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Competition policy and labour market power: new evidence and open questions

Joel Kariel,* Jakob Schneebacher,** and Mike Walker ***

Abstract Emerging evidence on pervasive and rising market power in US labour markets has led some competition agencies to wonder if the prevailing focus on product market power is too narrow. We survey existing competition enforcement in labour markets and the empirical evidence on the extent and impact of labour market power, with a particular focus on the UK. We find that in contrast to the US, labour market power in the UK has not risen substantially. Nonetheless, workers vary in their exposure and, for some, labour market power has significant economic costs. Labour market power also appears to interact in significant ways with other labour market policies. We argue these findings underscore the danger of making policy decisions based on evidence from other countries, or by analogy with product markets. We survey what these findings mean for existing tools available to competition agencies and conclude by laying out four types of open questions: theoretical, empirical, legal, and normative.

Keywords: labour market power, labour market concentration, competition policy

JEL codes: D43, J31, J42, L40

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Introduction

Labour market power refers to an imbalance between the relative bargaining strength of firms and workers, resulting in wages that differ from the marginal product of labour.¹ While competition agencies have traditionally focused on product market power, labour market power is a growing part of the debate. Recent advances in the literature have highlighted rising labour market power across the economy and the effect of labour market concentration on worker outcomes. At the same time, competition authorities have also increasingly used their existing toolbox to combat wage fixing, a form of price fixing in labour markets. The new US Horizontal Merger Guidelines (US Department of Justice and Federal Trade Commission, 2023) make it clear that US agencies may block mergers on labour market grounds alone.

There are three ways to think about labour markets and market power from a competition perspective. Competition authorities may be interested in the effect of product market power on labour market outcomes, as in Nickell *et al.* (1994) or Montag (2023). They may be interested in the impacts of labour market power on labour market outcomes, as in Prager and Schmitt (2021). Finally, they may be interested in the impact of labour market power on consumer outcomes, as in Berger *et al.* (2022). This paper focuses on the latter two cases (where market power arises in labour markets) and only briefly touches on the impact of product market power on labour market outcomes.

Table 1 summarizes these three options for reference. The final quadrant in the table deals with product market power's impact on consumer outcomes. This is traditionally the more standard domain of competition enforcement.

¹ Typically, a rise in labour market power is taken to mean a shift in power towards firms, with workers earning *less* than their marginal product. The rest of our discussion follows this convention.

Table 1: Market power and harm in different domains

	<i>Consumer harm</i>	<i>Worker harm</i>
<i>Product market power</i>	‘Classical’ competition enforcement	Out of scope for this article
<i>Labour market power</i>	In scope for this article	In scope for this article

Notes: Conceptual table, authors’ own calculations.

There are many ways in which firms may exert labour market power over workers. They may impose contractual clauses, suppress pay, or offer poor working conditions. But why does this imbalance in power exist? If workers cannot seamlessly move between jobs, they cannot respond to a marginally better employment option becoming available, or a worsening in the conditions of their current job.

This may occur due to job search frictions (not knowing all options that are available, as in Pissarides, 2011; Bhuller *et al.*, 2023), mobility frictions (an inability to move across occupations or geographies, as in Redding and Rossi-Hansberg, 2017; Heise and Porzio, 2021), contractual limitations (preventing a switch to a competitor, as in Starr *et al.*, 2019), or simply a lack of alternatives (perhaps there is a single local employer due to barriers to entry, maybe due to ‘job differentiation’, as in Azar *et al.*, 2022a). When employees face limited outside options in the labour market, firms with market power face upward-sloping labour supply functions, instead of the infinitely elastic labour supply that would prevail in the mythical perfectly competitive labour market.

In this article, we survey how competition agencies have approached labour market power to date, what the latest empirical evidence tells us, and finish with some open questions for further research. We argue that, while certain types of labour market power are straightforwardly addressed with existing tools, others present unknown and often significant trade-offs for competition agencies.

We summarize new empirical evidence to inform these trade-offs for the UK from a recent report by the UK Competition and Markets Authority (CMA, 2024). Across a variety of data sources and methodologies, labour market power in the UK does not seem to have increased in recent decades, in contrast to US trends. This underscores the importance of country-specific evidence.

However, labour market power does not affect all labour markets and workers equally. Some markets are highly concentrated and, for workers in them, there are real costs to pay. Labour market power also interacts with, and is influenced by, other labour market policies and factors, from minimum wage policies to the prevailing employment law. This has two implications: first, analogies from product markets do not always carry over very well. Second, other policy-makers besides competition agencies may have access to better (or at least complementary) tools.

We conclude with a series of open questions for researchers working on labour market power. These questions fall into four categories: theoretical, empirical, legal, and normative. Progress in these areas would enable a better understanding of the options and trade-offs competition agencies face with respect to labour market power.

The rest of the article is structured as follows. Section I outlines what actions competition agencies worldwide have recently taken in this space. Section II summarizes the state of our knowledge on labour market power, with particular attention to the UK. Section III reviews the evidence on worker and wider outcomes. Section IV takes stock of what these trends mean for policy-makers, and a final section V lays out the important questions that remain unanswered.

I. Competition enforcement in labour markets: tools and recent activity

Competition policy enforcement with respect to labour market power currently broadly falls into three categories: respectively, the treatment of illegal practices such as wage fixing and no-poach agreements, guidance for firms (for instance, on solo self-employed workers and restrictive covenants), and, for a few agencies, labour market theories of harm in merger cases.

Figure 1, based on the authors' calculations, summarizes enforcement activities in this area. Three points stand out. First, the total number of enforcement actions with a labour market element has increased sixfold in the past 10 years. Second, wage-fixing and no-poach cases have accounted for most enforcement work in this area. Third, US competition authorities have been responsible for the largest share of cases to date.

Like price fixing and market sharing, wage fixing and no poach agreements are illegal in many jurisdictions, allowing competition agencies to sidestep the question of who is harmed by the action. Perhaps as a result, interventions on wage fixing or no-poach grounds have been the most common labour market competition interventions to date. The US Department of Justice

(DoJ) has recently investigated wage fixing or no-poach agreements in home healthcare,² aerospace engineering,³ rail equipment,⁴ and software engineering,⁵ among others.

Other competition agencies have also been active in this area. The Dutch competition authority has recently investigated supermarkets for wage fixing,⁶ and previously investigated hospitals for no-poach agreements.⁷ The Portuguese competition authority has recently investigated football teams⁸ and Covid-19 test providers⁹ for no-poach agreements, and land surveyors for wage fixing.¹⁰ The Spanish competition authority has recently investigated independent schools¹¹ for no-poaching and previously investigated hairdressing product manufacturers¹² and freight forwarders¹³ for information exchange and wage fixing. Table 2 in the Appendix provides a more exhaustive list of recent competition cases in labour markets around the world.

² Source: <https://www.justice.gov/opa/pr/health-care-staffing-company-and-executive-indicted-colluding-suppress-wages-school-nurses>.

³ Source: <https://www.reuters.com/legal/government/aerospace-engineers-acquitted-labor-related-antitrust-prosecution-2023-04-28/>.

⁴ Source: <https://www.justice.gov/opa/pr/justice-department-requires-knorr-and-wabtec-terminate-unlawful-agreements-not-compete>.

⁵ Source: <https://www.justice.gov/atr/case-document/final-judgment-0>.

⁶ Source: <https://www.acm.nl/en/publications/acm-suspends-investigation-possible-wage-fixing-cartel-between-supermarkets-after-conclusion-collective-agreement>.

⁷ Source: <https://uitspraken.rechtspraak.nl/details?id=ECLI:NL:GHSHE:2010:BM3366>.

⁸ Source: <https://www.concorrenca.pt/en/articles/adc-issues-sanctioning-decision-anticompetitive-agreement-labor-market-first-time>.

⁹ <https://www.concorrenca.pt/en/articles/adc-issues-statement-objections-laboratories-and-business-association-involvement-cartel>.

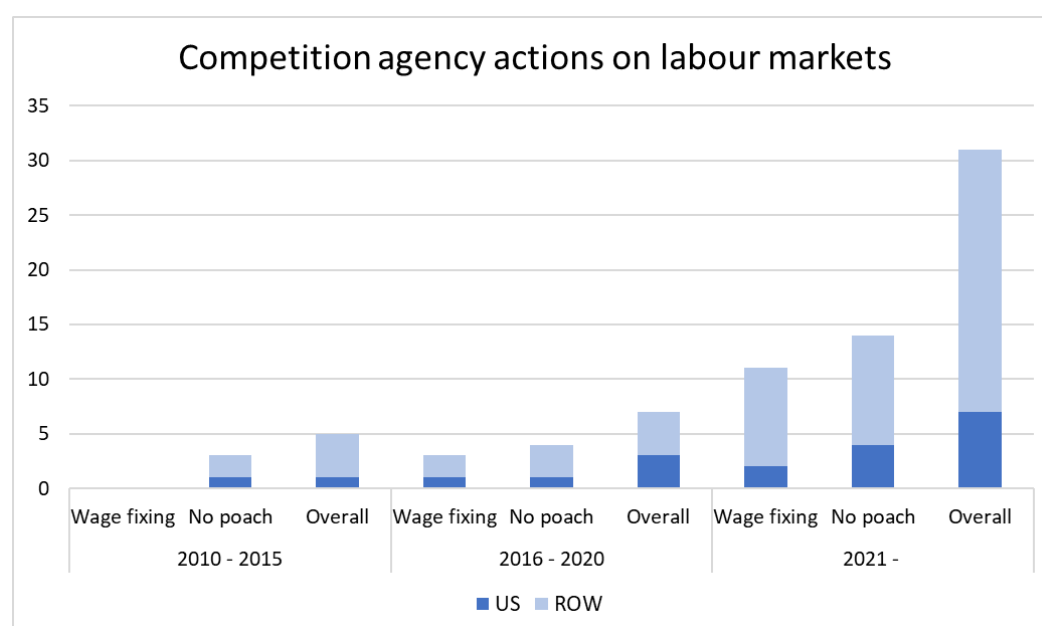
¹⁰ Source: <https://www.concorrenca.pt/en/articles/adc-fines-national-association-land-surveyors>.

¹¹ Source: <https://acco.gencat.cat/ca/detall/article/20220203-Exp.-109-2021-Incoacio-Comunicat-web>.

¹² Source: <https://www.cnmc.es/expedientes/s008608>.

¹³ Source: <https://www.cnmc.es/expedientes/s012008>.

Figure 1: Labour market competition cases have been rising in prominence since 2010



Notes: Counts of competition cases with labour markets component, 2010–24.

Source: Authors’ own calculations based on publicly available information.

US competition agencies have also led the way beyond wage fixing and no-poach agreements. In April 2024, the Federal Trade Commission (FTC) announced a nationwide ban on non-competes, contractual clauses which limit workers’ ability to switch jobs or start a rival company. The ban has been framed as a pro-competitive intervention, designed to boost innovation, start-up entry, and wages, given the estimates of widespread non-compete prevalence across the US.¹⁴

Beyond the non-competes ban, action in this space has predominantly taken the form of guidance for firms. The EU, for instance, has published guidelines¹⁵ which carve out an exemption from Article 101 for collective bargaining agreements of solo self-employed workers that are like employees. Similar guidelines have been issued by the Australian¹⁶ and

¹⁴ Source: <https://www.ftc.gov/news-events/news/press-releases/2024/04/ftc-announces-rule-banning-noncompetes>.

¹⁵ Source: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52022XC0930%2802%29>.

¹⁶ Source: <https://www.accc.gov.au/business/competition-and-exemptions/collective-bargaining-and-collective-boycotts>.

Dutch¹⁷ competition authorities. More broadly, the Lithuanian,¹⁸ Portuguese,¹⁹ and UK²⁰ competition authorities have issued guidance to firms on what policies may be deemed anticompetitive in a labour markets context, while the Nordic competition agencies have published a report summarizing their joint view on the issue.²¹

Finally, the new FTC/US DoJ Horizontal Merger Guidelines (US Department of Justice and Federal Trade Commission, 2023) explicitly state that agencies may intervene in merger cases on labour market grounds, regardless of the impact on product markets. In practice, US agencies have pursued three merger cases at least in part due to labour market concerns: the 2022 proposed takeover of publishing house Simon & Schuster by rival Penguin Random House²² and, more recently, the 2024 merger between supermarket chains Albertsons and Kroger²³ and Tapestry's attempted acquisition of Capri, with implications in the luxury handbag market.²⁴

There are also many examples of recent policy-maker interest in encouraging, raising, or preserving competition in labour markets beyond competition agencies. In 2021, the White House affirmed its commitment with an executive order 'to enforce the antitrust laws to combat the excessive concentration of industry, the abuses of market power, and the harmful effects of monopoly and monopsony—especially as these issues arise in labor markets'.²⁵

This new prominence of labour market concerns reflects the growing intellectual influence of the wider New Brandeis antitrust movement that has shifted thinking within US institutions such as the FTC and the DoJ, and in other countries. Neo-Brandeisians propose a wider focus for antitrust to promote competition beyond consumer welfare, to include welfare of individuals as citizens and workers.

¹⁷ Source: <https://www.acm.nl/system/files/documents/acm-guidelines-soloselfemployed-2023.pdf>.

¹⁸ Source: [https://content.mlex.com/Attachments/2023-06-26_Q537OKQV552ANYFM%2FAtmintin%C4%97%20ENG%20\(1\).pdf](https://content.mlex.com/Attachments/2023-06-26_Q537OKQV552ANYFM%2FAtmintin%C4%97%20ENG%20(1).pdf).

¹⁹ Source: <https://www.concorrencia.pt/sites/default/files/Issues%20Paper%20Labor%20Market%20Agreements%20and%20Competition%20Policy%20-%20final.pdf>.

²⁰ Source: <https://www.gov.uk/government/publications/avoid-breaking-competition-law-advice-for-employers>.

²¹ <https://konkurransetilsynet.no/competition-law-applies-to-the-labour-market-too/?lang=en>.

²² Source: <https://www.justice.gov/opa/pr/justice-department-obtains-permanent-injunction-blocking-penguin-random-house-s-proposed>.

²³ <https://www.wsj.com/business/retail/kroger-albertsons-antitrust-ftc-lawsuit-911514b4>.

²⁴ <https://www.ftc.gov/news-events/news/press-releases/2024/04/ftc-moves-block-tapestrys-acquisition-capri>

²⁵ Source: <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/07/09/executive-order-on-promoting-competition-in-the-american-economy/>.

While a wider assessment of neo-Brandeisian antitrust in areas beyond labour markets is beyond the scope of this paper, we note the existence of a burgeoning research agenda taking a wider lens on competition economics to include these *potential* effects beyond consumer surplus (Cowgill *et al.*, 2021; Deb *et al.*, 2022; Berger *et al.*, 2022).

II. How pervasive, and how damaging, is labour market power?

Evidence of rising market power in output markets has provoked renewed concern that such trends may also be present in the labour market. In some ways, analysis of labour market power is analogous to that in output markets. Welfare analysis in a simple monopsony model is effectively a mirror image of the monopoly case. Yet there are some key differences, not least of all that labour markets are two-sided matching markets, involving search, contracts, heterogeneity of many forms, and bargaining.

There is mounting evidence that wage markdowns (an estimate of the difference between the revenue contribution and the wage of the marginal worker in each firm) in the US over the last 20–25 years have risen steeply (Khan and Metaxoglou, 2021; Yeh *et al.*, 2022; Kirov and Traina, 2023). This suggests that workers are taking home a smaller share of their marginal revenue product of labour in the US.²⁶

This literature also sheds light on *which* firms can extract a greater share of worker surplus. There is some evidence that bigger firms may set higher markdowns, despite the well-documented large-firm wage premium (Amodio *et al.*, 2022; Yeh *et al.*, 2022). Larger firms are generally more productive, so could on average pay higher wages and yet still reduce the *share* of their marginal product that workers earn. However, Kirov and Traina (2023) do not find that this positive relationship between markdowns and firm size holds across a sample of US manufacturing firms.

Researchers also study labour market concentration as a proxy for labour market power. US employer concentration declined sharply in the early 1980s but has since steadily climbed back to the level of the late 1970s (Rinz, 2022; Yeh *et al.*, 2022). These results hold at the national level, but there is some debate about both the results and interpretation (Lipsius, 2018; Eeckhout, 2020). For one thing, while concentration is a reasonable proxy for market power in some popular models of competition such as Cournot, that is not always the case (Syverson,

²⁶ Wage markdowns are estimated using production function estimation approaches. A large and growing literature discusses strengths and weaknesses of this approach (De Loecker and Warzynski, 2012; Akerberg *et al.*, 2015; Traina, 2018; Doraszelski and Jaumandreu, 2019; Bond *et al.*, 2021; De Ridder *et al.*, 2021).

2019; Eeckhout, 2020). Furthermore, we may observe diverging trends in local and national concentration simply due to demographic changes (Eeckhout, 2020). In fact, Rinz (2022) finds such divergence between local and national concentration trends for US labour markets, and Rossi-Hansberg *et al.* (2020) for US product markets. The authors argue that large firms like Walmart have entered many local markets, which lowers local concentration but raises national concentration. Finally, it is important to be clear whether measures of national labour market concentration measure that faced by the average worker, or the concentration in the average labour market.

There is strong evidence that higher labour market concentration is negatively correlated with wages across many countries (Azar *et al.*, 2020; Marinescu *et al.*, 2021; Azar *et al.*, 2022b; Bassanini *et al.*, 2023; Handwerker and Dey, 2024; Thoreson, 2024). However, a causal relationship is tricky to show definitively, as other factors like the distribution of firm productivity could drive both labour market concentration and average wages in a local labour market.

Labour market power has three potential effects: it may suppress wages, raise prices, and introduce aggregate inefficiency. Firms with market power in the labour market can lower wages below the revenue provided by an additional worker. In an oligopsony framework, firms achieve this by reducing labour demand, moving down their upwards-sloping labour supply curve, therefore reducing labour input and producing less output. This lower output is associated with higher prices, as long as demand for a firm's output is not perfectly elastic.

Labour market power is an additional wedge (alongside, for example, product market power or adjustment costs), which introduces inefficiency away from the theoretical allocative benchmark. It reduces firm size and the number of firms in many settings, leading to less intense competition (e.g. Deb *et al.*, 2022). The impact is heterogeneous—more productive firms may have larger markdowns (e.g. Berger *et al.*, 2022), leading to misallocation across firms. Labour market power thus slows down the competitive process across the economy.

In a recently published report (CMA, 2024), the CMA used a variety of data sources and approaches to measure labour market power in the UK. The report centred on four key empirical findings. First, UK wage markdowns have been constant or slightly falling since 2008. Second, labour market concentration steadily declined from 2002 before rising briefly and sharply in the pandemic. Third, other labour market institutions also matter for labour market power. For instance, restrictive covenants are common across industries and throughout

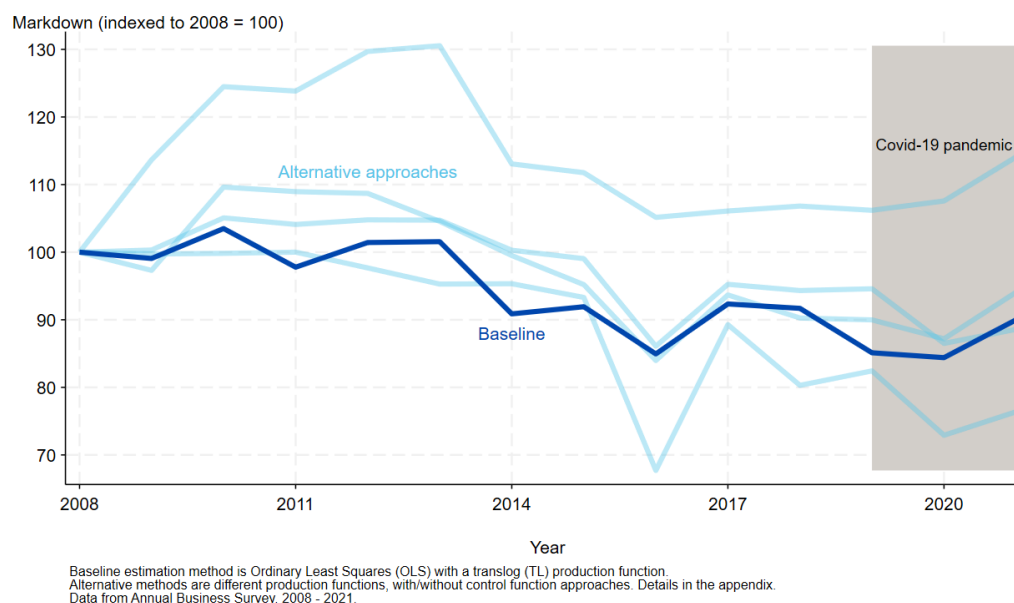
the income distribution and likely affect worker mobility. Fourth, individual earnings are negatively related to employer concentration, though this relationship disappears in the presence of collective bargaining agreements.

Wage markdowns are equivalent to price markups but describe market power in labour markets rather than output markets. Markdowns tell us how much the average worker earns out of their marginal contribution to a firm's sales. Formally, they are defined as the ratio of the marginal revenue of labour to the marginal cost of labour (that is, the wage). Measuring the marginal revenue of labour is difficult, so the CMA report follows an established literature (Dobbelaere and Mairesse, 2013; Morlacco, 2019; Yeh *et al.*, 2022), which estimates market power in *product markets* using two distinct inputs (labour and intermediate inputs) and takes the ratio of these two to back-out the market power in the labour market. This approach assumes that the market for intermediate inputs is competitive, though this assumption is controversial. As we show later in this article, joint market power in labour and input markets further complicates the picture.

A nice feature of markdowns is that they provide a summary measure of the balance of power between workers and firms. Many factors may affect the markdown, from workers' outside options, to collective bargaining, occupational licensing, and unemployment benefits. The markdown therefore summarizes information on many features of the labour market, such as tightness and regulation, and reflects the two-sided nature of labour markets.

Figure 2 shows the evolution of the average wage markdown for the UK market economy. Wage markdowns increased slightly from 2008 to 2010, then decreased again. Overall, they have decreased slightly over the last 15 years. The levels in the chart have been standardized to make comparison of the trends easier.

Figure 2: Labour market power measured via wage markdowns is constant or declining in GB



Notes: Whole-economy mean markdown series from a variety of production function estimation approaches (100 = 2008 values), from the Annual Business Survey, GB, 2008-2021.
Source: CMA (2024).

Figure 2 suggests that workers are taking home a larger share of their contribution to their employer's sales. The level of the markdown depends on the methods employed, but the report finds that employers capture between 15 and 45 per cent of the marginal contribution of workers. Of course, other labour market frictions or aspects of the employment relationship (such as which party carries the risk) will also influence the wage markdown.

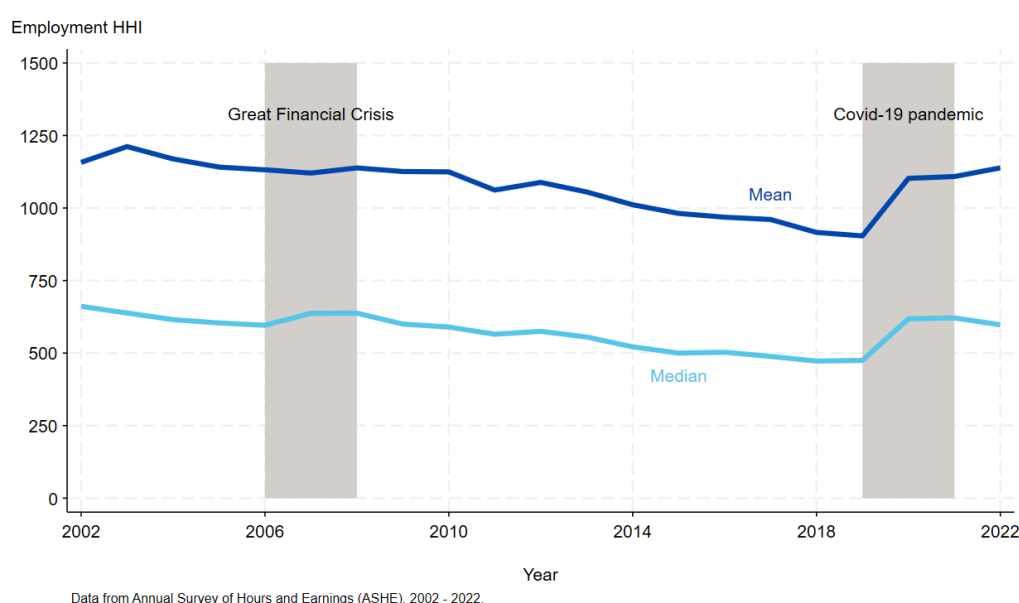
The CMA report also estimates labour market concentration, as measured by the employment Herfindahl Hirschman Index (HHI). The employment HHI is defined as the sum of squared employment shares within a labour market. Labour markets are defined at the Travel to Work Area (TTWA) by 3-digit Standard Occupational Classification (SOC). The former are produced by the Office of National Statistics (ONS) based on census commuting data, with criteria chosen specifically to delineate the geographical area corresponding to most workers' likely commuting patterns.²⁷

²⁷ This definition assumes perfect substitutability of occupations within TTWA, and no substitutability across. In practice, this simplifying assumption will of course not always hold. It also assumes workers' location is fixed. This too is not strictly true and may affect our estimates of labour market power.

To define labour markets, the report interacts this geographical measure with narrow occupation definitions to reflect the consensus in the literature (Azar *et al.*, 2022a; Azar *et al.*, 2022b). Alternative definitions of labour markets (for instance, defining labour markets along industry as well as geographical lines) produce identical trends, both in aggregate and across various slices of the data.²⁸

Median and mean labour market concentration in GB are roughly the same today as 20 years ago. Figure 3 shows that the mean labour market concentration as measured by the HHI fell from over 1,200 in 2002 to almost 900 prior to the Covid-19 pandemic, before rising towards 1,100 in 2022. To put this in context, an HHI of 1,100 corresponds to roughly nine equally sized employers in each labour market. In product markets, competition agencies typically call markets with HHIs above 1,500 ‘moderately concentrated’, and those with HHIs above 2,500 ‘concentrated’. The median concentration followed a similar trend, dropping from 650 in 2002 to below 500, before rebounding to 600 in 2022.

Figure 3: Labour market concentration in GB has been steady or declining over the past 20 years



²⁸ Of course, some skills are transferrable across occupations, and defining labour markets strictly on occupations is therefore an arbitrary convention. In practice, Dodini *et al.* (2023) show that defining workers’ outside options using a measure of task similarity between jobs produces slightly lower measures of labour market concentration. However this approach requires high-quality data on task intensity by job, and a host of assumptions to create reasonable task-based labour markets.

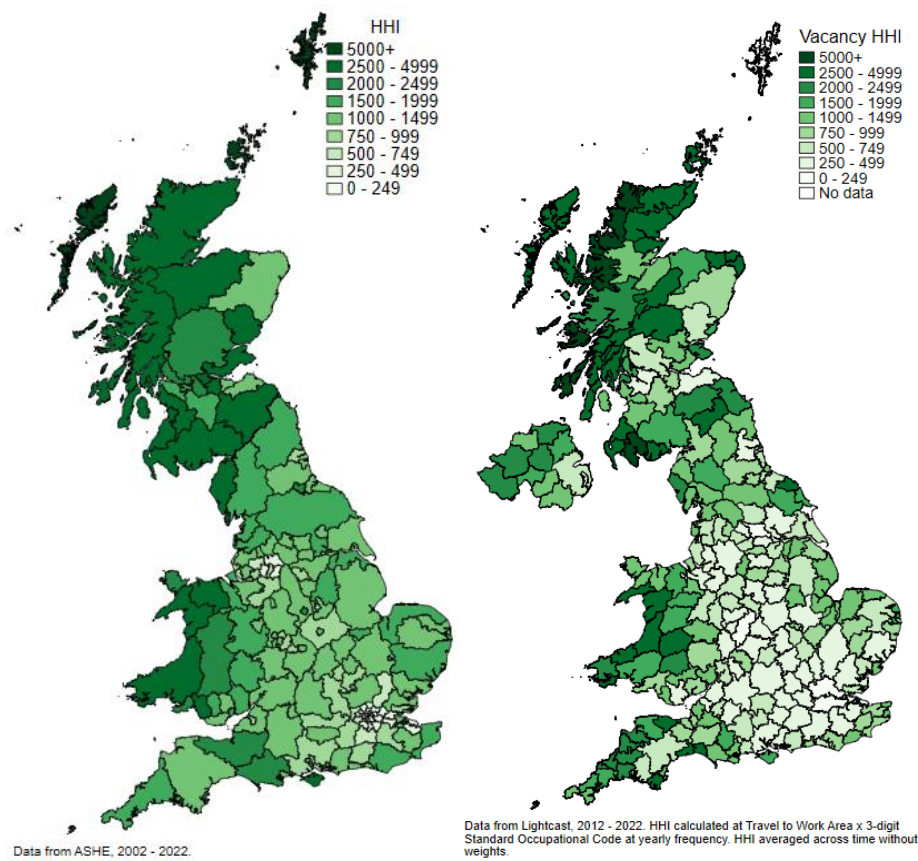
Notes: Whole-economy mean and median labour market HHI for Great Britain at the 3-digit SOC by TTWA, from the Annual Survey of Hours and Earnings (ASHE), GB, 2002–22.

Source: CMA (2024)

Figure 4 maps out average labour market concentration across all TTWAs in the UK, for both employment and vacancies. The left panel of Figure 4 shows labour market concentration in employment, and the right panel shows labour market concentration in vacancies. Conceptually, there are significant differences across the two measures: employment is a stock measure, and survey-based; vacancies measure flows and are web-scraped. These measures therefore highlight different features of labour markets. The darker an area, the more concentrated on average its labour markets are. While labour markets in London and the South East show low levels of concentration, labour markets are much more concentrated in Scotland, Wales, Northern Ireland, and the South West. The overall picture is strikingly similar across the two.²⁹

²⁹ Theoretically, workers may be expected to migrate from high-concentration to low-concentration labour markets. Empirically, Stansbury *et al.* (2023) show that more recently London has been characterized by negative net migration. That is, despite high labour productivity and wages, more people leave than arrive.

Figure 4: There are big geographical differences in labour market concentration



Notes: Mean labour market HHI at the three-digit SOC by TTWA level, for Great Britain from ASHE, 2002–22, aggregated to NUTS3 (panel 1) and for the UK from Lightcast job vacancy data, 2012–22 (panel 2).

Source: CMA (2024).

While there are differences in labour market concentration *on average* across labour markets, the trends over time have been remarkably similar across regions. Most areas experienced employer concentration trending close to the average in Great Britain from 2002 to 2022, with only London and Scotland showing notably different trends. London saw a steady decline in concentration, with less of an uptick during the pandemic. Scotland’s labour markets went in the other direction, with a gradual rise in concentration over this period.

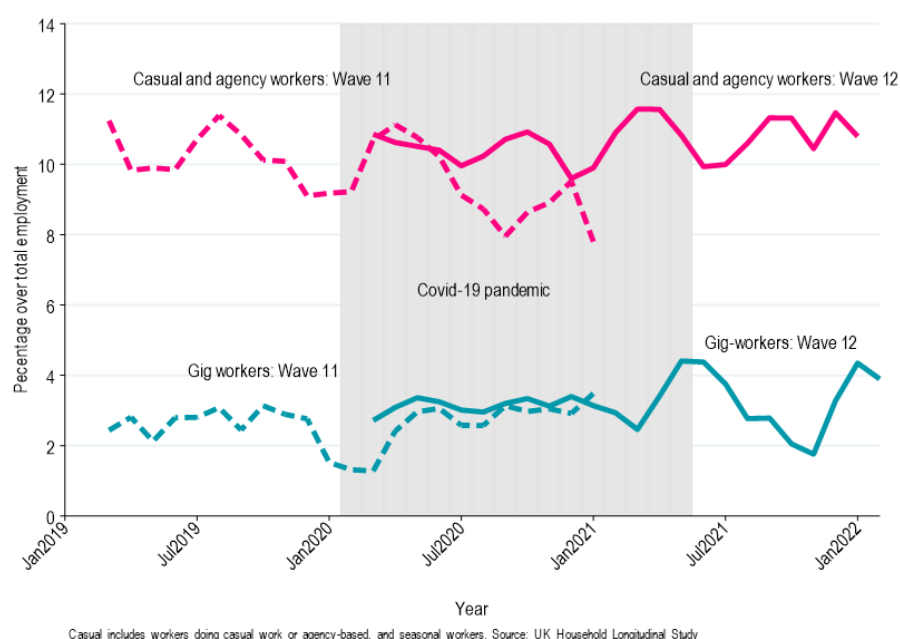
Aside from overall concentration, other features of the labour market also affect labour market power. Here, we highlight two aspects that have attracted the interest of competition agencies: solo self-employed workers (often referred to as ‘gig’ workers in the context of digital labour platforms) and the use of restrictive covenants (that is employment contract clauses that restrict the mobility of workers).

Solo self-employed workers have been a focus for competition authorities since in a legal sense they are undertakings transacting with other undertakings (whether via a platform or otherwise), but from an economic point of view may be closer to workers transacting with an employer. While the former is usually a case for competition law enforcement, the latter in many countries would fall under employment laws instead. Restrictive covenants similarly are typically a matter of employment law, but might nonetheless have implications for how businesses compete, by making it harder for some companies to hire the right employees.

The report uses individual-level survey data to measure the prevalence of gig workers in the UK economy. Gig workers are defined as anyone who sells their labour services via digital platforms. This is a narrower definition than wider casual or temporary work. Figure 5 shows that a small but growing part of the UK economy is in gig work. About 4 per cent of workers are gig workers, compared to closer to 10–12 per cent in wider temporary and casual work.

Gig workers often work across multiple jobs, within and outside the gig economy, and tend to combine gig earnings with other sources of income. The fraction of gig workers who work multiple jobs has been increasing over time. The increasing number of gig workers competing for tasks from a small number of platforms suggests that gig workers may not have much bargaining power relative to their employers, but more evidence is needed on this point.

Figure 5: A rising percentage of UK workers work in the gig economy (up to 5 per cent since the pandemic)



Notes: Gig workers and casual workers as a share of total employment, from the UK Household Longitudinal Study, UK, 2019–22.

Source: CMA (2024).

The extent to which gig workers are caught by competition law rules against coordination is a live issue in competition policy. The economic substance of the labour relationship matters here, not necessarily the precise contractual arrangements or the employment law position. For example, in September 2022, the European Commission adopted guidelines³⁰ which clarify that EU competition law does not apply to solo self-employed people that are in a situation comparable to workers. These include those who provide services exclusively or predominantly to one undertaking; work side-by-side with workers; and provide services to or through a digital labour platform. The European Commission further clarified that it will not enforce EU competition rules against collective agreements made by solo self-employed individuals who are in a weak negotiating position against economically stronger companies. Therefore, the guidelines recognize that it is the *balance* of power between firms and workers that matters for wage outcomes.

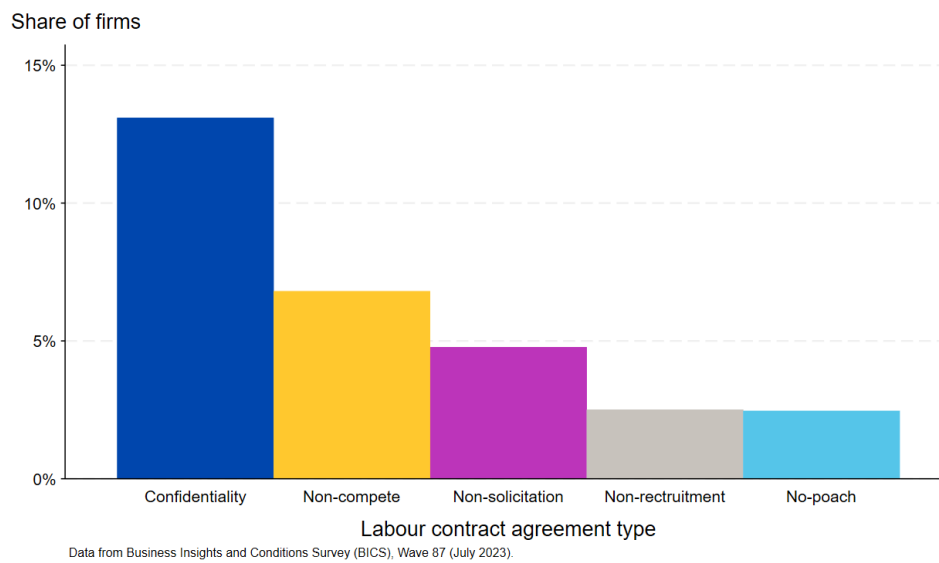
The ability of workers to move to new employment opportunities also gives them a degree of countervailing labour market power. Restrictive covenants are employment contract clauses that limit what employees can do while at their current employer, or after leaving their employment. As a result, these contract clauses may restrict worker mobility and hence increase labour market power.

Examples of restrictive covenants are non-compete agreements (which limit which firms an employee can join, or whether they can start a competing firm of their own), confidentiality agreements (which limit what information an employee can share with others, also known as non-disclosure agreements), and non-solicitation agreements (which limit whether employees can approach co-workers or clients after leaving their current employer).

Figure 6 plots firms' self-reported use of restrictive covenants. Confidentiality agreements are by far the most common form of restrictive covenant, at about 14 per cent, but non-compete agreements, non-solicitation agreements, no-recruitment of co-worker agreements, and even no-poach agreements between firms (which are illegal in the UK) are in use by some firms. A sizeable minority of firms use multiple agreements at the same time.

³⁰ Source: https://ec.europa.eu/commission/presscorner/detail/en/ip_22_5796.

Figure 6: Employment clauses limiting the mobility of workers are common in the UK



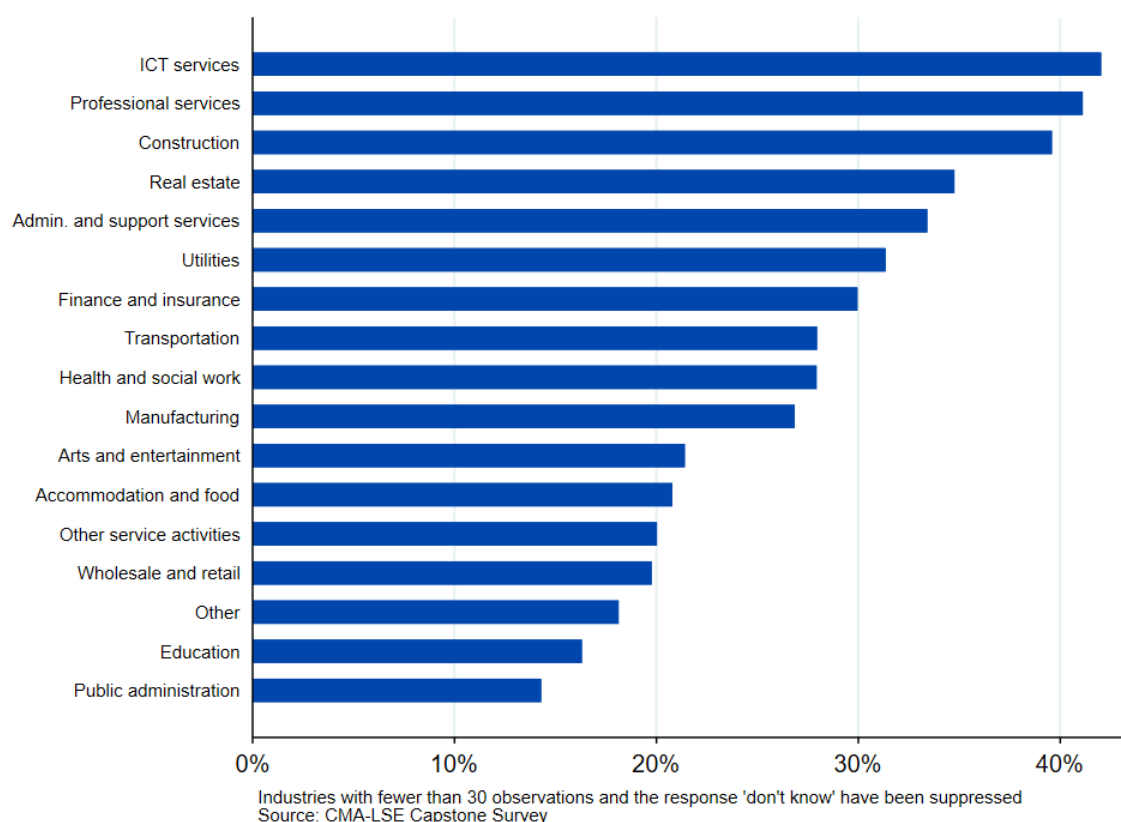
Notes: Proportion of firms that report using restrictive covenants, from the Business Insights and Conditions Survey, UK, 2023.

Source: CMA (2024).

Figure 7, based on a different, employee-based dataset, shows that non-compete agreements are particularly common in information and communication technologies and professional and scientific services where they cover 40 per cent of workers. However, even in retail, food services, and education, about 20 per cent of workers have a non-compete clause in their contract. Studies for the US (Starr *et al.*, 2021) and Western Europe (Boeri *et al.*, 2023) find similar rates of prevalence.

For non-compete agreements, additional evidence from the employee side can help us understand their use better. Employee responses provide a broadly similar picture, though reported use of non-compete agreements is generally higher. In a CMA-commissioned LSE–YouGov survey, roughly 26 per cent of employees believe they have a non-compete clause in their employment contract, with a further 23 per cent unsure.

Figure 7: Non-compete agreements are particularly common in information and communication technology (ICT) and professional services industries



Notes: Proportion of workers with a non-compete agreement by one-digit Standard Industrial Classification industry, from the 2023 YouGov CMA-LSE Capstone Survey, UK.

Source: CMA (2024).

Firms might use restrictive covenants for benign reasons. A firm might be more likely to invest in training for its employees (especially for skills that are useful at other firms, too) if employees could not then take these skills immediately to a competitor. Equally, firms might be more willing to share confidential client relationships with employees if those employees were prevented from poaching these clients in the future. Both investment in general human capital and client relationships may make employees more productive and therefore increase their earnings.

The CMA report, indeed, finds that the share of workers receiving formal training (though not other types of training) is about 10 percentage points higher for workers with non-compete agreements, around 50 per cent compared to a baseline of just under 40 per cent for those without.

Whether non-competes on balance harm or help economic growth is an empirical question. Evidence from US state-level variation in legal rules (Johnson *et al.*, 2023), from a ban on non-competes for low-wage workers in Oregon (Lipsitz and Starr, 2021) and a legislative change in California (Kang and Fleming, 2020) suggests that non-competes are indeed associated with less worker mobility and lower wages, and a shift in economic activity away from startups and towards incumbent firms. To the extent that they prevent reallocation towards startups, we may be concerned that non-competes therefore slow down the introduction of new ideas and processes into the economy. The CMA report found that many workers reported they had passed on an opportunity at a competitor or refrained from starting their own business because of their non-compete.

III. What does labour market power mean for workers and the economy?

Competition authorities are increasingly concerned with labour market power. Implicit in this concern is the assumption that workers, consumers, and the wider economy are harmed by it. This section shows that the evidence strongly suggests that worker outcomes are worse under labour market power. More widely, falling business dynamism and labour reallocation rates are at least consistent with rising aggregate labour market frictions. However, empirical evidence on the impact of labour market power on *consumers* is still thin on the ground.

The link between labour market concentration and worker outcomes is well-established. Theoretically, firms use labour market power by reducing the labour they hire (in a monopsony model; Manning, 2021) or exploiting search frictions (Manning, 2011; Gottfries and Jarosch, 2023). Both channels allow them to lower the wage offered to workers.

Consistent with the theory, a large literature finds that concentration lowers workers' wages. Most of this evidence is focused on the US (for instance, Azar *et al.*, 2020a; Azar *et al.*, 2022b; Benmelech *et al.*, 2022; Rinz, 2022; Handwerker and Dey, 2024). Abel *et al.* (2018) show a similar relationship holds for the UK. This literature is often criticized as not measuring the causal effect of concentration on wages since concentration and wages are both determined at the same time by decisions of workers and firms.

The CMA report follows this literature, while noting the concerns about causality. It estimates worker-level wage-concentration regressions, with labour markets defined as the intersection of TTWA and 3-digit SOC. Linking employee data to employer data allows for a rich set of

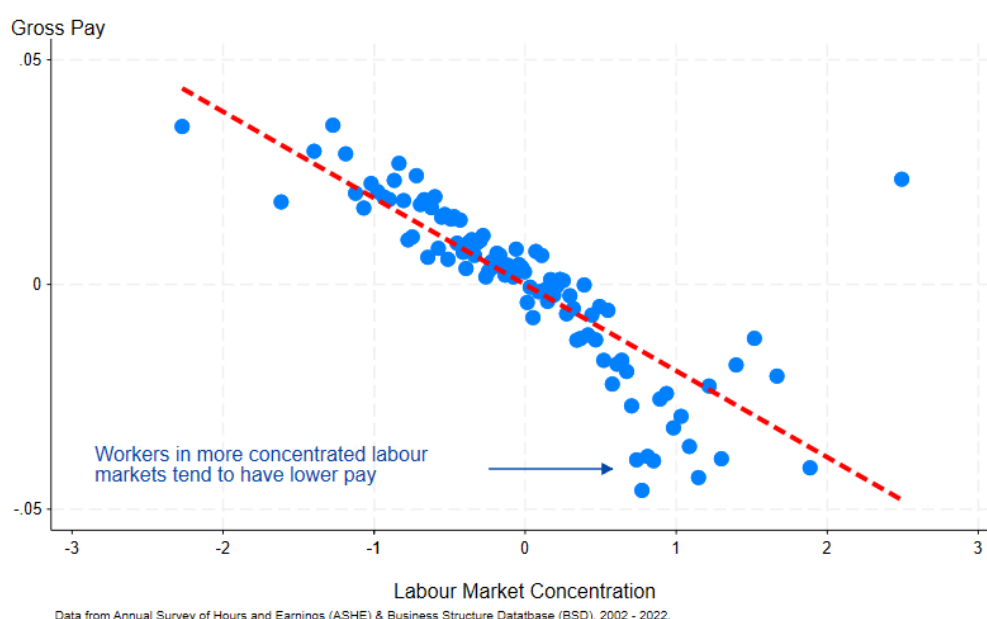
controls, although the report falls short of dealing with causality concerns in a systematic way (for instance, in the spirit of Azar *et al.*, 2022a).

The report finds that UK wages and labour market concentration are negatively correlated: the higher labour market concentration, the lower worker wages are on average. This relationship is robust to the inclusion of worker, firm, region, and time-specific controls. Figure 8 shows the relationship between wages and labour market concentration after removing the influence of these other variables: this allows us to compare workers on a more like-for-like basis. To reduce statistical noise, observations have been grouped into ‘bins’ based on the degree of concentration, and bin averages plotted instead.

The relationship between wages and concentration is negative, statistically significant, and stable across different sets of control variables. While labour market concentration has not increased overall, in concentrated labour markets wages of comparable workers are lower than in less concentrated labour markets.

The magnitude of the wage-concentration relationship is also economically significant. On average, and holding other worker, firm, and labour market characteristics constant, going from the bottom quartile to the top quartile of concentration is associated with 4 per cent lower wages. For a move from the bottom decile to the top decile, wages are on average 10 per cent lower. However, as discussed below, there is some evidence that the magnitude of this effect has declined over time.

Figure 8: Wages and labour market concentration are negatively correlated in GB



Notes: Binned scatterplot of residuals from regression of worker-level gross pay on labour market HHI and worker, firm, region, and time controls, from ASHE and the Business Structure Database, GB, 2002–22.

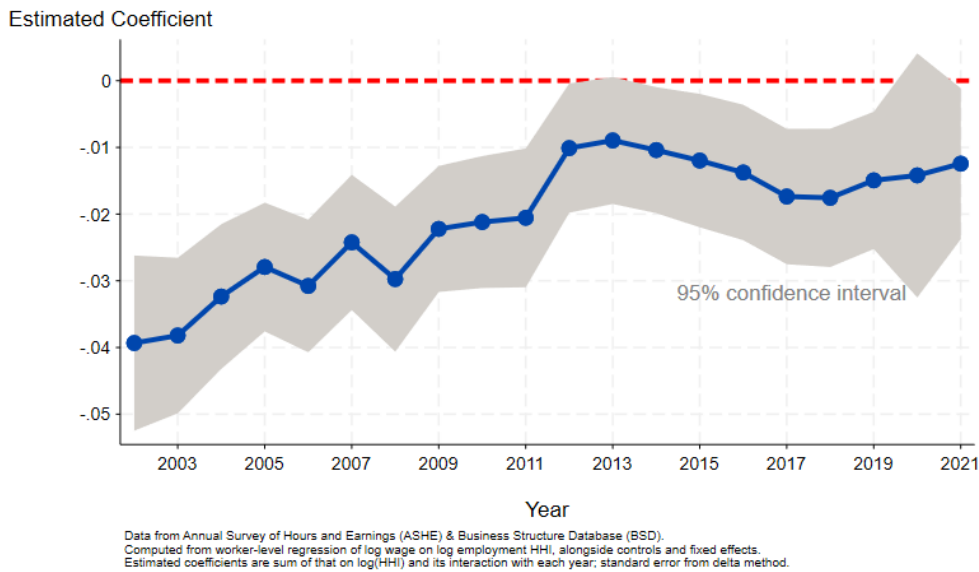
Source: CMA (2024).

When labour market power on the employer side is balanced by market power on the employee side, this negative relationship disappears. For a worker covered by a collective bargaining agreement, the negative association between wages and labour market concentration becomes quantitatively small and statistically insignificant.³¹

Finally, when estimating the wage-concentration relationship on a year-by-year basis, the report finds that the wage penalty has been decreasing over the last two decades for the UK. Figure 9 shows that while the elasticity of the wage with respect to concentration stood at –0.04 in 2002, in 2021 it had fallen to –0.01 and become statistically indistinguishable from zero.

³¹ Due to data coverage, the wage-concentration coefficients are estimated for private-sector employees only.

Figure 9: The negative relationship between wages and labour market concentration has diminished over time

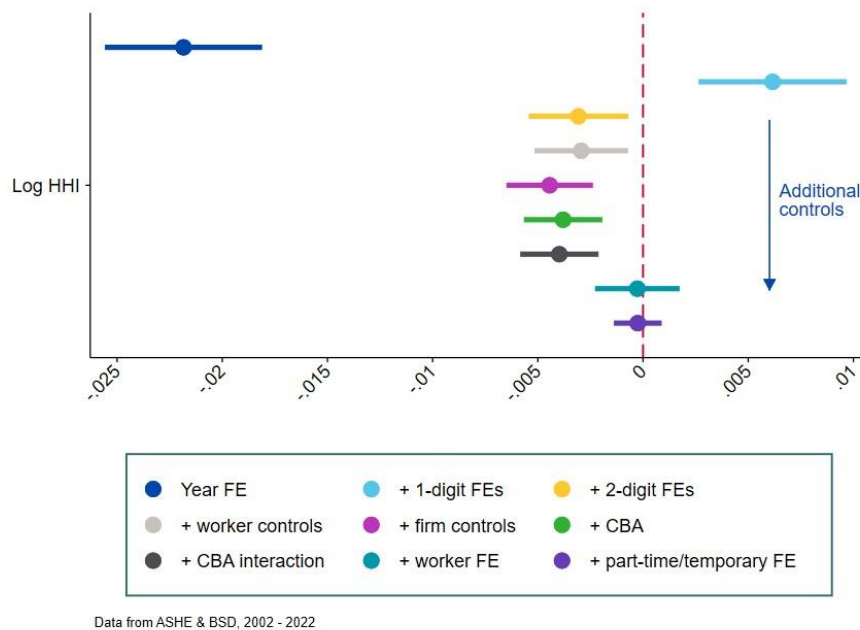


Notes: Coefficient plot of the wage-concentration elasticity from regressions for each year, with industry, worker and firm controls, from ASHE and the Business Structure Database, GB, 2002–22.

Source: CMA (2024).

Labour market concentration might also be related to other labour market outcomes, such as the number of hours worked, the unemployment rate, and the rate at which workers change jobs and employers. When workers have fewer outside options, they might, for instance, not be able to work as many hours as they would like. The recent CMA report can again provide some tentative evidence. Figure 10 plots our coefficients for the elasticity of hours worked with respect to labour market concentration, for increasing sets of controls. The report finds an elasticity of about -0.004 for our baseline regression. This is consistent with a monopsony explanation of labour market power: to reduce wages, employers demand less labour. As a result, both equilibrium wages and hours are lower than they would be if the labour market were competitive.

Figure 10: Hours worked are lower in more concentrated labour markets



Notes: Coefficient plot of the hours worked-concentration elasticity from regressions for each year, with industry, worker and firm controls, from ASHE and the Business Structure Database, Great Britain, 2002–22.

Source: CMA (2024).

Labour market concentration and labour market institutions also interact in complex ways. For instance, labour market power may change the standard logic regarding negative labour supply effects of minimum wage policies. The argument goes as follows: in imperfectly competitive labour markets, labour supply curves are upwards-sloping, firms must raise wages to hire more workers. They will hire up to the point that the marginal cost (the wage) equals the revenue provided by the marginal worker. Firms will pay below the marginal product of labour by restricting labour demand to maximize profits. However, a minimum wage creates a *flat* labour supply curve which kinks upwards only when the original supply curve is above the wage floor. This flat labour supply curve disincentivizes firms from under-hiring as they cannot benefit from lowering wages by hiring less. In this framework, a minimum wage can raise employment. Azar *et al.* (2023) argue that in concentrated US labour markets minimum wage policies may indeed increase employment. Similar results are found independently by Wiltshire *et al.* (2024).

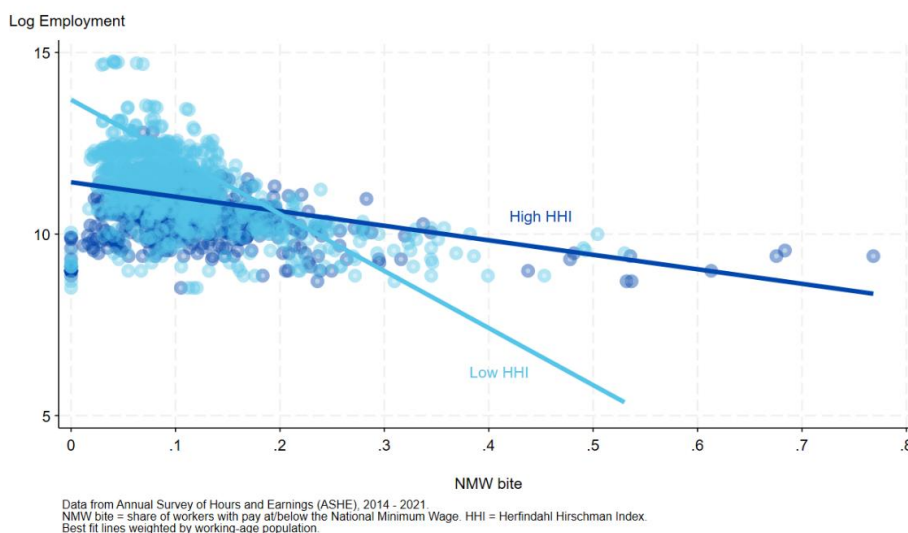
The CMA report finds comparable results for the UK. Workers who earn the National Minimum Wage work fewer hours and, similarly, workers in more concentrated labour markets work

fewer hours. However, because the interaction term is positive, the joint effect is lower than the sum of the two: the National Minimum Wage therefore lowers hours worked less in more concentrated labour markets.

Figure 11 shows a scatterplot of the relationship between total employment and the share of workers covered by the National Minimum Wage after controlling for time and area fixed effects, and labour market characteristics. For both TTWAs with high (above-median) and low (below-median) labour market concentration, employment is negatively related to the National Minimum Wage ‘bite’ (that is, how many individuals in each labour market are affected by the National Minimum Wage). However, this relationship is weaker in more concentrated labour markets.

Since the relevant labour-market outcomes for this analysis are only observed at the TTWA level in the data the report uses, the analysis cannot control for individual worker characteristics. Therefore, additional caution needs to be taken in interpreting these results.

Figure 11: In concentrated labour markets, minimum wages decrease employment by less



Notes: Scatterplot of TTWA total employment against the share of individuals affected by the National Minimum Wage, by above- and below-median labour market concentration, from ASHE, Great Britain, 2014–21.

Source: CMA (2024).

Evidence on the wider economic impact of labour market power is still in its infancy. An emerging literature at the intersection of industrial organization and macroeconomics has tried

to quantify the welfare and productivity impacts of labour market power (De Loecker *et al.*, 2021; Deb *et al.*, 2022; Berger *et al.*, 2022). These papers generally find sizeable aggregate impacts of labour market power, at least for the US.

The evidence on consumer impacts is even thinner on the ground. We note, but sidestep entirely, the issue of labour market consequences of *product* market power. Recent work by Montag (2023) provides estimates of the trade-off this may create between consumer and worker interests in international mergers, using the example of the recent Maytag/Whirlpool merger.³² But more work clearly needs to be done.

IV. Why has UK labour market power fallen, and what does this mean for policy?

For the UK, the CMA report shows that despite stable labour market concentration, UK wage markdowns and the wage-concentration penalty have both fallen in recent decades, suggesting that market power has shifted away from firms and towards workers. What can explain this shift in labour market power?

The literature offers broadly three theories. First, it is possible that institutions that create countervailing worker power have risen in prominence, for instance if unions have gained strength or collective bargaining has become more widespread. This is essentially the reverse of what Farber *et al.* (2021) and Naidu (2022) argue has happened to the US over the twentieth century. Second, other labour market policies, such as the National Minimum Wage, could have strengthened the hand of workers. This would be consistent with findings about minimum wage increases elsewhere (Cengiz *et al.*, 2019; Dube *et al.*, 2022). Finally, general labour market conditions could have changed, shifting power towards workers (as argued for the US by Autor *et al.*, 2023).

Figure 12 shows some tentative evidence on the likelihood of these three theories from the CMA report. Panel 1 plots trade union membership and collective bargaining coverage over the last two decades. As in other comparable countries (Farber *et al.*, 2021), both have fallen slightly in recent decades. Panel 2 plots the incidence of the National Minimum Wage for low-concentration, medium-concentration, and high-concentration labour markets. The National Minimum Wage has indeed expanded significantly, but mostly in low- and medium-concentration labour markets. Finally, Panel 3 plots the UK's labour force participation ratio,

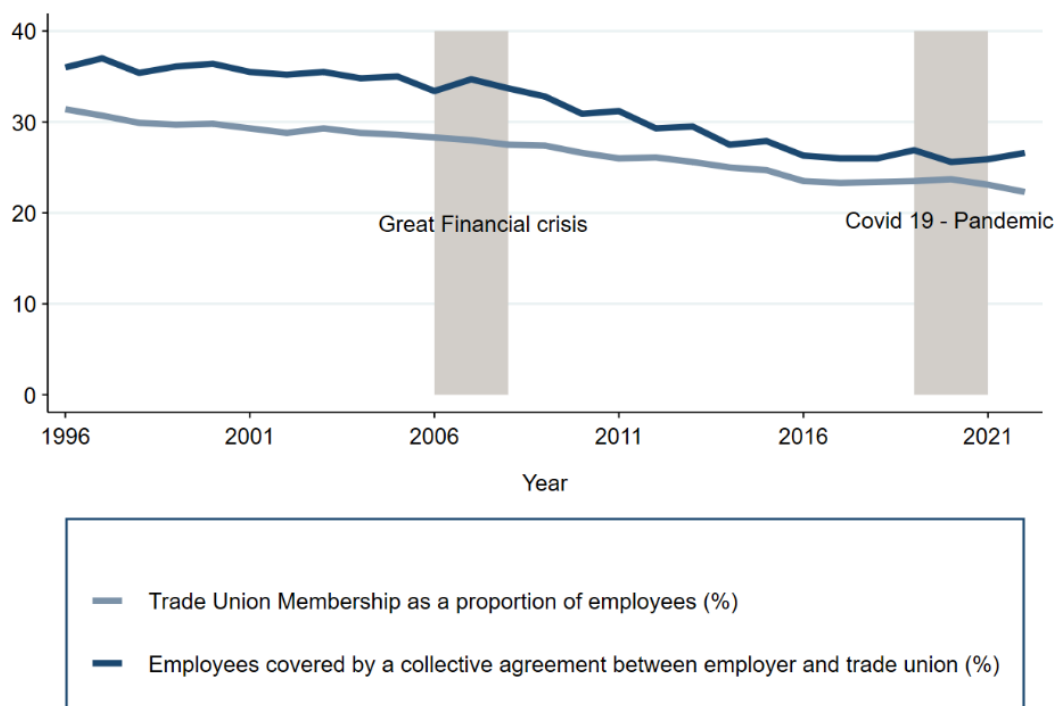
³² Even though the counterfactual in Montag (2023) deals with product market power, it nonetheless implicitly assumes labour market power, since otherwise workers could immediately find an equivalent job and there would be no trade-off between workers and consumers.

a measure of general labour market tightness. Labour markets in the UK are tight by international comparison (OECD, 2022) and labour market tightness has increased further in the past two decades.

While more research is needed, together the three panels suggest that general labour market policies are the most likely factor behind the shift in UK labour market power from firms to workers. If true, this finding underscores that in labour markets (unlike in product markets) other policy institutions besides competition agencies may have more effective tools to address market power.

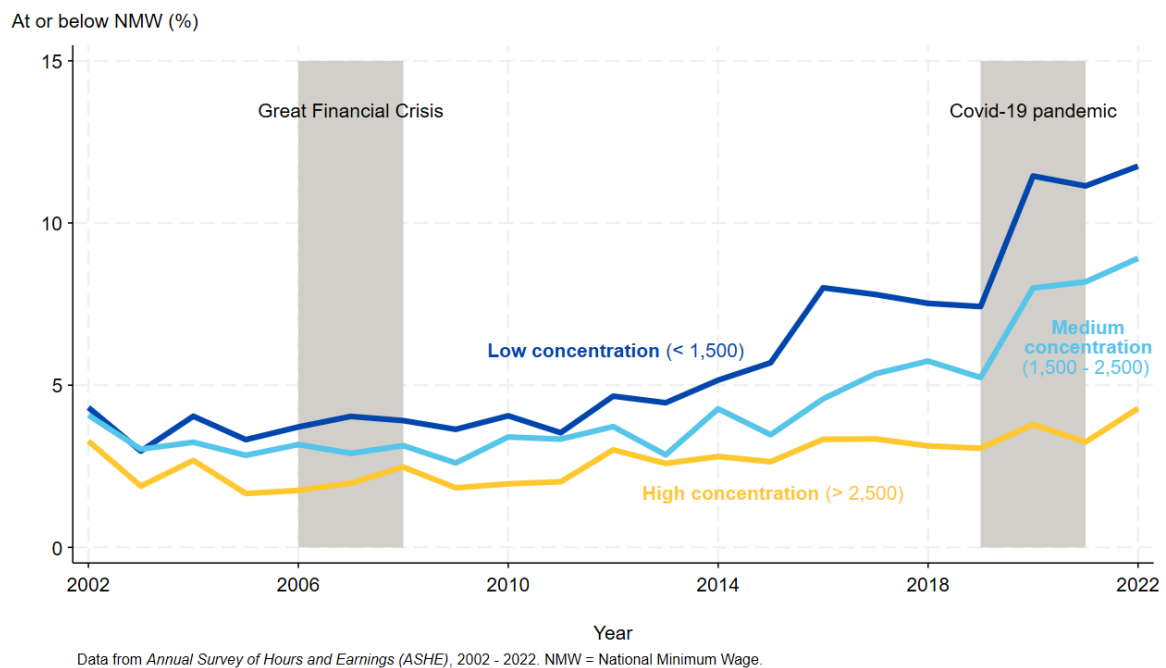
Figure 12: Shift of market power towards workers most consistent with structural labour market story

Panel 1: Trade union membership and collective bargaining coverage as a percentage of employees, from ONS data, UK, 1995–2023

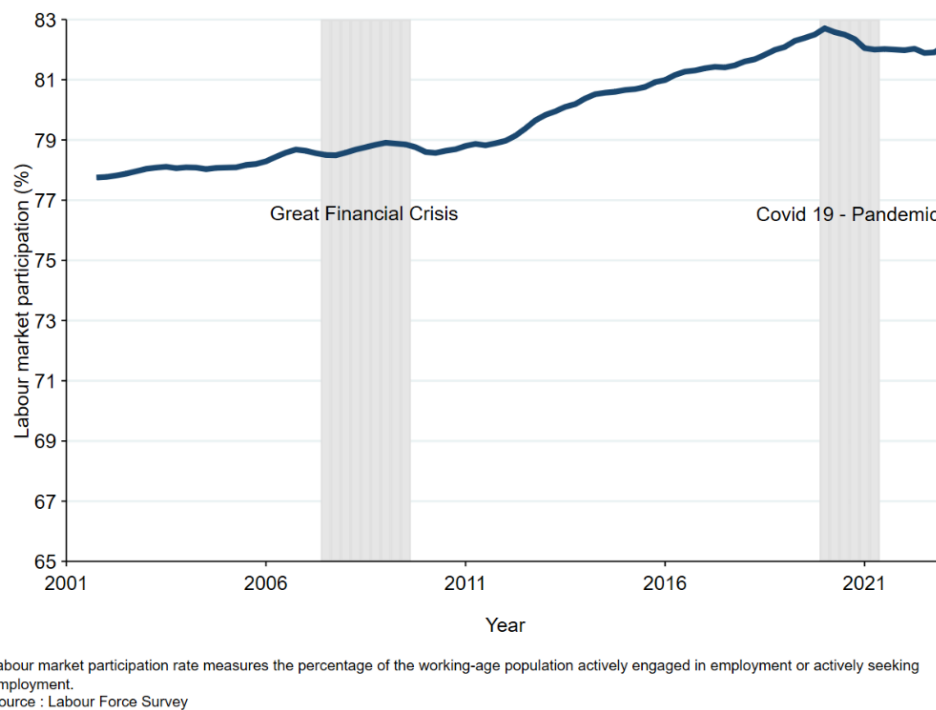


Source : Labour Force Survey

Panel 2: Share of workers earning close to the National Minimum Wage over time, by the level of concentration in their labour market, from ASHE, Great Britain, 2002–22



Panel 3: Labour participation rate measured as percentage of the working population that is active in the labour market, shown as a quarterly moving average from 2001 to 2023, UK



Source: CMA (2024).

V. Open questions for further research

This paper has surveyed the recent increase in labour market-focused competition interventions and set out the current state of research on labour market power. As emphasized in the introduction, we have focused on the impact of labour market power on workers but have largely sidestepped the impact of labour market power on consumers, or product market power on worker outcomes.

Important open questions remain, however. In this section, we highlight four important classes of questions: those related to our theoretical understanding of how labour market power operates; those related to the empirical ubiquity of certain practices, and the strength of their effects; those related to the legal toolbox to address competition issues in labour markets; and the normative questions inherent in the existing empirical trade-offs.

A first set of questions is theoretical. Researchers have used monopsony, search, and bargaining based models to think about labour market power (Manning, 2011; Manning, 2021). Each may be useful for understanding aspects of imperfectly competitive labour markets but may also come with subtly different empirical predictions and welfare implications.

The monopsony model for imperfectly competitive labour markets states that the monopsonist restricts how much labour it employs, allowing the firm to suppress wages to maximize profits. This is analogous to a monopolist reducing its output to raise prices above the otherwise ‘competitive’ level. In a world where the firm has market power in both output and labour markets, the so-called ‘monemporist’ (Nichol, 1943) has dual incentives to shrink its input demand, putting downwards pressure on wages and lowering social welfare.³³

In contrast, in many search and bargaining models, labour market power does not necessarily impact the equilibrium quantity of labour, but merely shifts surplus from workers to firms. In a world described by those models, welfare concerns around labour market power are therefore primarily about workers, not consumers.

Beyond the basic model selection question, there are other theoretical questions that would benefit from further scrutiny. For instance, what is the static and dynamic impact of labour market power on consumer and aggregate welfare? What parameters does this depend on? And how does labour market power influence the incentives of firms that have it (and those that do

³³ More recent work, for instance by Azar and Vives (2021) and Tong and Ornaghi (2022) allows for joint oligopsony-oligopoly power.

not)? For instance, how might it influence innovation and directed technological change? Does it matter for (consumer) welfare?

Even with a suitable model identified, empirical questions need answering. These fall into two categories: first are descriptive statements of fact. How common is wage fixing? How common are no-poach agreements? Has the geography of labour markets changed with recent technological advances? Second are statements about causal relationships. What is the labour market impact of mergers? What is the impact of rising market power under rent-sharing? How restrictive are restrictive covenants? And how do non-competes affect innovation on balance?

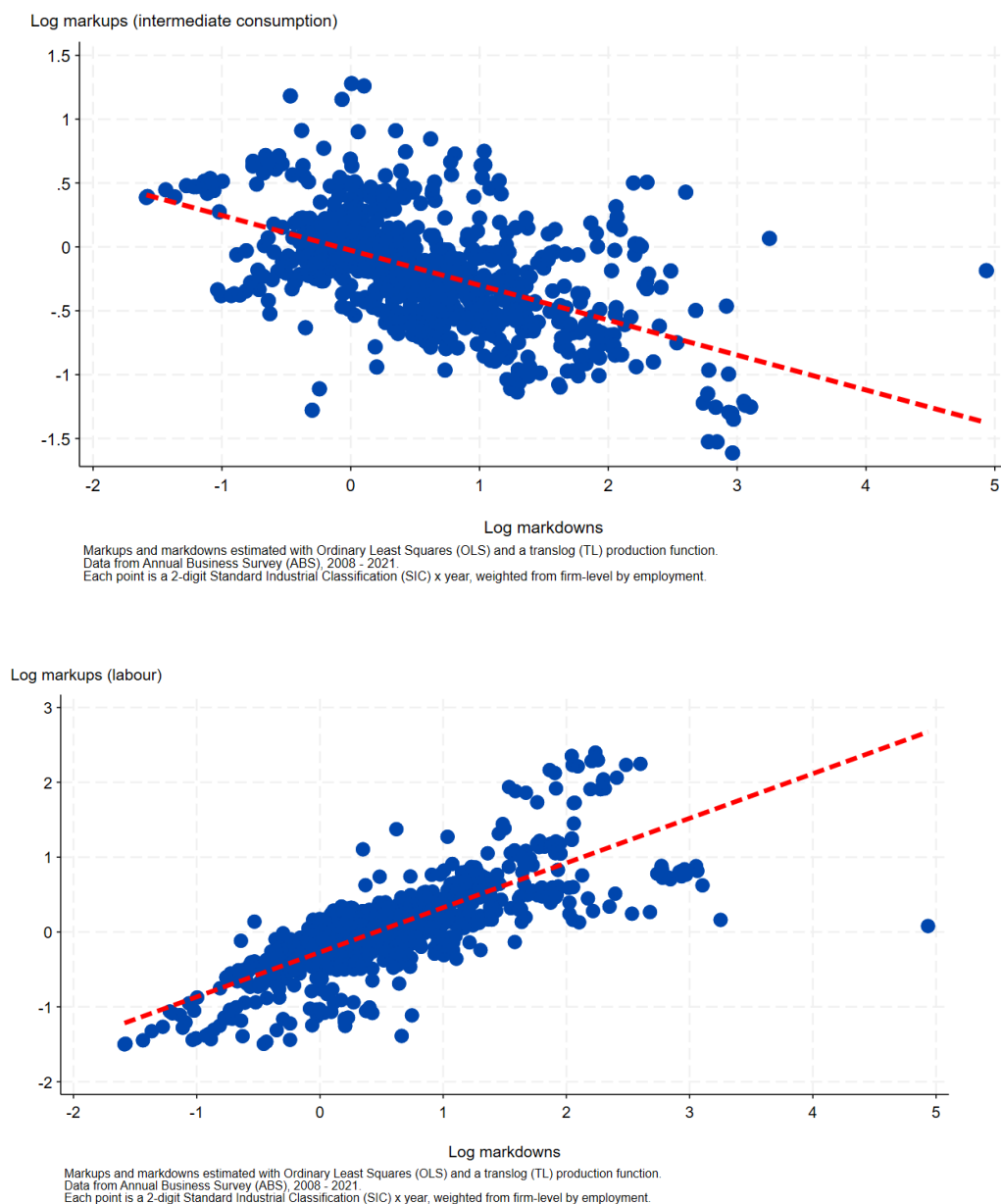
Figure 13 illustrates the importance of even the descriptive statements of facts across two panels: the first shows the correlation between industry-level product market power under the assumption that materials markets are more competitive than labour markets. The second shows the correlation for the opposite assumption. The correlation in Panel 1 is negative: industries with more market power in output markets have less market power in labour markets. In Panel 2, the correlation is positive: industries with more market power in output markets also have more market power in labour markets.

Assuming relatively more competitive materials markets or competitive labour markets yield opposing results. Of course, in practice neither will be fully frictionless: while this paper has focused on labour market power, an emerging literature documents market power in input markets (Morlacco, 2019; Rubens, 2023; Hahn, 2023). Mechanically, the reason this assumption matters for the empirical findings is because it determines which input is used to compute price markups.

Theoretically, market power in output and labour markets need not be correlated: a firm may be a locally important employer but sell on a globally competitive product market. Conversely, a firm with product market power may be located in a dense labour market with many other opportunities for its employees. Some recent evidence even suggests that in some settings, where bargaining arrangements are strong, firms may share monopoly rents with workers (Treuren, 2022), consistent with a negative relationship between market power in labour and product markets.

Further research is needed to answer which of these two identifying assumptions is more likely valid, and therefore whether labour market power and product market power are generally found in the same firms or not. If market power or other frictions are present in both input markets, both markup and markdown estimates may be affected.

Figure 13: At the industry level, the relationship between product market and labour market power depends on what we believe about relative market power in labour and materials markets



Notes: Scatterplot between mean price markup (panel 1: intermediate consumption markup; panel 2: labour markup) and wage markdown levels at two-digit Standard Industrial Classification, estimated via product function approach from the Annual Business Survey, GB, 2008–21.

Source: CMA (2024).

Once the theoretical and empirical connections are clear, this leaves the policy question of what tools competition agencies have at their disposal, and what tools they might need to effectively address labour market power.

As this article sets out, existing actions in this area mostly take the form of investigations of wage fixing and no-poach agreements, collusive behaviour that in many jurisdictions is illegal, or the issuance of guidance. While Marinescu and Hovenkamp (2019) make the case that, in the US, there exists well-established legal doctrine to block mergers on input market grounds, this is not universally the case for other jurisdictions. What tools do competition agencies therefore have already, and what tools are needed to address labour market power?

In some jurisdictions, other policy-makers may have better or at least complementary tools. In the UK, for instance, the Department for Work and Pensions, the Department for Business and Trade, the Low Pay Commission, and HM Treasury all arguably set some policies that can affect labour market power.

Finally, even with complete clarity about these theoretical, empirical, and legal questions, some complex normative questions remain for further research. Among the questions labour market power raises are: should the interests of workers be considered where they conflict with the interests of consumers? How about workers and other input suppliers? Even where these conflicts are absent, how should competition agencies trade off the interests of different types of workers? Non-competes are particularly prevalent among high-income and white-collar employees (CMA, 2024). Given regulators' limited resources, should they be prioritized over other forms of labour market power that perhaps are more widespread or disproportionately fall on low-income workers? In the background loom broader questions of democratic legitimacy and institutional design (Tinbergen, 1952; Dewatripont and Tirole, 1999; Tirole, 2023).

After a few quiet decades, both research and competition authorities' thinking on labour market power are evolving at a rapid pace. This presents the opportunity of addressing previously unaddressed harms, but also means that practice risks outrunning the current state of the evidence. We hope that the coming years bring further clarity on the four sets of open questions we outline in this paper.

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Table 2: Recent competition agency actions on labour markets

Country	Year	Area	Type	Source
Australia		Collective bargaining	G	Announcement
Canada	2023	General labour markets	G	Announcement
China	2022	Driving schools	NP, WF	Media coverage
Colombia	2021	Football	NP	Media coverage
Croatia	2015	IT	NP	Announcement
European Union	2022	Solo self-employed workers	G	Announcement
France	2017	Floor coverings	NP	Announcement
Greece	2022	Lift installation services	WF	Announcement
Hungary	2020	HR consulting	WF, NP	Announcement
Lithuania	2023	General labour markets	G	Announcement
Lithuania	2022	Real estate agencies	NP	Announcement
Lithuania	2022	Basketball	WF	Media coverage
Mexico	2021	Football	NP	Announcement
Netherlands	2023	Solo self-employed workers	G	Announcement
Netherlands	2021	Supermarkets	WF	Announcement
Netherlands	2010	Hospitals	NP	Court ruling
Poland	2023	Automobile association	WF	Media coverage
Poland	2022	Basketball	NP	Announcement
Portugal	2022	Football	NP	Announcement
Portugal	2022	Covid-19 testing	NP	Announcement
Portugal	2021	Land surveyors	NP	Announcement
Portugal	2021	General labour markets	G	Announcement
Romania	2022	Automotive engineering	WF, NP	Announcement
Romania	2018	Notaries	WF	Announcement
Spain	2022	Schools	NP	Announcement

Spain	2012	Hairdressing products	IE, NP	Announcement
Spain	2010	Freight forwarding	IE, NP	Announcement
Switzerland	2022	Banking	IE	Announcement
Türkiye	2019	Gym franchises	NC, NP	Media coverage
United Kingdom	2023	General labour markets	G	Announcement
United Kingdom	2023	Fragrance production	NP	Announcement
United Kingdom	2023	Television content	WF	Announcement
United Kingdom	2022	Sports content	WF	Announcement
United States	2024	Supermarkets	M	Media coverage
United States	2023	Aerospace executives	NP	Media coverage
United States	2022	Gig economy	G	Announcement
United States	2022	Publishing	M	Announcement
United States	2022	Home healthcare	WF, NP	Announcement
United States	2022	Healthcare (Colorado)	NP	Media coverage
United States	2021	Healthcare (Nevada)	NP, WF	Announcement
United States	2020	Healthcare (Texas)	WF	Announcement
United States	2018	Rail equipment	NP	Announcement
United States	2016	General labour markets	G	Announcement
United States	2011	Software engineering	NP	Announcement

Notes: G = guidance; IE = information exchange; M = merger case; NC = non-compete; NP = no-poach agreement; WF = wage fixing.

Sources: List of cases from public sources, CMA calculations.