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Declining Inequality and Persistent Inequality Structures

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Abstract: Prior research finds that rising labor market inequality in the United States was abetted by structural changes in the economy: a consolidation of occupation and organizational bases of advantage; rising within-job inequality; and declining pay and employment in middle-earning jobs. In this article, we revisit these structural changes by asking whether they have been reversed as labor market inequality fell over the last decade. Drawing on restricted-use microdata from the Occupational Employment and Wages Statistics, we find that declining inequality is due to declining inequality in occupation premiums. There has been only a small reversal of consolidation and no decrease in inequality within jobs. Low-wage jobs gained on shrinking middle-earning occupations, further eroding union, manufacturing, and public sector wage premiums. These findings demonstrate a novel configuration of labor market inequality, in which pay rose in low-wage jobs, but underlying inequality structures in the economy persisted.

Keywords: labor market inequality; occupation; workplace; job

Reproducibility Package: Full replication code is available at https://osf.io/8tbwh. In June 2025, the BLS suspended researcher access to its restricted data. As such, data for the bulk of this analysis are no longer accessible for replication (or to Roh and Wilmers). If the BLS restarts its data access program, then data will be accessible through the application as a visiting researcher.

AFTER decades of rising inequality, US labor market inequality started falling in 2015 (Dey et al. 2022). This decline initially emerged amid tightening post-Great Recession labor markets (Aeppli and Wilmers 2022) and increased minimum wages (Autor, Dube, and McGrew 2023). It accelerated during the upheavals of recovery from the COVID-19 pandemic, with generous income supports and the Great Resignation. In total, from 2014 to 2024, falling earnings inequality undid around 40 percent of the total rise in inequality from 1982 to 2014.

In this article, we ask whether this fall in labor market inequality has reversed a series of economic changes that define the post-1980 rise of earnings inequality across the US labor market. Prior research shows that low-paying occupations became increasingly concentrated at low-paying employers, as firm-based wage premiums for these occupations eroded with outsourcing and union decline (Wilmers and Aeppli 2021). This consolidation of workplace and occupation advantages exacerbates increased inequality in either single dimension of advantage. At the same time, employers raised inequality within jobs, as they shifted toward more market-oriented and performance-based wage setting (Lemieux, MacLeod, and Parent 2009; Massenkoff and Wilmers 2023). Finally, the broad segment of middle-earning occupations faced substantial pressure: automation and economic globalization undermined the manufacturing and clerical jobs that had been the backbone of post-World War II economic prosperity (Mouw and Kalleberg 2010; Autor and Dorn

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2013). Together, the shifts in cross-workplace, within-job, and between-occupation pay disparities define the era of rising US wage inequality from the 1980s through the mid-2010s.

Have these changes persisted since then, or have they been reversed by a decade of falling earnings inequality? To investigate this question, we draw on restricted-use data from an occupation-focused survey of establishments: the Bureau of Labor Statistics' (BLS) Occupational Employment and Wage Statistics (OEWS). The OEWS is a large, annual survey of establishments that collects data on pay and occupational employment shares across a representative sample of US employers (Wilmers and Aeppli 2021). Unlike household survey data, it includes information on workplaces. Unlike data from the Longitudinal Employer-Household Dynamics (LEHD), used in prior research on earnings inequality and employers (Haltiwanger, Hyatt, and Spletzer 2022), the OEWS provides detailed data on occupations and jobs. This allows us to identify the specific organizational and occupational locations of wage compression and to assess whether the defining features of post-1980s inequality in labor markets and organizations have been reversed.

We find three patterns. First, decomposing inequality into components attributable to workplaces, occupations, and their covariance shows that declining inequality is due to occupational premiums compressing, rather than occupations reshuffling across workplaces. The correlation of occupation and workplace pay premiums effectively stabilized after 2015 without declining significantly. Workplaces and occupations remain nearly as consolidated in 2022 as they were in 2015. However, low- and middle-earning occupations effectively switched places in terms of workplace pay premiums. In 2015, more middle-earning occupations benefited from employment in high-paying workplaces than in 2022. This is consistent with declining premiums associated with union, manufacturing, and public sector employment. Beyond time series patterns, these findings also hold using variation across labor markets. Studying county-level declines in the unemployment rate, the key source of wage compression identified in prior research (Aeppli and Wilmers 2022; Autor et al. 2023), confirms that tight labor markets compress occupational premiums but have little effect on inequality in workplace premiums or the covariance between occupation and workplace.

Second, decomposing residual inequality into job-specific and within-job pay variance shows that within-job pay inequality did not contribute to the recent decline in overall inequality. Within-job pay variance increased in the early 2010s but has stabilized since 2015. In 2022, within-job inequality, or inequality among workers in the same establishment and occupation (Avent-Holt et al. 2020), remains higher than it was in 2014. The decline in inequality within workplaces is instead entirely accounted for by falling inequality between jobs. In other words, inequality fell among co-workers, but not among co-workers performing the same job.

Third, these patterns were driven primarily by wage growth for low-wage occupations. We find no evidence that a reversal in the long-running relative weakness of employment and wages for middle-paying occupations drives the recent reduction in wage inequality (Acemoglu and Autor 2011; Bloom et al. 2024). When we track wage and employment growth by two-digit Standard Occupational Classification (SOC) codes, wage gains are concentrated in low-earning occupations, whereas changes in the employment shares or wages of middle- and high-earning

occupations are mixed. This is corroborated by a counterfactual variance analysis showing that the decline in overall wage inequality is almost entirely explained by rising wage levels in low-earning occupations, with minimal contribution from shifts in occupational employment shares or from wage changes among middle- and high-earning occupations. Middle-paying occupations lost ground relative to low-paying occupations. Employment shares for clerical and production workers continued to fall.

Together, these findings suggest a reconfiguration of American labor market inequality. Between-occupation inequality has declined substantially. Pay has compressed equally within-workplaces and between-workplaces. However, there is little fundamental change in the core structures of inequality that generated the high-inequality labor market of the 2000s. Consolidation stabilized but did not decline; within-job inequality persists at levels similar to 2015; and rising wages at the bottom has meant further erosion of the relative position for middle-earning occupations. As such, key drivers of inequality persist, even as countervailing forces have counterbalanced them. Structures of labor market inequality have not returned to their starting point two decades ago, but have instead persisted into a new configuration beneath declining aggregate inequality.

1 Structural Changes in Inequality

During the period of rising US labor market inequality from 1980 to the early 2010s, researchers uncovered several structural changes in the economy that contributed to inequality. This research often proceeded by contrasting structures of inequality after 1980 to structures that compressed wages following World War II. The Great Compression of the 1940s occurred amid the institutionalization of collective bargaining and industrial unionism (Farber et al. 2021) and the emergence of internal labor markets in large firms (Doeringer and Piore 1971). Firms standardized pay-setting (Jacoby 1985) and offered new pension and health benefits (Dobbin 1992), in effect constructing rigid pay stratification scales and private welfare states. Tight labor markets and the economic boom of the 1940s ushered in a general bureaucratization of employment relations (Baron and Bielby 1980).

In the following, we describe the key structures that replaced this post-World War II wage compression. We then consider how the recent period of declining inequality since 2015 may have undermined or maintained these structures. Underlying these specific changes is the question of whether recent labor market inequality trends have returned us to an inequality configuration similar to the era of the Great Compression. Or, alternatively, whether declining aggregate inequality has proceeded without challenging the structural drivers of rising inequality after the Great Compression. Did inequality fall because these inequality structures were dismantled, or did it fall despite their persistence?

1.1 Workplace Pay Premiums and Consolidation

A long line of research shows that even for employers harboring similar jobs, pay varies substantially (Groshen 1991; Card, Heining, and Kline 2013; Tomaskovic-Devey et al. 2020). Some workplaces pursue a high-wage strategy, limiting turnover

and motivating workers. Others adopt a low-road, high-turnover, and low labor cost strategy (Osterman 2006; Rahmandad and Ton 2020). For example, Costco and Dollar Tree both employ cashiers to check customers out of their retail stores. Costco pays its cashiers around 50 percent more per hour than Dollar Tree does. These workplace pay premium differences mark a source of inequality beyond individual worker performance or human capital.

A series of changes starting in the 1980s reallocated these pay premiums across occupations and workers. During the 1940s Great Compression, unionization and other shocks transformed employment relations at many large manufacturers, forcing vertical integration and diffusing wage standards across supply chains (Jacoby 1985). In the transition to a high-inequality, neoliberal economic order, many large organizations broke unions, cut pay, and dismantled internal labor markets (Kochan, Katz, and McKersie 1994; Cappelli 1999). This reduced workplace premiums for middle- and low-paid occupations. Likewise, outsourcing and workplace fissuring shifted employment for workers from building services, food service, and logistics into low-premium contractors (Weil 2014). As a result, workplace and occupation dimensions of labor market advantage became increasingly consolidated (Wilmers and Aeppli 2021). Workers in low-paid occupations increasingly worked at low-paying workplaces, whereas workers in highly paid occupations benefited doubly, reaping high pay due to their occupation and also due to their workplaces. This consolidation accounts for two-thirds of rising inequality since the 1990s (Wilmers and Aeppli 2021).

Has the recent decline in inequality reversed consolidation? Are there more opportunities for low-earning occupations to be placed in high-paying workplaces? On the one hand, many large, low-wage employers have publicly committed to wage increases. In some cases, as in Amazon's, these wage increases have extended beyond direct employees to cover employees sourced from temp agencies (Amazon 2018). More broadly, tight labor markets can force employers to rethink market-oriented, transactional employment relations. For example, there is some evidence that as labor markets softened in 2023, employers nonetheless 'hoarded' labor to avoid future labor shortages (Leduc and Oliveira 2023). If employers externalized low-wage jobs during a period of weak demand and excess supply for those jobs, a period of tight labor markets may force employers to reorient.

Yet, tight labor markets do not necessarily mean insourcing or a broader rethinking of organizational boundaries. As employers scramble for workers, they may rely more on intermediaries like temp agencies and subcontractors to source workers. For instance, at the height of the COVID-19 pandemic, many hospitals turned to traveling nurse providers to make up for staffing shortfalls (United States Government Accountability Office 2024). Likewise, research on the causes of workplace fissuring emphasizes how technological improvements make coordination across firm boundaries easier (Weil 2014). In that case, labor market conditions should not reverse employer incentives to outsource and focus on their core competency. Indeed, much consolidation is due to underlying structural changes in organizations, rather than narrower issues of labor supply (Wilmers and Aeppli 2021). This suggests that consolidation could persist even as inequality falls.

1.2 Within-Job Inequality

Workers who share roughly the same skill requirements, task content, and position in an organizational hierarchy can be divided by widely varying pay differences (King et al. 2023). Indeed, much sociological theory of inequality emphasizes within-job processes, ranging from discrimination (Castilla 2008) to the spread of performance-based compensation (Hanley 2011). As inequality began rising in the 1980s, employers embraced performance- and market-based pay-setting, shifting away from the standardized, bureaucratic wage-setting typified by collective bargaining agreements and formal pay schedules (Lemieux, MacLeod, and Parent 2009). The result was an increase in inequality, even among co-workers in the same workplace and job (Massenkoff and Wilmers 2023). For example, in the finance industry, bonuses are a key mechanism delivering very high incomes to a subset of top performers (Godechot 2016). In contrast, research on declining inequality in the 1940s emphasizes that the bureaucratization and standardization of wage-setting compressed wages within jobs (Jacoby et al. 2004).

During the last decade of declining inequality, several large firms, including Walmart, Target, and Amazon, have embraced voluntary corporate minimum wages (Derenoncourt and Weil 2025). These increases could standardize pay within jobs at the bottom of the organizational hierarchy. Indeed, one study of statutory minimum wage raises found substantial compression among frontline workers exposed to minimum wage increases (Storer and Reich 2021). As spillovers quickly tapered out and wages bunched at the new minimum, slightly higher wage and higher seniority workers were frustrated by their relative loss of advantage compared to minimum wage workers (Storer and Reich 2021). Indeed, minimum wages are like collective bargaining agreements, in that they set a floor for workers that may be above a strictly competitive market rate. This could compress pay among similarly positioned workers.

The last decade was also a period of intense public debate about racial inequality and gendered harassment in the workplace. As these debates intensified, corporations signaled positions on them in ways that often flowed through human resources decisions (Hurst 2023). It is possible that increased public and corporate attention to issues of race and gender inequality could drive corporations to reduce pay gaps within jobs. For example, in 2019, Google controversially concluded that within-job, men were underpaid relative to women and raised pay for 11,000 within-job underpaid workers (Wakabayashi 2019). In an era of scrutiny over inequality, companies may embrace more compressed job-specific pay ranges.

Declining within-job inequality would indicate a retreat from the market- and performance-oriented wage-setting that employers embraced in the 1980s. Beyond voluntary minimums at a few dozen large employers, however, there is little extant evidence that employers have standardized pay. And even with minimum floor announcements, employers could differentially reward higher tenure or higher performing workers. One recent study found that pay increases since 2020 flowed disproportionately to workers who switch jobs, consistent with employers responding to workers' external labor market options (Autor et al. 2023). If stayers saw little wage growth and movers saw big gains through market pressures, that could translate to substantial within-job pay dispersion that deviates from standardized

pay. Moreover, corporate minimum wages only set a minimum, affecting a small number of low-wage workers. Substantial within-job variation among salaried and other higher-paid workers could persist.

1.3 Occupational Polarization

A third dimension of rising labor market inequality concerns occupational composition and payoffs. Beyond within-job disparities and shifting consolidation across workplaces, both the employment shares of occupations and the wage premiums associated with them can change over time. During the rise in inequality since the 1980s, several forces contributed to declines in both employment and wages for middle-earning occupations. Routine-biased technological change appeared to reduce demand for jobs like clerical workers, whose tasks could be replaced by new information technology (Autor and Dorn 2013). Moreover, economic globalization exposed manufacturing workers specifically to new imports from poorer and lower wage countries (Autor, Dorn, and Hanson 2013; Bloom et al. 2024). These technological and institutional changes put pressure on the middle-paying occupations that were central to the post-World War II compression.

The result of these changes was a substantial rise in inequality between occupations (Mouw and Kalleberg 2010). This increase was driven largely by wage gains among the highest-paid occupations, alongside declines in both employment shares and real wages among middle-earning occupations.

These historical patterns raise the question of whether the recent decline in aggregate earnings inequality reflects a reversal of this earlier trend. Indeed, the last 10 years have been marked by substantial debate over both the impact of trade on manufacturing jobs and concern about how technological change can impact employment. The year 2015 was a turning point in which the Republican Party embraced trade skepticism, which the Democratic Party quickly followed up with an endorsement of several forms of industrial policy. This bipartisan focus on protecting middle-earning jobs, and particularly manufacturing positions, from competition and obsolescence could support a prediction that aggregate declines in inequality were influenced by resurgent middle-earning jobs and pay growth.

However, prior research on declining inequality since 2015 emphasizes that increasing pay toward the bottom, rather than the middle, of the earnings distribution stood out more during that period (Aeppli and Wilmers 2022; Autor et al. 2023). Although there have been optimistic predictions that advances in artificial intelligence might help rebuild middle-class jobs (Autor 2024), the recent period of inequality reduction predates any meaningful effects of modern AI technologies such as large language models. Taken together, these patterns suggest that, despite declining aggregate inequality, middle-earning occupations may continue to face structural pressures.

2 Empirical Strategy

We study changes in inequality structures in three steps, drawing primarily on restricted-use OEWS data and supplementing with comparisons to the publicly

available Current Population Survey (CPS) data. The OEWS enables a decomposition of inequality changes into occupational and establishment components, which we validate by comparing, where possible, with trends in the CPS.

First, we decompose the decline in inequality into components occurring between and within industries, workplaces, and occupations. This provides initial evidence on the respective roles of occupations and workplaces in shaping recent inequality trends. Second, we estimate a two-way decomposition model, following Wilmers and Aeppli (2021), to quantify the relative importance of workplace premiums and consolidation versus occupation effects, while also accounting for within-job changes in pay inequality. Finally, we examine specific occupations to assess whether the pay and employment declines previously experienced by middle-earning occupations have reversed, and whether such changes have contributed to the recent reduction in wage inequality.

2.1 Data

2.1.1 Occupational employment and wage statistics

The OEWS is a survey of establishments collected by the Bureau of Labor Statistics (BLS). The BLS samples approximately 400,000 establishments per year, so almost all American establishments that employ workers are covered at least once in a 3-year window. Managers, HR officers, or owners typically complete the survey for their workplace. For this project, we use the restricted-use OEWS microdata from the BLS, which provides unaggregated establishment-level information.

OEWS respondents are asked to provide a list of occupations at their workplace. These occupations are then coded by the BLS agents at the six-digit SOC level. For each occupation, respondents report the number of workers across 12 hourly or annual pay bins that are roughly evenly spaced in log dollars. We assign the midpoint of the logged interval endpoints to each observation within a given pay interval. For the 2 percent of observations in the top interval, which is effectively a top-code, we assign the conditional expectation of a Pareto distribution fit annually on the top two intervals. Prior research suggests that inequality decompositions like those we perform below are insensitive to several alternative approaches to top code imputation (Wilmers and Aeppli 2021).

The OEWS response rate is around 70 percent. Although the BLS does impute occupation and wage distributions for missing observations, we drop imputed cases, as is standard in studies of earnings inequality. We build again here on prior research that finds similar inequality patterns with and without the imputed cases (Wilmers and Aeppli 2021). We further restrict the sample to private-sector employers, as OEWS treatment of public sector employees varies over time and uses a different data collection procedure. Wilmers and Aeppli (2021) provide additional information on the OEWS through 2020.

Throughout our analyses, we apply sampling weights to produce results representative of the US economy based on the OEWS data. However, the official OEWS 3-year sampling weights are no longer available following the program's 2021 transition from a sampling-based to a modeling-based estimation method, which assigns equal weights to all sampled and imputed non-sampled units to

represent the full population of US establishments. Accordingly, we use the official BLS-provided weights through 2018 and emulate their sampling weights beginning in 2019. Further details on the recent changes to the OEWS structure and our approach to integrating data before and after the transition are provided in Online Appendix B.

Although the OEWS reports job information at the six-digit Standard Occupational Classification (SOC) code level, we use adjusted five-digit occupational categories for most of our analyses. Because our focus is on longitudinal changes across occupational boundaries, and because several revisions to SOC categories occurred during our study period, we introduce a new occupational classification to harmonize occupational categories that were divided or merged over time. Details of this recoding procedure are provided in Online Appendix B.

2.1.2 Current Population Survey – Outgoing Rotation Group

To supplement and validate the restricted-use OEWS microdata, we also analyze data from the Current Population Survey – Outgoing Rotation Group (CPS-ORG). The CPS-ORG is a household survey, asking employed respondents detailed current wage and earnings questions during the fourth month of their participation in the CPS, and then again a year later in their last month of participation. Following prior work on wage inequality, we limit the CPS-ORG sample to workers 16 to 65 with at least 20 hours per week and 40 weeks worked per year. For respondents who report pay as weekly earnings, rather than hourly wages, we divide weekly earnings by the respondent-reported usual hours worked. We scale top-coded observations by 1.4 times the top-code cutoff.

Although the CPS does not include firm- or establishment-level data as the OEWS does, it provides information on each worker's industry, occupation, and union status. Using these variables, we cross-validate parts of our main OEWS-based analyses and situate the OEWS results within broader, concurrent labor market changes.

2.2 Methods

We begin by conducting a series of one-way decompositions of OEWS aggregate pay variance into its within- and between-group components for occupations, establishments, and industries. These descriptive analyses provide the first-ever breakdown of the full period of declining inequality across these key sources of economic advantage. For example, consider the occupation-level decomposition:

$$y_{i,j,o,t} = \gamma_{o,t} + v_{i,j,o,t} \tag{1}$$

Here, $y_{i,j,o,t}$ denotes the average log hourly earnings for industry i (defined by four-digit NAICS), workplace j, occupation o, and year t; $\gamma_{o,t}$ represents the occupation fixed effects; and $v_{i,j,o,t}$ is the residual. The total variance in pay can then be expressed as

$$Var(y_{i,j,o,t}) = Var(\gamma_{o,t}) + Var(v_{i,j,o,t}) \tag{2}$$

In this decomposition, $Var(\gamma_{o,t})$ captures the share of aggregate wage variance explained by between-occupation pay differences, whereas $Var(v_{i,j,o,t})$ reflects the portion attributable to within-occupation variation. The same approach can be applied to decompose total pay variance into between- and within-industry or between- and within-establishment components.

Because each establishment in the OEWS dataset is associated with a unique industry, we can isolate the component of pay variance arising from within-industry, between-establishment differences by subtracting the between-industry component ($Var(\sigma_{i,t})$) from the between-establishment component ($Var(\rho_{j,t})$).

Although these one-way decompositions offer descriptive findings, they are limited in distinguishing the overlapping contributions of multiple pay-setting factors that operate simultaneously. Specifically, because occupations vary within establishments and the same occupations appear across multiple establishments, these one-way decompositions cannot distinguish changes in inequality attributable to occupations from those attributable to workplaces. To jointly estimate the roles of workplace and occupation, we therefore fit a two-way fixed effects model following Wilmers and Aeppli (2021). Specifically, we model the average log-hourly earnings, $y_{j,o,t}$, of workplace j, occupation o, and year t, as the sum of workplace-by-year fixed effects $\psi_{j,t}$ and occupation-by-year fixed effects $\theta_{o,t}$:

$$y_{j,o,t} = \psi_{j,t} + \theta_{o,t} + u_{j,o,t}, \tag{3}$$

This effectively replaces the person fixed effects (α) in a standard AKM model (Abowd, Kramarz, and Margolis 1999) with occupation fixed effects (θ). As identification is not based off of individual worker job movers but rather off of occupations that are common across workplaces, limited mobility bias and parameter instability are negligible in this modification. A practical consequence is that some small workplaces containing a single occupation may be dropped as singleton cells. In addition, substituting occupation for individual fixed effects implies that we assume u is uncorrelated with workplace and occupation indicators in estimating Equation 3. As we do not observe worker characteristics in OEWS, this means components of individual earning differentials that are correlated with occupation or workplace will be absorbed into estimated occupation or workplace fixed effects. Despite these caveats, this model allows us to understand changes in occupation and workplace premia separately.

Specifically, Equation 3 allows us to decompose earnings variance into four components:

$$Var(y_{j,o,t}) = Var(\psi_{j,t}) + Var(\theta_{o,t}) + 2Cov(\psi_{j,t}, \theta_{o,t}) + Var(u_{j,o,t}). \tag{4}$$

These terms can be interpreted as the variation in workplace premia controlling for occupation ($Var(\psi_{j,t})$); the variation in occupation premia controlling for workplace ($Var(\theta_{o,t})$); occupation-workplace sorting ($Cov(\psi_{j,t}, \theta_{o,t})$); and the residual variation ($Var(u_{j,o,t})$). We estimate Equations 3 and 4 separately each year, producing yearly series of the four variance components. In our main analysis, we estimate the effects for five-digit occupation codes (SOC) as in Wilmers and Aeppli (2021).

The residual variation from this model is within-establishment inequality not attributable to occupation premium differences. Put differently, it is the part of inequality that is explained by neither the establishment-specific wage premium nor the economy-wide premium associated with working in a given occupation. This residual can be further decomposed by regressing it on occupation by establishment fixed effects, into within- and between-job components. The between-job component is the part of between-job inequality that is over and above economy-wide differences in pay by occupations: some employers may pay salespeople particularly well, for example. The remaining within-job component is our main interest, however: this gives the variance in wages within specific jobs, defined as detailed five-digit occupation pairs crossed with establishment and year (Avent-Holt et al. 2020). Inequality within these units corresponds to the within-job inequality described above.

Taken together, these decompositions allow us to distinguish changing inequality attributable to occupation, workplace, and their consolidation. They also allow us to zero in on trends in within-job inequality.

We then study the role of occupational wage differences and employment composition in shaping changes in aggregate wage inequality by focusing on the between-occupation wage variance term ($Var(\theta_{o,t})$) in Equation 4. Specifically, we set 2012 as the baseline year and construct two counterfactual scenarios to trace how between-occupation wage variance would have evolved differently if (1) occupational wage premiums had remained fixed at their 2012 levels (i.e., $\theta_{o,2012}$) or (2) occupational employment shares had remained fixed at their 2012 levels. In each case, we assign 2012 occupation fixed effects or employment shares to later years and re-estimate the corresponding counterfactual between-occupation wage variance for each year. If the observed change in between-occupation pay variance disappears under one of these scenarios, we interpret the corresponding component (either changes in occupational pay or employment composition) as the primary contributor to the trend in between-occupation pay variance.

Finally, to assess the role of middle-earning occupations in declining inequality, we divide occupations into terciles based on their 2012 pay premiums. We then hold constant the occupation fixed effects for each tercile of occupations at their 2012 levels into subsequent years, while allowing the fixed effects for the other two groups to evolve according to their observed trends. We also fix occupational employment shares at 2012, to assess the contribution of a potential reversal of occupational employment polarization to inequality trends. Comparing these counterfactual trends with the observed between-occupation wage variance trend allows us to determine whether changes in pay or employment composition were more influential, and which segment of the occupational distribution contributed most to the overall decline in wage inequality.

Table 1 summarizes the nine key variance components used throughout the article. The table clarifies how multiple, overlapping decompositions – one-way models that partition variance by occupation, industry, or establishment, and a two-way model that jointly estimates occupation and workplace effects – yield distinct components that can be conceptually distinguished. The first five components – between-occupation, within-occupation, between-industry, between-establishment,

Table 1: Roadmap of Variance Components Used.

Variance Component	Result	Definition	Example
One-way Variance Decomposition (Equation 2)			
Between-occupation	Figure 1b	Wage gaps driven by differences in occupational pay scales.	Food prep workers earn less than Managers on average.
Within-occupation	Figure 1b	Wage gaps among workers in the same occupation.	Some food prep workers earn more than other food prep workers.
Between-industry	Figure 1a	Wage gaps driven by industry-wide pay scales.	Finance sector workers earn more than Food Service workers.
Within-ind., between-estab.	Figure 1a	Wage gaps between different workplaces within the same industry.	Costco pays more than Dollar Tree, though both are in Retail.
Within-establishment	Figure 1a	Pay gaps among all coworkers at the same physical workplace.	The pay gap between a CEO and a line worker at the same manufacturing plant.
Two-way Variance Decomposition (Equation 4)			
Inequality in workplace premia	Figure 2	Pay advantage of a specific employer, net of its occupational mix.	Google pays more than Walmart, even after accounting for the fact that Google employs more high-paying roles.
Inequality in occupation premia	Figure 2	Pay advantage of an occupation, net of sorting into high-paying firms.	A software engineer earns more than a cashier, even after accounting for the fact that Google pays more than Walmart.
Covariance (Consolidation)	Figure 2	The tendency for high-paying occupations to sort into high-paying workplaces.	Software engineers are more likely to work at Google, while cashiers are more likely to work at Walmart.
Residual Decomposition (Equation 6)			
Between-job	Figure 6	Variation in the wage premium associated with a specific job, net of occupation and workplace premiums.	Google pays software engineers particularly well – above and beyond the sum of the typical "Google premium" and "engineer premium".
Within-job	Figure 6	Gaps among coworkers in the exact same role and workplace.	Performance bonuses or seniority-based pay differences between two cashiers at the same Walmart establishment.

and within-establishment inequality – are derived from the one-way decompositions in Equation 2. The next three – workplace pay premiums, occupation pay premiums, and sorting – come from the two-way model in Equation 4. Finally, within-job inequality is obtained by further decomposing the residual from the two-way model, as will be described in Section 5.

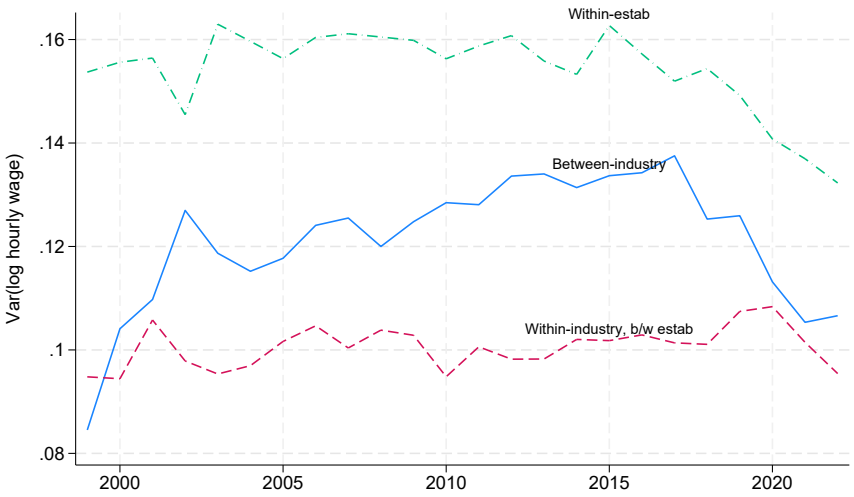
3 Within and Between Industries, Establishments, and Occupations

Before turning to our detailed results on specific structures of inequality, we first provide an initial look at how aggregate wage inequality has evolved over the past two decades, and then decompose these trends into between- and within-industry, establishment, and occupation components. First, Online Figure A1 documents a consistent decline in wage inequality, beginning in 2015. Both the OEWS and the CPS-ORG show similar declines. This decade fully reversed the rise in inequality observable in the OEWS from the dot-com crash through the aftermath of the Great Recession. In the CPS, the wage variance decline is slightly smaller, but of a similar magnitude. Prior work established declining wage inequality in the CPS-ORG through 2022 (Autor et al. 2023) and a stabilization and small decline in the OEWS up through 2018 (Aeppli and Wilmers 2022). Here, we show that the trends in the household data through the end of the pre-COVID-19 period and through the pandemic recovery follow similar patterns in establishment-side administrative data. Wage inequality declined sharply during this period.

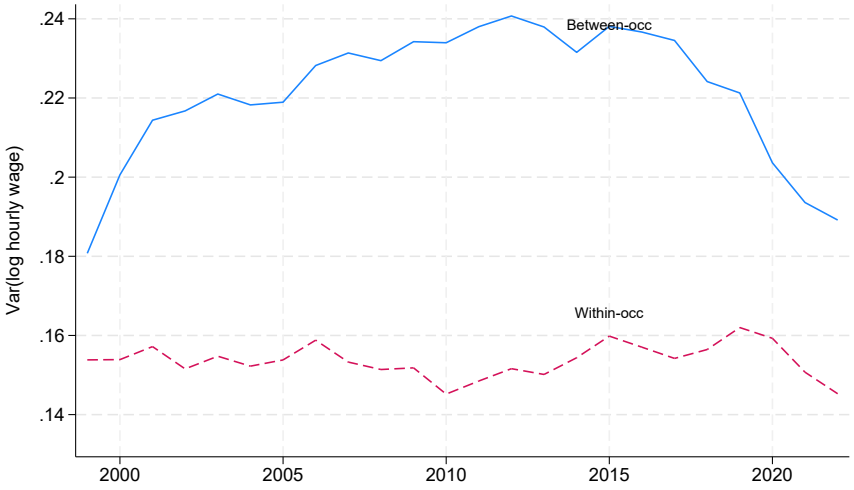
How did this inequality decline play out across industries, workplaces, and occupations? In Figure 1, we conduct a series of variance decompositions, facilitated by the OEWS's unique establishment by occupation structure. These decompositions are based on Equation 2, derived from the one-way fixed effects model specified in Equation 1. We then replicate this model, sequentially replacing the occupation fixed effects ($\gamma_{o,t}$) with industry fixed effects ($\sigma_{i,t}$) or establishment fixed effects ($\rho_{j,t}$), to obtain analogous decompositions for industries and establishments. This approach allows us to track over time how much of the observed change in wage inequality can be attributed to differences between and within industries, workplaces, and occupations.

Figure 1a splits variance into within-establishment, between-industry, and within-industry but between-establishment components. Prior to 2015, within-establishment inequality was roughly constant: consistent with prior research, rising inequality was concentrated between workplaces rather than among coworkers. However, from 2015, within-workplace wage variance fell precipitously, declining by 20 percent in 7 years. Within-workplace wage differences did not contribute much to rising inequality, but falling within-workplace inequality explains half of the decline in wage variance. As a result, by 2022, within-workplace inequality was at the lowest levels recorded in the OEWS.

In contrast, rising between-industry inequality largely drove rising inequality in the OEWS (consistent with recent findings in the LEHD; Haltiwanger, Hyatt, and Spletzer 2022). Between-industry inequality actually continued to rise through 2017,



(a) Workplaces and Industries



(b) Occupation

Figure 1: One-way variance decompositions of log earnings. OEWS establishment is the OEWS survey schedule number, which corresponds to a survey frame from the Longitudinal Business Dynamics establishment ID. Four-digit NAICS codes are used for industry, and five-digit SOC occupation codes are used for occupation.

offsetting some of the initial fall in inequality stemming from within-workplace compression. But after 2017, between-industry inequality fell sharply. Fully 45 percent of the total inequality decline is due to falling pay gaps between higher- and low-paying industries. What had been towering gaps between finance and food service began to shrink.

Unlike within-establishment and between-industry inequality trends, within-industry, between-establishment inequality – like that between Costco and Dollar General – saw no decline and even a small increase prior to 2020. Only with the pandemic and its recovery did within-industry, between-establishment inequality

fall modestly. By 2022, within-industry, between-establishment inequality was only slightly below the consistent level it had been for the preceding two decades. Because of the sharp decline in other components of inequality, within-industry pay variation accounted for a growing share of overall inequality: from a quarter to nearly a third of overall wage inequality.

Next, we turn to occupation. Figure 1b shows that declining inequality throughout the period is well-accounted for by declines in pay gaps between adjusted five-digit SOC occupations, rather than within them. Up until the COVID-19 period, inequality within occupations actually stayed constant, leaving the entire inequality decline explained by shrinking gaps between occupations. After 2020, inequality began falling both between and within occupations. But even during the pandemic period, two-thirds of the decline occurred due to the shrinking between-occupation gaps. Throughout the period of falling inequality, the dominant pattern of inequality decline occurred between occupations.

Prior work using the OEWS to study rising inequality finds that the OEWS apportions more variance to occupations and more of the rise in inequality to between-occupation inequality. This is likely due to reduced measurement error on employer-sourced occupation categories compared to worker- and relative-reported household surveys (Abraham, Spletzer, and Harper 2010; Spletzer and Handwerker 2014). Online Figure A2 shows comparable results with the CPS-ORG: although the level and decline of within-occupation inequality is larger in the CPS, the percentage decline in between-occupation inequality is similarly steeper than the within-occupation decline and begins earlier. This comparison suggests that declining between-occupation inequality is a key feature of the recent decline in inequality.

Overall, these initial results indicate a decline in inequality both between and within establishments, as well as across types of occupations. The between-establishment decline is driven largely by reduced inequality between industries. The decreases in between-occupation and between-industry inequality constitute a clear reversal of the trends observed during the periods of rising inequality before 2015. In contrast, within-establishment wage inequality began to fall only after 2015, following a long period of stagnation. Unlike these key components of falling inequality, within-occupation and within-industry, between-establishment inequalities have remained relatively stable throughout the period.

4 Persistent Consolidation

Although the one-way fixed effects models offer preliminary evidence on where inequality has declined, the similarity across the between-industry and between-occupation results reveals a key limitation of the one-way decompositions discussed in Section 2.2: insofar as occupation, workplace, and industry are all correlated, independent contributions of each to inequality trends are difficult to disentangle. For example, part of the premium associated with working as a financial analyst is due to the high-pay-off nature of that occupation. But part of the premium is that it happens to be an occupation employed by some very high-wage employers, like investment banks and hedge funds. Without disentangling these separate effects of

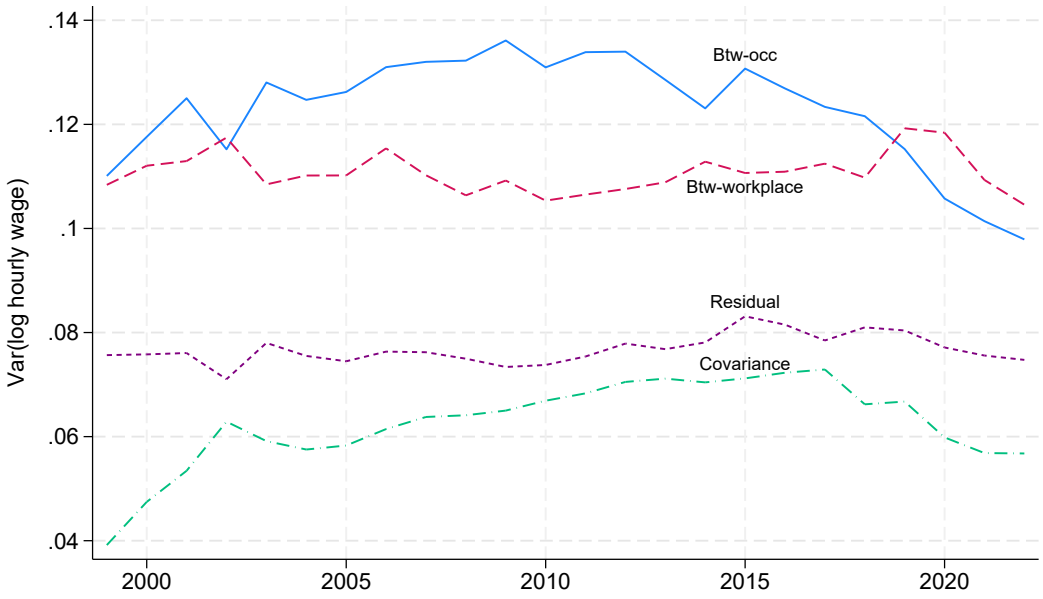


Figure 2: Decomposing declining inequality by occupation and workplace. Variance components from two-way workplace by occupation fixed effects model for OEWS. Log hourly wage is predicted with two vectors of fixed effects, for occupation and establishment, as described in Equation 3. The variances of the estimated fixed effects, along with their covariance and the model's residual, are then plotted (decomposition described in Equation 4). Occupation is a five-digit SOC, and workplace is the OEWS schedule number.

occupation, establishment, and jobs, it is difficult to track the inequality structures described above.

To address this problem, we use the OEWS cross-sectional data to estimate an annual series of decompositions splitting wage inequality into components attributable to workplace, occupation, their consolidation, and a residual. This allows us to distinguish inequality changes attributable to workplaces and workplace-occupation consolidation from changes that are common within occupations.

Figure 2 reports the decomposition results from Equation 4, where the components are obtained by estimating the two-way occupation and workplace fixed effects model described in Equation 3. Inequality in between-workplace premiums (controlling for occupation composition) shows little change, particularly prior to 2020. After 2020, between-workplace premiums decline meaningfully, but account for only 10 percent of the overall inequality decline and, even focusing on the post-2019 period, only 30 percent of the decline. After accounting for changing occupation premiums, the total contribution of these workplace premium inequality declines is modest.

In contrast, there is a longer-running decline in the covariance between occupation and workplace premiums. This means that working in a low-paying occupation decreasingly predicted also receiving a low workplace premium. The small observed decline in covariance between occupation and establishment premiums could either be due to compression in the variances of each of those distributions or be due to a true decline in correlation between them. To assess this, we divide the

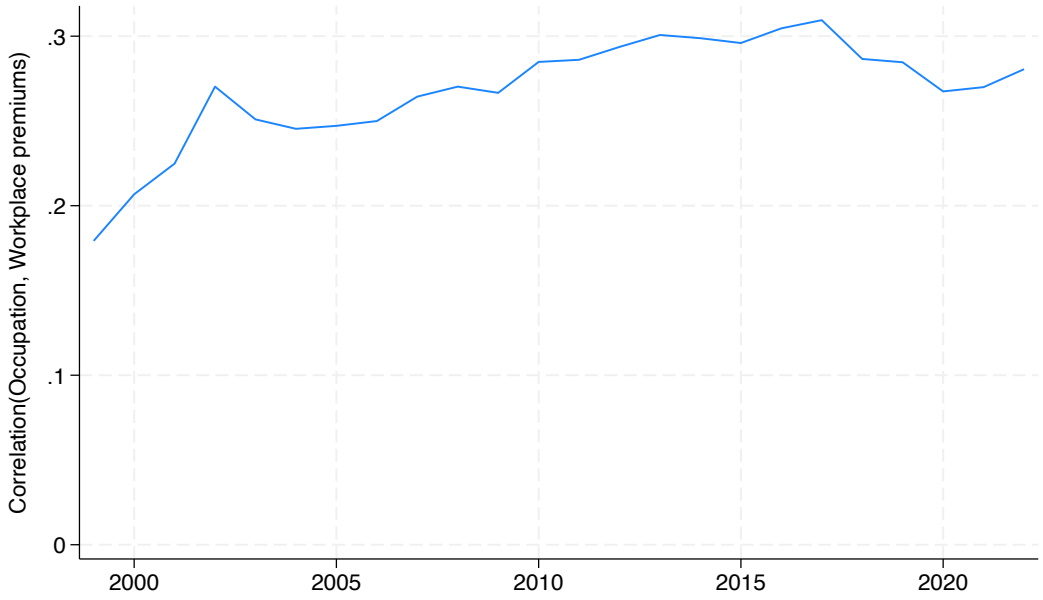


Figure 3: Rising and stabilizing consolidation. Correlation of occupation and establishment premiums, as estimated in Equation 3. Occupation is a five-digit SOC, and workplace is the OEWS schedule number.

covariance by the product of the two components' standard deviations to track the Pearson correlation between occupation and workplace premiums. This adjusts for declining inequality in occupation premiums. Figure 3 shows that during the period of rising inequality, the correlation between occupation and workplace premiums increased by 65 percent, consistent with findings in Wilmers and Aeppli (2021).

As inequality began falling, this correlation initially rose. Then, beginning in 2018 and through 2021, it fell slightly (by 13 percent). During the recovery from the COVID-19 pandemic, the correlation rose again, leaving a net decline for the period of falling inequality of 5 percent. Overall, these patterns demonstrate a small, unstable decline in consolidation, which still leaves consolidation at levels similar to 2010 and still 56 percent higher than the late 1990s.

Given the small changes in aggregate consolidation and between-workplace inequality, we next examine what might account for them. Specifically, we consider the possibility that these muted aggregate trends mask offsetting changes in consolidation or between-workplace inequality across different parts of the wage distribution. To test this, we first analyze how the joint occupation-workplace distribution evolved over this period, contributing to the aggregate changes in consolidation. Table 2 examines how workplace premiums shifted across the occupational distribution. Here, we create nine categories of establishments by crossing terciles of occupation and workplace premiums. The share of occupations in the bottom third of the occupation premium distribution that received low workplace premiums declined from 15.5 percent of employment at peak inequality in 2015 down to 13.6 percent. Two-thirds of this shift came from moving up to the highest workplace premiums, and one-third came from increases in middle-premium workplaces. An inverse shift occurred among middle-paying occupations, as the

Table 2: Occupations shifting across the workplace premium distribution.

Occupation	1999	2015	2021	1999–2015	2015–2021
Low occ, low workpl	0.149	0.155	0.136	0.007	−0.019
Low occ, mid workpl	0.120	0.120	0.129	0.000	0.008
Low occ, high workpl	0.066	0.058	0.072	−0.008	0.015
Mid occ, low workpl	0.107	0.110	0.126	0.003	0.016
Mid occ, mid workpl	0.111	0.112	0.108	0.001	−0.004
Mid occ, high workpl	0.114	0.111	0.096	−0.003	−0.015
High occ, low workpl	0.078	0.068	0.071	−0.010	0.003
High occ, mid workpl	0.102	0.100	0.097	−0.002	−0.004
High occ, high workpl	0.153	0.165	0.165	0.011	0.000

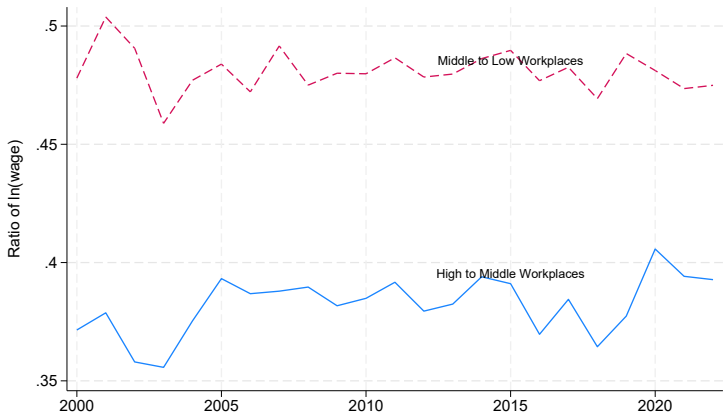
Data from OEWS. Each row represents different pairs of occupation and workplace pay terciles defined from wage regressions. Each cell represents shares of each pair in the economy and their changes between different periods.

workplace premiums for those jobs declined. In contrast, the top third of occupations, which had gained substantially in workplace premiums from 1999 to 2015, had stable workplace premiums.

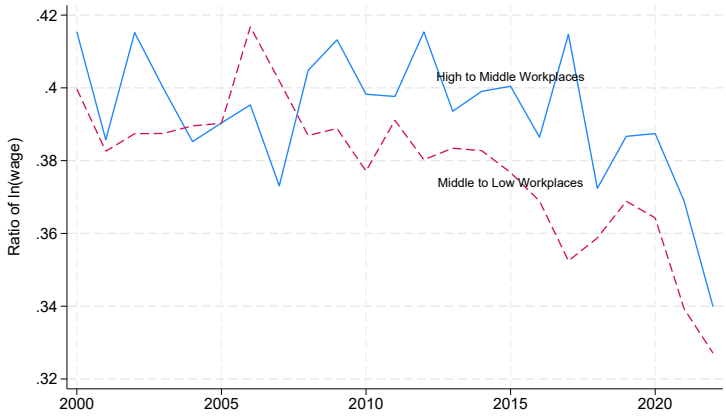
Employers of low-wage occupations paid more and they did so in a way that disproportionately delivered high workplace premiums to low-wage occupations. Table 2 also shows that this contrasts starkly with the prior period of rising inequality. From 1999 to 2015, low-paid occupations lost employment share in the high-paying workplace. Their gains since 2015 were roughly double those losses. In 2021, low occupations were more likely to be found in high and middle premium workplaces than they had been in 1999.

Yet, in the prior period, workplace premium losses for low-paid occupations were recouped by high-paid occupations, amplifying the inequality effects of those workplace premium reallocations. In the recent period, workplace premium gains for low-paid occupations have come entirely from losses for middle-paid occupations. This reflects challenges to middle-paid occupations' access to high-premium workplaces during this period, as in Figure 4b and Figure 5. Low-paid occupations in 2015 were half as likely as middle-paid occupations to be in high-paying workplaces. By 2021, they were 75 percent as likely. The gap in access to high-paying workplaces between low- and middle-premium occupations fell by half.

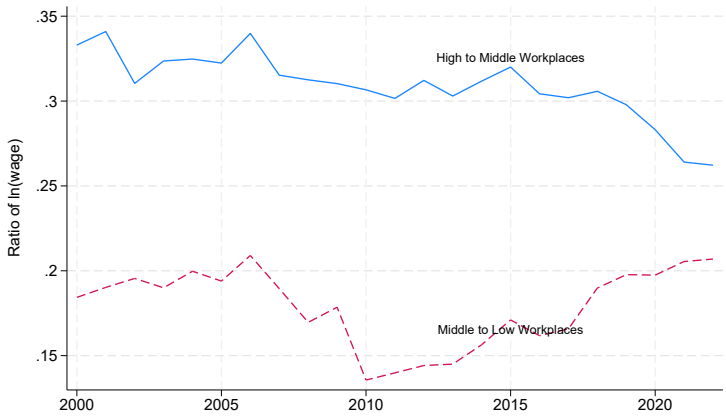
Next, we test whether there also have been offsetting changes in workplace premiums across occupational pay groups, leading to the stagnant trend in aggregate between-workplace wage inequality. To do so, we again split both occupations and workplaces into evenly sized thirds based on their premiums estimated from Equation 3. Workplaces are categorized according to whether they are high, middle, or low paying in terms of workplace premiums and whether they employ a majority of each tercile of occupation. Low-premium occupations consist mainly of low-wage services, like retail clerks, cooks and waitstaff, housekeepers, and health support. Middle-premium occupations include much production and administrative work. High-premium occupations are dominated by managerial and professional workers. Dividing workplace premium inequalities across the main occupations employed at a workplace allows us to capture potentially divergent patterns in workplace effects



(a) High occupations

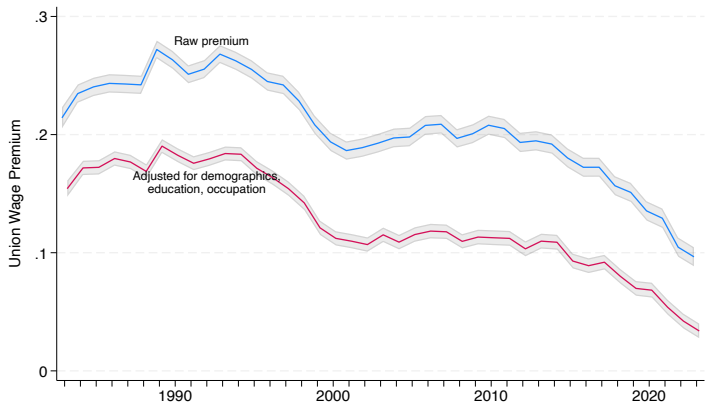


(b) Middle occupations

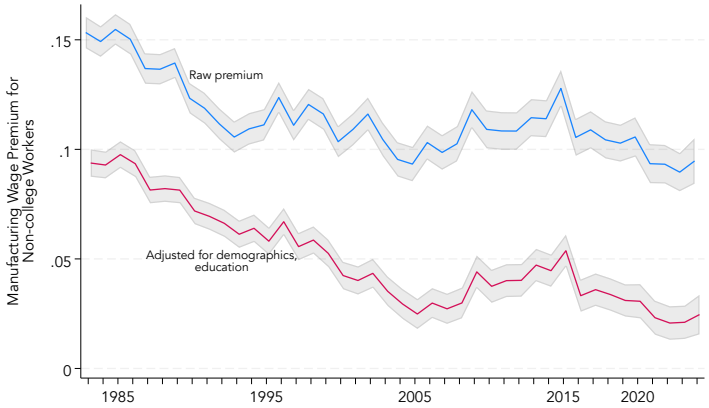


(c) Low occupations

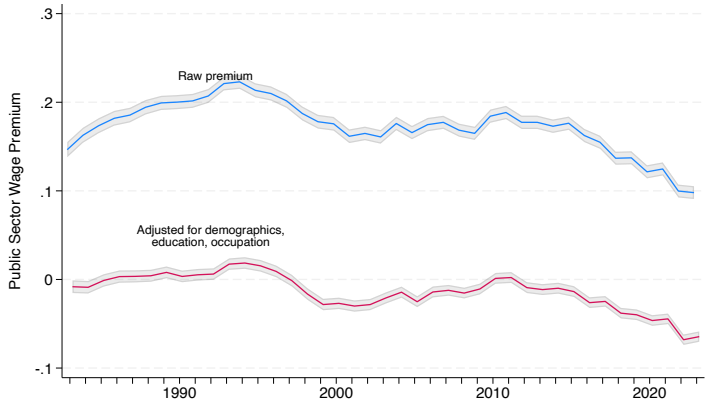
Figure 4: Trends in workplace pay gaps by occupational pay groups. Components from two-way decomposition. Establishments are divided cross-sectionally by (1) whether they employ a majority of low, middle, or high occupations and (2) whether they have a low, middle, or high workplace premium.



(a) Union



(b) Manufacturing



(c) Public sector

Figure 5: Indicators of declining pay premiums for "good jobs." Data from CPS-ORG. The sample is workers aged 16–65 with at least 20 hours per week and 40 weeks worked per year. Union indicator is covered by the collective bargaining agreement versus uncovered workers. The public sector includes federal, state, and local municipal workers.

for, say, the gap between Five Guys and McDonald's compared to the gap between Goldman Sachs and the local credit union. Figure 4 presents the results of this exercise, tracking the ratios of average workplace wage premiums between high- and middle-paying, and between middle- and low-paying employers, separately for each occupational group.

Figure 4a shows that among establishments that employed a majority of high-occupation workers, like managers and professionals, there was little change in between-workplace inequality after 2015 (or indeed, prior to that). The relative pay of the lowest-paying workplaces of high-paid occupations did not decline or rise much relative to middle-paying and high-paying employers of similar occupations. The Googles continued to outpace the start-ups and the Goldman Sachs outpaced the credit unions. Substantial inequality among employers of high-paid occupations persisted throughout the periods of rising and falling inequality.

In contrast, among workplaces that employ a majority of middle-paid occupations, like manufacturing operatives and construction workers, the differences in workplace premiums declined substantially. Qualitatively, this pattern aligns with declining premiums for previously high-paying establishments, like those in unionized and public sector employers. Consistent evidence from the CPS supports this interpretation: Figure 5 confirms that pay premiums for unionized, manufacturing, and public sector jobs, long the key sources of increased pay for middle-earning occupations, fell steadily during the period of declining inequality. What had been relatively high-paying jobs for workers in middle-earning occupations increasingly lost their pay premiums.

The workplace inequality patterns for workers in low-premium occupations look quite different. Among employers of the majority of low-paid occupations, patterns diverge starkly in inequality trends at the top and bottom of the workplace distribution. The gap between low-paying and middle-paying employers substantially increased *during the period of declining inequality*. In contrast, the gap between high- and middle-paying establishments closed somewhat. This suggests that rising pay for low-wage occupations compressed high (Costco) and middle (Walmart) paying firms away from the lowest paying firms (say some mom and pop retailers, establishments in non-minimum wage or low cost of living places, or new entrants). Overall, these patterns are complex, but they are not consistent with a generic increase in labor market competitiveness. Although middle-paying workplaces converged up toward high-paying workplaces, a residual of low-paying employers of low-paid occupations remained. These low-paying employers increasingly fell behind their competitors.

These varying occupation-specific patterns show why there is no consistent decline in between-workplace inequality, net of occupations. Although pay premiums that previously separated high- from low-wage employers of middle-premium occupations shrank, those separating the very lowest wage jobs from higher paying versions of the same occupation actually increased. As a result, these shifting patterns net out to no workplace inequality decline through 2020. Only in the aftermath of COVID-19 did declines in pay gaps among middle-paid occupations, like production, drivers, and construction workers, finally drive small aggregate declines in inequality in workplace premiums.

Table 3: Wage Variance Regressions at the Commuting Zone (CZ)-level.

	(1)	(2)	(3)	(4)
	Var(Wage)	Var(Occ. FE)	Var(Estab. FE)	Cov.
Unemployment Rate	0.338	0.295	0.043	−0.024
	(0.096)	(0.087)	(0.071)	(0.047)
Fixed effects:				
Year	×	×	×	×
CZ	×	×	×	×
N	5,586	5,586	5,586	5,586

Note: Data from OEWS. Dependent variables are variances at the CZ-level. We derive the components for variance estimation by fitting a two-way fixed effects model on wages with occupation x CZ x Year fixed effects and Workplace x Year fixed effects.

As such, the two-way decomposition shows that workplace premiums remained important determinants of inequality despite the large decline in aggregate wage inequality. Moreover, consolidation between occupations and workplaces persisted, even amid significant reshuffling in the occupational distribution across employers with different pay premiums. In other words, the highest-paying workplaces and occupations continued to match disproportionately with one another.

Instead, the main story in Figure 2 points to declining inequality in occupation premiums. Figure 2 demonstrates that declining overall wage inequality is mainly explained by declining inequality in occupation premiums. Variance of occupation premiums, controlling for their allocation across workplaces, declined sharply from 2015, echoing the one-way decomposition results in Figure 1. A full majority of the decline in inequality comes from convergence in pay across occupations.

As previous research finds that tightening labor markets have been a major driver of the recent decline in wage inequality (Aeppli and Wilmers 2022; Autor et al. 2023), we would expect tightening labor markets to operate primarily through the between-occupation channel if the decline in aggregate inequality largely reflects a reduction in between-occupation pay variance. To test this, we modify Equation 3 and Equation 4 to decompose aggregate wage variance separately for each commuting zone (CZ), rather than for the national economy, into between-occupation, between-workplace, and covariance components. We then fit a series of panel regressions at the CZ-by-year level, regressing each CZ-level variance component on the local unemployment rate while controlling for CZ and year fixed effects. This approach captures the association between local labor-market tightness and each source of wage variance, net of common time trends and time-invariant local characteristics. Further details of the analysis are provided in Online Appendix C.

The result from Table 3 shows that tightening labor markets contributed to declining wage inequality largely through reduced between-occupation wage variance. This finding further supports the evidence from Figure 2 by confirming that the mechanism identified in prior research – tight labor markets – operates mainly through the key channel highlighted here: the reduction in between-occupation pay variance driving the aggregate decline in wage inequality.

Overall, the findings from the two-way workplace-occupation decomposition provide no strong evidence that the decline in wage inequality over the past decade was driven by reductions in the variance of workplace premiums or by the consolidation of workplace and occupation premiums. Instead, the decline appears to have been driven primarily by a narrowing of occupation-level pay premiums. We return to this finding in our discussion of middle-earning occupations below. But first, we consider the last component of the decomposition described above: within-job, residual inequality.

5 Stabilizing Within-Job Wage Inequality

Even if the shrinking gap between occupations was the primary driver of the recent decline in wage inequality – and the effect of changing consolidation was minimal – other factors may also have contributed. One such factor is within-job wage inequality, which prior research identifies as a major contributor to rising inequality since the 1980s. Although Equation 4 simultaneously accounts for detailed occupations and specific workplaces, it does not directly identify how much of the aggregate wage variance arises from pay differences across or within individual jobs, defined as unique occupation-by-establishment pairs. Instead, these sources of variance are combined in the residual wage variance term in Figure 2, which shows a modest decline after peaking in 2015.

To address this issue and test whether the decline in within-job wage variance contributed to the overall reduction in inequality, we further decompose the residual wage variance term from our two-way workplace-occupation decomposition model (Equation 4) into between- and within-job components. Specifically, we first regress the residual term from Equation 3 on job fixed effects ($\pi_{p,t}$) as specified in Equation 5:

$$u_{j,o,p,t} = \pi_{p,t} + \epsilon_{j,o,p,t} \tag{5}$$

Following the same logic as Equation 2, the residual wage variance from Equation 4 ($Var(u_{j,o,p,t})$) can then be decomposed into between-job variance ($Var(\pi_{p,t})$) and within-job variance ($Var(\epsilon_{j,o,p,t})$), as shown in Equation 6:

$$Var(u_{j,o,p,t}) = Var(\pi_{p,t}) + Var(\epsilon_{j,o,p,t}) \tag{6}$$

Figure 6 presents the results of this job-level decomposition analysis as an extension of our main two-way decomposition model. The results show little evidence that within-job wage variance declined in a way that contributed meaningfully to the recent reduction in overall wage inequality. Although the level of within-job variance in 2022 is slightly below its peak in 2015, its change after 2015 – excluding the temporary disruption in 2020 – is negligible compared to its notable increase before 2015. By contrast, between-job wage variance, net of occupation- and workplace-level averages, remained stable up to 2015 and began to decline gradually thereafter. Taken together, these patterns suggest that the modest reduction in the residual wage variance observed in Figure 2 primarily reflects falling between-job, rather than within-job, wage variance.

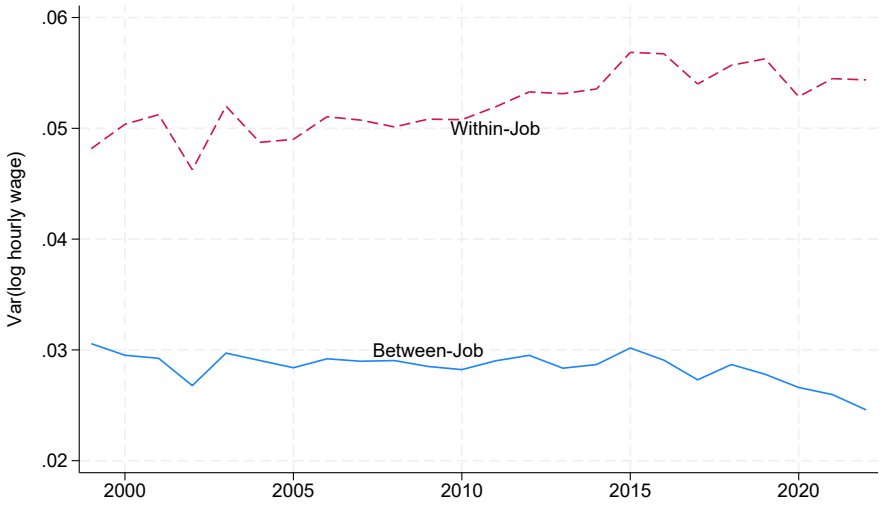


Figure 6: Stagnating within-job wage inequality. Between- and within-job pay components from Equation 6. Jobs are defined as five-digit SOC × OEWS schedule numbers.

6 Continued Relative Decline of Middle-Earning Occupations

Given the central role of occupations in the decline of inequality, we next ask whether this is attributable to a reversal of the long-standing decline in pay and employment of middle-paying occupations. To begin, we provide descriptive evidence on how different occupations fared over this period. Table 4 reports how the pay levels and employment shares of broad occupational groups changed between 2014 and 2021. From 2014 to 2021, low-paying occupations, like food services, personal services, sales, and building maintenance, all received real wage increases on the order of 10–15 percent. In contrast, pay for managers and professionals grew more slowly, at around half that rate prior to COVID-19 and even more slowly in the aftermath of the pandemic. Middle-paying occupations, like construction, social services, and production, had a mixed record during the period but generally rose less quickly than the lowest wage occupations. Online Figure A3 confirms these results with the CPS: declining inequality between occupations involved low-wage occupations catching up with the rest. Middle-paying occupations typically had reasonable wage growth, but lagged behind the lowest wage occupations in food service and personal services.

Table 4 also shows a substantial reshuffling of employment across occupations. Managerial and business operations occupations grew, whereas administrative support shrank, continuing trends from prior to 2014. Consistent with the rise of e-commerce, transportation and moving occupations increased their share of total employment by 3 percentage points. Healthcare support, which saw only small wage increases during this period, also significantly expanded its employment. In contrast, employment shares in middle-earning jobs in production, administrative support, and maintenance all fell sharply.

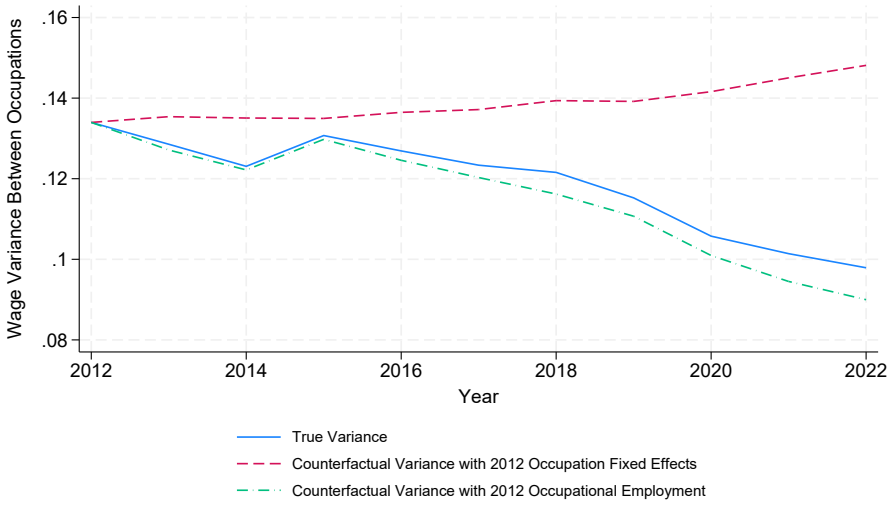
Table 4: Wage and employment share changes by 2-digit SOC.

	2014	2014–2019		2014–2021	
	Wage ($)	ΔWage(%)	ΔShare(%p)	ΔWage(%)	ΔShare(%p)
Managerial	32.29	5.53	0.61	−4.26	1.73
Legal	27.33	6.15	0.03	1.43	0.09
Computer / Math	26.24	9.33	0.37	3.75	0.09
Engineering	25.17	4.52	0.10	−1.53	−0.17
Healthcare Practitioners	21.86	5.87	0.11	3.98	−0.65
Business Operations	21.55	5.38	1.07	2.73	1.22
Science	21.12	9.19	0.05	3.82	0.01
Arts / Entertainment	15.01	8.02	0.02	5.81	−0.02
Construction	14.47	8.20	0.06	7.53	0.16
Maintenance / Repair	13.80	7.74	−0.07	7.14	0.19
Education	13.02	2.59	0.03	8.27	0.07
Social Service	12.76	8.11	0.07	10.83	0.12
Production	10.98	9.21	0.08	10.84	−0.59
Administrative Support	10.81	10.81	−3.29	10.90	−3.60
Transportation / Moving	10.33	7.64	2.80	10.09	3.10
Sales	10.06	9.64	−1.04	11.05	−0.38
Healthcare Support	9.35	2.86	1.99	3.76	2.08
Protective Service	8.85	12.29	−0.10	15.00	−0.33
Building Maintenance	8.33	11.01	−0.43	15.28	−0.40
Farming / Fishing	8.10	20.47	−0.01	22.45	0.00
Personal Service	7.96	14.50	−1.50	17.02	−1.77
Food Services	7.38	9.93	−0.95	16.45	−0.96

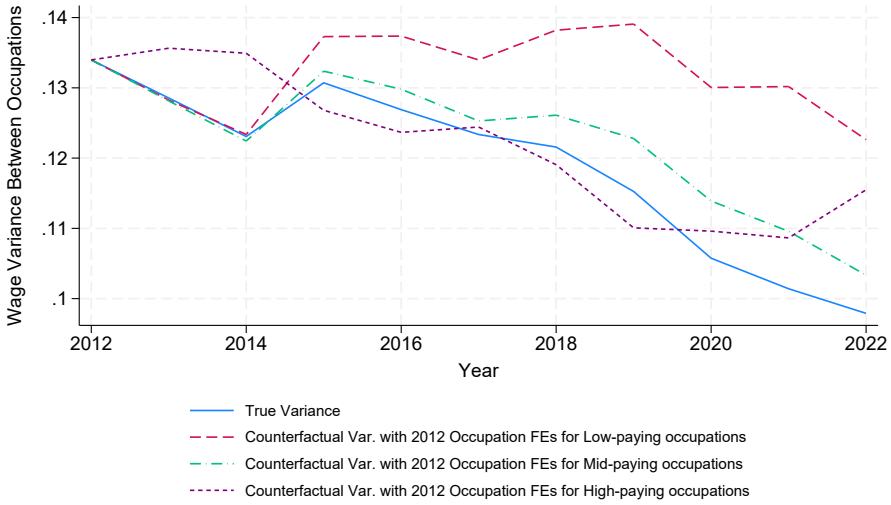
Data from OEWS. Wage changes in percentages and employment share changes in percentage points between the two years. Sorted by highest to lowest in 2014 average wage.

During the period of rising inequality, disproportionate growth of occupations at the top and bottom of the pay distribution contributed to rising inequality (Autor and Dorn 2013). Did shifting employment shares similarly contribute to falling inequality? If inequality has declined more across occupations than workplaces during the last decade, as indicated by Figure 2, is that largely due to employment composition changes or due to pay changes? In Panel A of Figure 7, we first estimate the true yearly variance between occupation premiums after fitting Equation 4 to the full OEWS sample with five-digit occupations. Next, for the left panel, we fix either occupation premiums or economy-wide occupational shares at their 2012 levels to derive counterfactual wage variance trends between occupations. The results show that fixing employment heightens the decline in between-occupation inequality. Shifting employment shares across high- and middle-wage and high- and low-inequality occupations actually offset, rather than contributed to, declining inequality. In contrast, fixing occupational premiums at 2012 levels fully eliminates the inequality decline and actually induces a small inequality increase. Without reductions in between-occupation pay differences, wage inequality would not have declined.

Which occupations specifically contributed to the decline in inequality? Although there is little evidence that a reversal of *employment* polarization drove this trend, it remains possible that a reversal of *wage* polarization – rising wages in



(a) Occupation shares and premiums



(b) Fixing premiums for specific occ. pay groups

Figure 7: True and counterfactual trends in between-occupation wage variance. Data from OEWS. Occupation fixed effects are derived from Equation 3 and are also used to classify occupations into pay groups. The graphs plot the true and counterfactual $Var(\psi_{j,t})$ terms from Equation 4, replicated separately for each year under each scenario.

the middle-paying occupations – played an important role. To test this possibility, Panel B of Figure 7 divides occupations into terciles based on their 2012 pay premiums, as above. We then sequentially fix the premiums for each of these high-, medium-, and low-paying occupation groups. The results show that fixing the premiums for the bottom third of occupations alone accounts for nearly the entire inequality trend observed prior to 2021. Slow wage growth in high-paying occupations supplemented these effects, and did so particularly in the post-COVID-19 period. Overall, however, pay changes in low-wage occupations are crucial: even if

high- and middle-wage occupations had developed as they did observably over the period, if low-paid occupation premiums had not changed, we would expect barely any net decline in inequality over the period. In contrast, fixing pay premiums for middle-paid occupations has little impact on inequality trends.

In sum, the reduction in between-occupation wage inequality was driven primarily by wage growth in low-paying occupations. In other words, we find no consistent evidence that a reversal of occupational polarization has reduced between-occupation inequality. Counterfactual simulations indicate that changes in occupational shares, holding occupation premiums constant, would in fact have increased inequality. The counterfactual wage variance analysis shows that pay increases for middle- and high-paying occupations contributed little to the decline in between-occupation wage gaps, especially after 2020. Instead, rising pay in the lowest-paid occupations is the key driver of declining inequality.

7 Discussion

For a full decade, US wage and earnings inequality has steadily declined. Prior work has identified policy and cyclical factors, particularly increased state-level minimum wages and low unemployment, as key drivers of this decline (Aeppli and Wilmers 2022; Autor et al. 2023). In this article, we ask whether these shifts have challenged the key structures of inequality that drove rising inequality during the 35-year period prior to 2015. Have these structures been dismantled, or simply offset by other changes?

Overall, we find that underlying structural drivers of inequality have persisted amidst declining aggregate inequality. First, the consolidation of occupation and workplace persisted. Insofar as there was a small reduction in consolidation, it came from low-wage occupations enjoying increased workplace premiums relative to middle-wage occupations. High-wage occupations, whose run-up in workplace premiums previously drove increased consolidation, were unaffected. Moreover, the small decline in the correlation between occupation and workplace premiums appears unsteady, falling slightly before the COVID-19 pandemic but rising again thereafter. The level of consolidation in 2022, the end of our data, remains at the elevated levels of 2012. The key axes of occupational and establishment inequality remain consolidated.

Second, within-job inequality stayed constant amid the overall decline in earnings inequality. Inequality fell roughly equally between and within workplaces, whereas rising inequality had been largely a between-workplace phenomenon. However, the within-workplace compression was entirely between jobs, not within them. This suggests that any shifts away from performance- and market-based pay-setting, as in new voluntary corporate minimum wages, were insufficient to impact aggregate inequality levels. Within-job inequality persisted.

Third, the reduction in between-occupation pay variance emerges as the key basis for declining earnings inequality during the period. However, this did not result from a resurgence of middle-paying occupations. Holding occupational pay constant, changes in occupational shares alone would have widened the gaps in occupational premiums. Although changes in occupational pay drove the reduction

in between-occupation pay variance, wage gains among low-paying occupations alone account for most of the decline in between-occupation pay variance over the last decade. Pay rose more quickly for middle-paid occupations than it did in the period of rising inequality (when pay declined on net for those occupations), but this was outpaced by rapid rises in the lowest wage occupations. Overall, the results show little evidence of a reversal in the structural sources of wage inequality that drove rising inequality since 1980.

It is important to emphasize that this article considers only labor market inequality rather than income inequality, which introduces two important caveats. First, the overall decline in labor market inequality does not imply that the labor share has risen, capital income has become less concentrated, or redistribution has increased. On the contrary, recent work shows that decrease of wage and earnings inequality have been offset by declines in transfers and rising capital income inequality, such that trends in earnings and income inequality have diverged (Parolin, Lehner, and Wilmers 2025). Relatedly, labor market earnings are decreasingly relevant to income toward the very top of the distribution, where a substantial share of returns takes the form of capital income rather than wages as measured in labor market surveys like the ones studied here (Smith et al. 2019).

The study has three key implications. First, it serves as a reminder that discovering the drivers of inequality need not limit the potential set of countervailing, equalizing forces. For example, even if labor market inequality rose primarily due to the falling rate of expansion of higher education, increased skill supply may not be a necessary condition for inequality to decline. Policymakers have many potential levers to pull; some may correspond closely to the ultimate causes of inequality, and some may be entirely novel.

Second, it opens the possibility that, absent the conjunctural features of tight labor markets and rapidly rising minimum wages, the US labor market is poised to return to growing inequality. Insofar as the underlying structural changes in the economy that delivered rising inequality have not been challenged, a return to prior inequality trends should not surprise researchers. Despite recent trends, the US economy harbors structural contributors to inequality.

Third, however, it suggests that the current configuration of US labor market inequality is quite novel. It is not well-described as either a continuation of the period of rising inequality or a return to the post-World War II compression. Within-workplace earnings inequality is the lowest on record, as between-job inequality fell within workplaces. Occupations remain substantially sorted across workplaces, however. This is a long way from the integrated manufacturing conglomerates that dominated the post-War compression. Indeed, the long-standing benefits that middle-skill workers reaped from working disproportionately for large, occupationally diverse, and high-paying employers have continued to erode. Nearly as many low-paid occupations are now in relatively high-paying workplaces as middle-paid occupations. These trends constitute a new configuration of inequality across organizations and occupations. Future research on labor market dynamics and inequality should use these aggregate patterns as a starting point.

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