms	547	503	404	539	494	379	404	539	494	379
Time	Year FE	Year FE	Year FE	Year FE	Year FE	Year FE	Year FE	Year FE	Year FE	Year FE
Instruments	Lag(2/.)	Lag(2/.)	Lag(2/.)	Lag(2/.)	Lag(2/.)	Lag(2/.)	Ind. Profits	Ind. Profits	Ind. Profits	Ind. Profits

Notes: The Arellano-Bond estimates from the first-differenced firm-level regression of log compensation per employee, on the lagged depended variable, profits per employee, the log average industry wages, and year fixed effects. Three (Columns 1-2) or two (Columns 3-10) lags of all independent variables are included. Data are for companies in the top 300 sample with trimmed profits per employee (top/bottom 1%). In columns 1-6, profits are instrumented with their previous lags. In columns 7-10, profits are instrumented with the industry-level leave-out means. Standard errors clustered at firm level. *** p<0.001, ** p<0.01, * p<0.05.

Table 5: Manufacturing Firm-Level Rent Sharing (Domestic Operation)

Dependent Variable: $\text{Log } w_{irt}$						
	(1)	(2)	(3)	(4)	(5)	(6)
	1983-2016	1983-2016	1983-1991	1991-2000	2000-2009	2009-2016
$\text{Log } w_{irt-1}$	0.372*** (0.027)	0.370*** (0.037)	0.466*** (0.04)	0.365*** (0.034)	0.174*** (0.062)	0.239*** (0.042)
π/n_{irt}	0.0150*** (0.012)	0.0135*** (0.007)	0.058** (0.026)	0.042*** (0.014)	0.014* (0.007)	0.016 (0.011)
π/n_{irt-1}	0.0022 (0.01)	0.00251 (0.006)	-0.013 (0.022)	-0.001 (0.012)	0.009 (0.007)	-0.002 (0.008)
π/n_{irt-2}	-0.00942*** (0.004)	-0.00982*** (0.004)	-0.014** (0.006)	-0.021*** (0.006)	-0.008 (0.005)	-0.004 (0.006)
π/n_{irt-3}	0.00177 (0.004)	0.00159 (0.004)	0.006 (0.005)	0.003 (0.006)	0.012** (0.006)	-0.005 (0.005)
$\text{Log } \bar{w}_{irt}$	0.446*** (0.167)	0.0301 (0.287)	-1.209** (0.598)	0.411 (0.275)	0.258 (0.472)	-1.286** (0.595)
$\text{Log } \bar{w}_{irt-1}$	0.412*** (0.389)	0.711** (0.578)	-0.865 (1.43)	1.257** (0.522)	-0.048 (0.846)	1.347 (0.886)
$\text{Log } \bar{w}_{irt-2}$	-0.185* (0.361)	0.541* (0.71)	4.073* (2.103)	0.753 (0.48)	1.178 (0.95)	0.11 (0.939)
$\text{Log } \bar{w}_{irt-3}$	0.155 (0.393)	-0.333 (0.639)	0.131 (2.074)	0.322 (0.477)	0.335 (0.545)	-1.026 (1.073)
$\text{Log } U_{irt}$	-0.110*** (0.041)	-0.0631* (0.066)	-0.236*** (0.087)	0.134 (0.103)	0.019 (0.079)	-0.169 (0.127)
$\text{Log } U_{irt-1}$	0.0973*** (0.127)	-0.192** (0.113)	-0.522** (0.251)	-0.274 (0.197)	0.121 (0.178)	-0.107 (0.183)
$\text{Log } U_{irt-2}$	0.0222 (0.153)	0.0361 (0.148)	0.337 (0.307)	-0.273 (0.23)	-0.207 (0.194)	0.476** (0.238)
$\text{Log } U_{irt-3}$	0.0525*** (0.157)	0.0419 (0.121)	-0.115 (0.302)	0.182 (0.192)	0.155 (0.187)	-0.077 (0.156)
LR Coefficient	0.015 (0.008)	0.012 (0.008)	0.069 (0.054)	0.037 (0.03)	0.033 (0.015)	0.007 (0.02)
Lester Range	0.18	0.15	0.542	0.329	0.406	0.076
Firm-Years	27250	27250	13,374	9,164	3,700	3,108
Firms	2797	2797	2,058	1,606	841	619
Time	Quad	Year FE	Year FE	Year FE	Year FE	Year FE
Instruments	Lag(2/.)	Lag(2/.)	Lag(2/.)	Lag(2/.)	Lag(2/.)	Lag(2/.)

Notes: The Arellano-Bond estimates from the first-differenced firm-level regression of log compensation per employee, on the lagged depended variable, profits per employee, log average regional wages, log regional unemployment rate and quadratic polynomial of time (Column 1) or year fixed effects (Columns 2-6). Three lags of all independent variables are included. Data are for manufacturing companies from ARD and ABS, with trimmed profits per employee (top/bottom 1%). Standard errors clustered at firm level. *** p<0.001, ** p<0.01, * p<0.05.

Table 6: Industry-Level Rent Sharing in the EU

Dependent Variable: $\text{Log } w_{ijt} - \text{Log } w_{ijt-l}$				
	(1)	(2)	(3)	(4)
<i>1991-2005</i>				
$(\pi/n)_{ij2005} - (\pi/n)_{ij1991}$	0.0019*** (0.0001)	0.0015*** (0.0001)	0.0017*** (0.0003)	0.0012*** (0.0003)
Lester Range	0.05	0.04	0.05	0.03
<i>2005-2015</i>				
$(\pi/n)_{ij2015} - (\pi/n)_{ij2005}$	-0.0003 (0.0003)	-0.0003 (0.0003)	-0.0001 (0.0002)	-0.0001 (0.0002)
Lester Range	0	0	0	0
Observations	255	255	255	255
Country FE	No	Yes	No	Yes
Industry FE	No	No	Yes	Yes

Notes: The pooled OLS estimates from the industry-level regression of the 14-years (1991-2005) or 10-years (2005-2015) change in log compensation per employee on the analogous change in log value added per employee, country fixed effects (Columns 2 and 5) and industry fixed effects (Columns 3 and 4), run separately for each period. The changes are calculated for the 3-years averages. Source: EU-KLEMS, own calculations. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

Table 7: Industry-Level Rent Sharing in US Manufacturing

Dependent Variable: Log w_{ijt}						
	(1)	(2)	(3)	(4)	(5)	(6)
	1963-2011	1963-1974	1974-1983	1983-1991	1991-2000	2000-2011
Log w_{ijt-1}	0.729*** (0.016)	0.362*** (0.044)	0.606*** (0.029)	0.382*** (0.049)	0.506*** (0.028)	0.508*** (0.031)
π/n_{ijt}	0.005** (0.002)	0.037*** (0.009)	0.010*** (0.004)	0.012*** (0.003)	0.008*** (0.003)	0.005*** (0.002)
π/n_{ijt-1}	0.000 (0.002)	-0.001 (0.009)	-0.004 (0.004)	-0.010*** (0.004)	-0.005 (0.004)	0.001 (0.002)
π/n_{ijt-2}	-0.003 (0.001)	-0.010** (0.005)	-0.001 (0.003)	0.004 (0.002)	-0.002 (0.003)	-0.005* (0.003)
π/n_{ijt-3}	0.001 (0.001)	0.009** (0.004)	-0.001 (0.003)	0.003 (0.003)	0.001 (0.003)	0.001 (0.002)
Log \bar{w}_{ijt}	0.034*** (0.008)	0.065*** (0.020)	0.047* (0.026)	0.066*** (0.022)	0.051*** (0.016)	0.008 (0.014)
Log \bar{w}_{ijt-1}	0.025* (0.012)	0.101** (0.051)	-0.004 (0.030)	0.039 (0.030)	0.030 (0.023)	0.006 (0.018)
Log \bar{w}_{ijt-2}	0.029* (0.014)	0.082* (0.050)	0.065 (0.040)	0.098*** (0.029)	0.026 (0.030)	-0.033* (0.018)
Log \bar{w}_{ijt-3}	0.064*** (0.009)	-0.027** (0.011)	0.140*** (0.033)	0.100*** (0.036)	0.077*** (0.026)	0.042** (0.018)
LR Coefficient	0.014 (0.005)	0.054 (0.019)	0.013 (0.012)	0.014 (0.004)	0.004 (0.008)	0.005 (0.004)
Lester Range	0.082	0.174	0.045	0.064	0.019	0.032
Industry-Years	21004	4590	4590	4130	4550	4972
Industries	459	459	459	459	458	452
Time	Year FE	Year FE	Year FE	Year FE	Year FE	Year FE
Instruments	Lag(2/.)	Lag(2/.)	Lag(2/.)	Lag(2/.)	Lag(2/.)	Lag(2/.)

Notes: The Arellano-Bond estimates from the first-differenced industry-level regression of log compensation per employee, on the lagged depended variable, profits per employee, the log average industry wages and year fixed effects. Three lags of all independent variables are included. Data are from IPUMS-CPS March files and NBER-CES Manufacturing database. Standard errors clustered at industry level. *** p<0.001, ** p<0.01, * p<0.05.

Table 8: Rent Sharing and Market Share

	Dependent Variable: $\text{Log } w_{irt}$					
	Revenue Share			Employment Share		
	(1)	(2)	(3)	(4)	(5)	(6)
	1983-2016	1983-2000	2001-2016	1983-2016	1983-2000	2001-2016
$\text{Log } w_{irt-1}$	0.455 (0.049)	0.433 (0.059)	0.418 (0.056)	0.452 (0.048)	0.374 (0.071)	0.42 (0.054)
π/n_{irt}	0.008 (0.002)	0.015 (0.004)	0.009 (0.002)	0.009 (0.002)	0.017 (0.004)	0.01 (0.003)
π/n_{irt-1}	-0.002 (0.002)	0 (0.004)	-0.002 (0.003)	-0.002 (0.002)	-0.001 (0.004)	-0.002 (0.003)
π/n_{irt-2}	0.001 (0.002)	0.002 (0.004)	0.002 (0.002)	0.001 (0.002)	0.004 (0.003)	0.002 (0.002)
π/n_{irt-3}	-0.001 (0.001)	0.006 (0.004)	-0.002 (0.001)	-0.001 (0.001)	0.006 (0.003)	-0.002 (0.001)
$\pi/n_{irt} \times m_{irt}$	-0.012 (0.005)	0.005 (0.022)	-0.018 (0.006)	-0.02 (0.009)	0.016 (0.028)	-0.026 (0.011)
$\pi/n_{irt-1} \times m_{irt-1}$	0.008 (0.008)	0.012 (0.029)	0.005 (0.009)	0.012 (0.01)	0.071 (0.043)	0.007 (0.012)
$\pi/n_{irt-2} \times m_{irt-2}$	0.02 (0.009)	0.05 (0.036)	0.016 (0.01)	0.029 (0.01)	0.009 (0.042)	0.024 (0.014)
$\pi/n_{irt-3} \times m_{irt-3}$	0.023 (0.006)	0.01 (0.033)	0.019 (0.008)	0.036 (0.011)	0.038 (0.034)	0.041 (0.016)
m_{irt}	0.045 (0.058)	0.012 (0.089)	0.061 (0.097)	-0.398 (0.121)	-0.279 (0.118)	-0.734 (0.281)
m_{irt-1}	-0.129 (0.086)	-0.172 (0.099)	-0.01 (0.164)	0.185 (0.124)	-0.066 (0.089)	0.648 (0.267)
m_{irt-2}	-0.005 (0.055)	0.073 (0.095)	-0.065 (0.087)	-0.102 (0.065)	0.075 (0.084)	-0.252 (0.099)
m_{irt-3}	0.066 (0.061)	0.052 (0.071)	0.159 (0.114)	0.041 (0.069)	0.02 (0.061)	0.043 (0.138)
Firm-Years	9581	4640	4941	9607	4665	4942
Firms	726	542	497	730	545	498
Time	Year FE	Year FE	Year FE	Year FE	Year FE	Year FE
Instruments	Lag(2/.)	Lag(2/.)	Lag(2/.)	Lag(2/.)	Lag(2/.)	Lag(2/.)

Notes: The Arellano-Bond estimates from the first-differenced firm-level regression of log compensation per employee, on the lagged depended variable, profits per employee, measures of market share, interaction between profits per employee and market share, the log average industry wages (not reported), and year fixed effects. Three lags of all independent variables are included. Data are for companies in the top 300 sample with trimmed profits per employee (top/bottom 1%). In columns 1-3 market share is defined as firm's revenue share in the industry total, in columns 4-6 as firm's employment share in the industry total. Profits are instrumented with their previous lags. Standard errors clustered at firm level. *** p<0.001, ** p<0.01, * p<0.05.

Appendix

Data Sources

- Annual Business Survey (ABS): Office for National Statistics. (2018). Annual Business Survey, 2008-2016: Secure Access. [data collection]. 9th Edition. UK Data Service. SN: 7451, <http://doi.org/10.5255/UKDA-SN-7451-9>
- Annual Respondents Database (ARD): Office for National Statistics, , 1973-2008: Secure Data Service Access [computer file]. Colchester, Essex: UK Data Archive [distributor], March 2011. SN: 6644.
- Compustat: Standard & Poor, 1980-2018. Access on-line through Warton Research Data Services <https://wrds-web.wharton.upenn.edu/wrds/>
- EU-KLEMS: Jäger, K. (2016). EU KLEMS Growth and Productivity Accounts 2017 Release, Statistical Module1. December, http://www.euklems.net/TCB/2016/Methodology_EU%20KLEMS_2016.pdf.
- FAME: Bureau van Dijk Electronic Publishing, 2007-2017. Access on-line through: <https://fame.bvdinfo.com/>
- Labour Force Survey (LFS): Office for National Statistics, Labour Force Survey, 1979 – 1991: Colchester, Essex: UK Data Archive [distributor]. SN: 2360, 2265, 2839, 2029, 2875, 1756, 1888, 2722, 2143, 2721, 2720, 1758, 1757.
- London Share Price Database (LSPD): London Business School, 1980-2018. Access on-line through Warton Research Data Services <https://wrds-web.wharton.upenn.edu/wrds/>
- NBER-CES Manufacturing Industry Database: Randy Becker, Wayne Gray, Jordan Marvakov (2016). Access on-line: <http://www.nber.org/nberces/>
- New Earnings Survey Panel Dataset (NESPD): Office for National Statistics. (2017). New Earnings Survey Panel Dataset, 1975-2016: Secure Access. [data collection]. 7th Edition. UK Data Service. SN: 6706, <http://doi.org/10.5255/UKDA-SN-6706-7>
- NOMIS: Office for National Statistics. NOMIS Official Labour Market Statistics. Access on-line: <https://www.nomisweb.co.uk/>
- ORBIS: Bureau van Dijk Electronic Publishing, 1980-2017. Access through the LSE Library.
- Worldscope: Thomson Reuters, 1980-2018. Access through Datastream