The recent compression: tightness, turbulence, and power-biased policy

Adam Aboobaker*and Peter Skott[†]

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Abstract

Expansionary fiscal policy and tight post-pandemic labour markets have been seen as correctives to decades of macro-policy that contributed to rising wage inequality. Reviewing the evidence for and against this perspective, our findings accord with studies that show labour market conditions as an important determinant of nominal wage dynamics. However, the dramatic compression of wage inequality during the recent pandemic and its aftermath was driven primarily by special circumstances, including power-biased policy intervention. Moreover, we caution against interpretations that extend the cyclical relationship between labour market tightness and wage inequality to the long run.

Key words: Wage inequality, business cycles, fiscal policy, COVID-19. JEL:

1 Introduction

The relationship between the cyclical performance of the macroeconomy and distributional outcomes has been hotly debated in the aftermath of the socioeconomic disruptions posed by the COVID pandemic. Initially, most of the discussion was centred on the causes and (im)permanence of rising inflation and the observed shifts in the functional distribution of income. But the state of labour and goods markets can also influence the wage distribution.

^{*}Global Development Institute, University of Manchester; Southern Centre for Inequality Studies, University of the Witwatersrand; World Inequality Lab, Paris School of Economics. Email: adam.aboobaker@manchester.ac.uk.

[†]Aalborg University Business School, Aalborg University; (emeritus) Economics Department, University of Massachusetts Amherst. Email: pskott@econs.umass.edu

In an interesting and prominent contribution,¹ Autor et al. (2024) document a dramatic "unexpected compression" in wage inequality, with about one third of the increase in aggregate 90-10 log wage inequality between 1980 and 2019 having been reversed in the period since 2019. They attribute this compression to expansionary aggregate demand policy and tight labour markets. From this perspective, the aggressive response of aggregate demand policy to the pandemic can be seen as a corrective to decades of macro-policy that has at least been consistent with, if not a direct contributor to, the long run trends in falling income shares for lower ends of the earnings distribution.²

Cyclical fluctuations and long-term growth are part of the same dynamic process, but it is dangerous to extrapolate from short-run patterns to claims about the determinants of long run trends. Even if fluctuations in labour market tightness generate movements in wage inequality, a persistent increase in the tightness of the labour market need not have similar effects on wage inequality in the long run, leaving aside questions about the feasibility of maintaining a tight labour market without inflationary consequences.

Focusing mainly on the cyclical dimension, in this paper we consider the evidence for and against the influence of cyclical variations in employment on wage inequality. Using US data, the empirical analysis allows an assessment of the extent to which the dramatic recent compression can be explained by the general tightness of the labour market rather than by the specific circumstances of the pandemic, the policy responses to the pandemic, and changes in workers' attitudes and wage aspirations.

Summarising our main conclusions, there are theoretical and empirical reasons to believe cyclical factors influence relative wages. But the recent discussion of the period since the pandemic has over-emphasised labour market tightness and played down other factors. The compression is much larger than would be expected from the measures of tightness, and the precise timing of the compression also casts doubt on the tightness argument. Moreover, the observed tightness represented in large part the flip side of the prior contraction during the shutdown at the onset of the pandemic. Thus, turbulence and sectorial demand shifts may have played an important role in the post-pandemic compression. The distinction between tightness and turbulence can be critical for policy.

Second, movements in wage inequality are influenced by policy interventions, institutional changes, and power balances. These forces often move gradually, primarily affecting the trends with limited short-run effects. The pandemic and post-pandemic period, however, was characterized by abrupt and significant

¹With favourable recognition, for example, in the 2024 Economic Report of the President: https://fraser.stlouisfed.org/title/economic-report-president-45/2024-663301/fulltext.

 $^{^{2}}$ Katz and Krueger (1999) and Bivens and Zipperer (2018) had reached similar conclusions before the pandemic. Gould and deCourcy (2024) also see labour market tightness as a key factor behind the recent compression.

policy-induced shifts in power balances: the composition of the fiscal packages in combination with the accumulation of savings derived from the closing of the service sector greatly improved the bargaining power of low-wage workers. A revaluation of the health risks of many jobs, meanwhile, may have added to workers' wage aspirations and resolve, while the public praise of 'hero workers' in the health and service sectors plausibly contributed to the general acceptance of wage increases as being fair; this acceptance also made it easier for employers to pass on increasing costs and reduced their resistance to wage increases.

Third, by highlighting 'tight labour markets' as the source of reduced inequality, contemporary discourse may lead to a conflation of aggregate demand policy with redistribution, and a failure to distinguish between related but conceptually distinct policies. Tight labour markets and aggressive aggregate demand policy are not unambiguously associated with improved distributional outcomes; the outcome may depend critically on the specific nature of the aggregate demand policy and the measure of distribution one selects (between or within classes, and in terms of disposable or market incomes).³

Section 2 outlines some evidence on trends and cyclical movements in the distribution of income. Section 3 examines specific historical contingencies behind the recent compression with section 4 presenting supporting econometric analysis of nominal wage dynamics and the role of labour market tightness. The lessons from the post-COVID experience are discussed in section 5. Section 6 offers some concluding remarks.

2 Cyclical patterns

Wage inequality The association between labour market tightness and wage inequality depends on the chosen measures of these variables. Figure 1 shows a negative association between the employment rate and wage inequality by education (measured by the relative median wage of those with a BA or more versus those with less than a BA.)⁴ The association between employment and another measure of inequality, the 90/10 percentile relative wage, depicted in Figure 2 is more mixed, with several episodes in which the labour market has weakened along with a reduction in wage inequality. Aside from the observed correlations, the figures show that many of the beneficial developments of the recent period appear to be manifestations of a longer-term trend.

The decline in inequality was particularly rapid in the late 1990s and between 2019 and 2023. In the recent period, notably, the 90/10 ratio fell substantially between 2019 and 2021 despite falling employment. Compositional effects may

 $^{^{3}}$ Tax cuts for the rich, for instance, may reduce market wage inequality (at least in the short run), but it will also generate a direct increase in disposable-income inequality and may shift the functional distribution of income in favour of profit.

 $^{{}^{4}}$ Figures 1 and 2 are constructed with CPS data, filtering for the working age population in full time employment and earning between less than \$2885 per week.



Figure 1: College/non-college relative wage and employment rate

have contributed to this decline in the 90/10 ratio during the COVID shutdown, with low-paid workers disproportionately laid off. But adjustments to control for the effects of changes in the demographic composition do not change the qualitative picture (Autor et al., figure 3A), and *a priori* the compositional effects on inequality are ambiguous: they depend on the wage distribution before the shutdown.⁵ For both inequality measures, moreover, similar aggregate employment rates mapped into significantly lower relative wages for highly paid workers (college educated in Figure 1 and workers at the 90th percentile in Figure 2) in 2023 than in 2019. It should be noted, also, that the 2008 recession and the subsequent slow recovery was associated with a large and persistent decline in employment but very small movements in both measures of wage inequality.

Employment inequality Relative wages do not tell the full story of economic inequality. If a group of workers experiences falling employment rates it will suffer a relative decline in average income, even if the relative wage of employed group members remains unchanged. And employment rates can vary systematically across different groups of workers, whether the groups are defined by education, sex, race, age or other demographic characteristics.

As an example, the employment rate for workers with a college degree tends to be higher than that of those without such a qualification, but there is also a pronounced negative correlation between the aggregate employment rate and

 $^{^{5}}$ A fall in the employment of low-wage workers unambiguously compresses the wage distribution if the prior income distribution is uniform. But suppose, instead, that the pre-change wage is (approximately) equal to 1 for all workers below the 51st percentile, 1.5 for workers between the 51st and the 91st percentile, and 2 for workers above the 91st percentile. If 10 percent of the workers in the low-income bracket are laid off, the 50/10 and the 90/10 ratios increase from 1 to 1.5 and from 1.5 to 2, respectively.



Figure 2: 90/10 relative wage and employment rate

the difference between the rates (see figure 3). Not surprisingly, therefore, the association in figure 4 between the difference in employment rate and the relative wage tracks quite closely the association between the aggregate employment rate and the relative wage, as a mirror image of figure 1.

Real wages and the functional distribution of income The evidence points to fluctuations in the functional distribution of income that largely follow a 'Goodwin pattern', with the profit share leading both the employment rate and the utilisation rate of capital over the cycle.⁶

The cyclical pattern of the profit (and hence wage) share affects overall income inequality. While wage inequality may be countercyclical, the top income earners – with a large share of capital income – may see an increase in their share and the bottom half experience a fall in their shares in a boom. A tightening of labour markets and falling wage inequality, in other words, can be associated with a rising profit share and increased overall inequality. This pattern can be

 $^{^{6}}$ The empirical patterns are described by, among others, Zipperer and Skott (2011) and Barrales-Ruiz et al. (2022.)

An influential paradigm of post-Keynesian and neo-Marxian growth theory has looked at cyclical variation in the functional of distribution income (Goodwin, 1967; Skott, 1989). In this literature, the profit share is typically driven either by the degree of goods market tightness (positively) or by the degree of labour market tightness (negatively).

Both income distribution and aggregate demand have also been central to Kaleckian models, but the focal point has been on analysing the effects of exogenous shifts in functional income inequality on aggregate demand and long-run growth. Occupational heterogeneity is typically abstracted from in heterodox macroeconomic models; Tavani and Vasudevan (2014), Carvalho and Rezai (2016), and Palley (2017) are among the exceptions.



Figure 3: Aggregate employment and difference in employment rates, by education



Figure 4: Relative wage and difference in employment rates



Figure 5: Cyclical movement in functional distribution

observed during the recent period: the profit share rose and, as shown in figure 6, the share of the top one percent in the US increased from 18.2 in 2020 to 20.7 in 2023 while the bottom 50 percent saw a fall from 13.7 to $13.4.^7$

3 The recent compression

3.1 Puzzles

Variations in the degree of monopsony power can be a source of countercyclical movements in wage inequality, more generally. An increase in the tightness of the labour market, it is argued, will increase the elasticity of the labour supply to low-wage firms disproportionately, thereby reducing the monopsony power in these firms and generating a compression of wage inequality.

The theoretical framework behind this argument – cyclical job ladders and search-and-matching models – focuses on how frictions may generate wage inequality among identical workers in firms producing the same output.⁸ Neither workers nor jobs are identical, however, and the cyclical volatility of employment differs widely among groups of workers. With lower hiring and training costs, labour hoarding is more limited for workers in low-skill jobs than for highly skilled workers and workers in overhead jobs; low-wage workers therefore tend to experience more pronounced cyclical volatility of employment. Although less widely recognized, cyclical variations in mismatch rates may also contribute to

⁷World Inequality Database (WID), https://wid.world/country/usa/.

⁸See Burdett and Mortensen (1998) and Moscarini and Postel-Vinay (2018).



Figure 6: WID measure of personal income inequality

the observed patterns: recessions give unemployed, highly educated workers incentives to accept jobs that do not require their skills, thereby accentuating the squeeze on job openings for unemployed low-skilled workers.⁹ The differences in employment volatility arguably feed into cyclical movements in relative wages across groups. The patterns of wage and employment by education (Figures 3 and 4) illustrate one aspect of this heterogeneity.

The different mechanisms – fluctuations in monopsony power, differential labour hoarding and induced mismatch – are not mutually exclusive and all are related to tightness in some form. Whatever their relative importance for the patterns of wage inequality, however, the evidence also shows great irregularity of the cycle: the magnitude of the compressions associated with any given increase in the tightness of the labour market varies greatly across cycles. These irregularities in the relation between tightness and changes in inequality cast doubt on the dominance of tightness as the general determinant of wage inequality. One should be careful, in particular, about attributing the dramatic post-pandemic compression to labour market tightness. The compression was much larger than would have been expected based on past correlations between tightness and inequality, and the timing of the compression also suggests that other factors played a decisive role.

The standard measures of tightness including the rate of unemployment, the

⁹This mechanism is discussed in greater detail in Skott and Aboobaker (2025) and Skott (2006, 2023, chapter 7). A database at the New York Fed (Federal Reserve Bank of New York, The Labor Market for Recent College Graduates; https://nyfed.org/collegelabor) shows how high rates of 'underemployment' – the employment of college graduates in jobs that do not require a college degree – are associated with high rates of unemployment.



Figure 7: Unemployment Rate

ratio of vacancies to unemployment, and a measure based on a combination of the unemployment rate and employment-to-employment transitions used by Autor et al. (2024) were all below their 2019 values during the first half of 2021. Yet, the 90/10 ratio¹⁰ decreased over this period; in fact, the pace of compression was extremely rapid during the first half of 2021.¹¹ The pace of compression then slowed down significantly from the end of 2021, despite tightness measures that stayed above the January 2022 levels until early 2024.

Any inability for the tightness of the overall labour market to account for the observed compression should come as no surprise: the pandemic episode differed from ordinary cycles in crucial ways, and special features of the period may explain the magnitude of the compression. The 'Great Resignation' is one, much-discussed factor: particularly for those without any college educa-

 $^{^{10}\}mathrm{Both}$ Autor et al. (2024) Figure 10 and our own Figure 1 above show less pronounced compression by education.

 $^{^{11}}$ See Figures 1 and 18 of Autor et al (2024.) This time pattern with the compression concentrated in 2020-2021 is, if anything, more pronounced in states without a minimum wage above the federal level than in the data for the US as a whole. Autor et al. see the evidence for these low minimum wage states as particularly important as supportive of their argument.



Figure 8: Vacancies per unemployed





Figure 9: Employment to population rate



Figure 10: Autor et al. 2024 measure of tightness

tion there was a post-pandemic uptick in the tendency to quit to unemployment (see, e.g. Autor et al. 2024, Figures 21-22 in Appendix B). The resignation does not appear to be overwhelmingly associated with actual health problems, which were surprisingly muted across educational groups. But workers without college education were among those most exposed to public health risks in people-facing service employment, and health concerns undoubtedly contributed to a growing tendency for these workers to exit the labour market.

Two other factors may have been even more important, both in their own right and because of their interaction with health concerns in creating the great resignation. The recent period, first, exhibited unprecedented turbulence and sectorial shifts. Fiscal policy interventions, second, differed in both scale and composition from any previous policy intervention during economic downturns, with implications for wage aspirations and the power balance in low-wage labour markets. Although these factors have been noted in the literature, their significance has been largely overlooked.

3.2 Turbulence and sectorial shifts

Unemployment exploded during the shutdown in 2020 but had returned to nearnormal levels by the beginning of 2022. The reopening generated large-scale hiring and rising wage rates as firms scrambled to find workers. This hiring spree would not have happened without the prior shutdown, and turbulence can affect wage-setting and distribution.

Turbulence can be a source of rising wages if downward stickiness of money wages prevent wage declines during downturns while rapid hiring during expansions leads to wage growth. If the turbulence had hit all sectors uniformly, there would have been no reason to expect a compression of wage inequality; a more likely result would have been (nominal) wage increases across all groups. The turbulence was not uniform, however: the workers who were most strongly affected (negatively) by job loss at the start of the pandemic happened to be at the low end of the wage distribution.¹²

Consider the leisure and hospitality sector, which accounted for 11 percent of aggregate employment immediately before the pandemic and about 30 percent of the decline in aggregate employment at the start of the pandemic in March-April 2020. The initial collapse of employment in leisure and hospitality by 48 percent in March/April 2020 was followed by the return of many workers to their previous jobs in May-September 2020 (but concentrated mainly in May-June, which reduced the employment gap compared with February 2020 to about 22 percent. A slight decline of employment between October 2020 and January 2021 was then reversed as hiring picked up and employment grew at an annual rate of about 23 percent between January 2021 and October 2021. Importantly, by 2021 the employment expansion no longer consisted primarily of employees

¹²If the pandemic shutdown had primarily affected highly paid groups, the argument implies that wage inequality would have increased.

returning to their previous jobs. Firms now had to attract new workers, and the wages of the (mainly low-paid) workers in this sector rose at an annual rate of about 16 percent between January 2021 and October 2021 at a time of low overall tightness of the labour market and price inflation below 6 percent.¹³

The distinction between turbulence and tightness is important. If rapid expansion of employment in low-wage sectors as the economy reopened lies behind the compression, sustained stimulus – generating constant, high shares of employment in these sectors – may do little or nothing to reduce inequality: with a constant sectorial composition, there would be no reason to expect that greater tightness will increase the turbulence within low-wage sectors relative to that within high-wage sectors.

Based on the recent evidence, rather than emphasize the need for a tight aggregate labour market to address wage inequality, one might therefore be prompted to advocate for high turbulence and unstable employment rates in low-wage sectors. This recommendation makes little sense, however. Would the bargaining power of low-wage workers be strengthened by instability? Would the downward stickiness persist and would firms need to raise wages during expansions in order to attract workers if these workers faced increasingly precarious job situations and greater financial insecurity? The high turbulence of the pandemic period may have been associated with a compression of wage inequality, but it seems highly implausible that the positive correlation between sectorial turbulence and wage growth will generalize to other periods of turbulence. Other special features of the recent period are needed to explain the compression.

Before discussing these features, it should be noted that the sectorial dimension of the turbulence raises other questions. Theoretical frameworks, like the cyclical job ladder, that emphasize how changes in tightness influence wage inequality among identical workers who are employed in firms producing the same output cannot explain changes in inequality among heterogenous workers employed in different sectors.¹⁴

One can try to get around this limitation by assuming that the economy consists of a number of separate, self-contained labour markets. Staying with leisure and

¹³Evidence in Autor et al. (2024) could be seen as supporting the role of turbulence rather than tightness. The average level of tightness, using the Autor et al. definition, was similar in 2021-2023 and 2015-2019, and the average unemployment rate was higher in the later period. A tightness-based argument would therefore predict roughly similar levels of monopsony (or greater monopsony in the later period if unemployment is used as the indicator of tightness.) Yet, their results indicate that the wage separation elasticity for high-school educated workers under the age of 40 increased in the later period. They interpret this increase as evidence of a decline in monopsony (pp. 23-25; tables 3a-3b). This interpretation is consistent with an influence of turbulence on monopsony power and wage inequality: the average level of tightness was no higher, but tightness was rapidly increasing and unemployment rapidly falling in 2021-2023.

¹⁴Models that assume identical workers to explain the college wage premium would also be inconsistent with the large literature on skill biased technical change as a source of rising inequality.



Figure 11: Wage inequality within leisure and hospitality

hospitality, however, there is a little evidence in favour of the predicted wage compression within this sector; see figures below.

Moreover, workers can and do move between jobs with different characteristics, which undermines the separability assumption. An analysis of a single market based on the assumption of separate labour markets may not have direct or substantial implications for the overall wage distribution.¹⁵ Matters are complicated further by composition effects; overall wage inequality will tend to fall if tightness increases in low-wage labour markets but increase if the increase in tightness occurs predominantly in high-wage labour markets.¹⁶ The relative tightness and the distribution of average wages across the different labour markets are critical for the determination of aggregate wage inequality.

In short, the cyclical job ladder may fail to capture the most important forces behind changes in wage inequality for the economy in aggregate, both of which clearly involve workers from multiple sectors and separate labour markets.

 $^{^{15}\}mathrm{In}$ fact, the prominent measures of the recent unexpected compression, including our own measures in Figures 1-2, are derived from measures that aggregate across markets.

 $^{^{16}\}mathrm{Skott}$ and Aboobaker (2025) provides a straightforward illustrative example.







Source: Federal Reserve Economic Data (FRED). Series: USLAH as percentage of PAYEMS

Figure 13: Leisure and hospitality employment share

3.3 Power-biased fiscal policy and shifts in workers' aspirations

The high turbulence during the recent period was accompanied by other elements without which there might have been no compression. The health concerns and the great resignation, discussed briefly above, may have played a role by reducing the labour supply. But fiscal interventions arguably were much more important for the compression. They plausibly exerted a direct effect on reservation wages and workers' wage aspirations as well as indirect effects via decisions to withdraw from the labour market. Without these interventions we might have seen little or no compression and a much milder resignation.

The policy packages The COVID fiscal policy packages authorised expenditure of more than \$4.5 trillion. Most of the spending went to businesses, states, public health, education, and a range of smaller programs. But about \$1.8 trillion was paid out to households in one form or another, the largest ones being stimulus checks (about \$850 billion) and supplemental federal unemployment insurance (about \$700 billion).

The average pre-COVID replacement rate among unemployment benefit recipients was about 40 percent, and only about one third of the unemployed received benefits. This picture changed dramatically when the pandemic struck. The CARES act from March 2020 introduced supplementary federal unemployment insurance, providing an extra, flat-rate \$600 a week on top of the regular (state dependent) benefits; meanwhile the recipiency rate – the proportion of the unemployed filing for unemployment benefits – jumped from 28 percent in 2019 to 78 percent in 2020. To put this policy in perspective, the supplementary benefit corresponded to \$15 an hour if the work week is 40 hours at a time when the federal minimum wage was \$7.25 and all state minimum wages were below \$15. Thus, even disregarding regular unemployment benefits, the supplementary federal benefit gave many low-wage workers replacement rates well above 100 percent. The CARES act also extended the benefit period and expanded the eligibility to include many GIG workers and self-employed.

The federal supplement in the CARES act was set to expire at the end of July 2020. Another program, the Lost Wages Assistance Program, then provided up to \$400 a week in supplementary benefits from August till the end of December 2020,¹⁷ when the Consolidated Appropriations Act introduced supplementary federal benefits of \$300, initially for 11 weeks but subsequently extended until September 2021 by the American Rescue Plan (March 2021) Even this lower benefit of \$300 would, on its own, have given a worker on federal minimum wages a replacement rate above 100 percent. Taking into account the regular

¹⁷The Lost Wages Assistance program was created by executive order and implemented through the Federal Emergency Management Agency (FEMA). Unlike the federal supplementary unemployment benefits, the FEMA benefits were often subject to delays and the application process was more complicated.

state-level unemployment benefits, estimates by Ganong et al. (2024) imply that the supplemental benefits of \$600 weekly raised the overall replacement rate of the median unemployed worker to 145%, while the lower supplemental benefits of \$300 raised it to 95%.¹⁸

Low-income households also benefited disproportionately from other provisions in the various packages. Flat-rate stimulus checks were sent to households with annual incomes below certain thresholds. The CARES act included \$1200 per adult and \$500 for dependent children under 18; the America Rescue Plan gave \$1400 to all adults as well as to their children and other dependents. The America Rescue Plan also introduced expanded, refundable child tax credits, while the Consolidated Appropriations Act included a refundable \$600 tax relief per adult and child. For a family of four these stimulus checks, tax cuts and child benefits added up to more than \$13,000. Other COVID measures provided for paid sick leave, cash grants to students and the suspension of payments and interest accrual on student loans.

As a result of these programs (and the curtailment of spending on many services during the shutdown) household balance sheets improved during the COVID pandemic. For high-income households most of the improvement derived from capital gains on housing and stocks. For low-income households, which typically do not own shares and often rent their homes, the improvements came from increased saving. The excess saving of the bottom two income quintiles (their saving over and above what would have been expected based on pre-pandemic trends) accounted for 29 percent of the total amount of excess saving between March 2020 and December 2021, a proportion that greatly exceeds the income share of these households (Batty et al. 2021). The mapping of these estimates into excess saving and wealth changes for a typical low-income household is complicated, but the estimates suggest an increase in wealth of between 22 and 145 percent for the median household in the bottom quintile (Barnes et al. 2021).

The fiscal interventions and the changes in households' financial positions affected wage setting, especially for low-wage workers who had benefited disproportionately from the programs.¹⁹ Unemployment benefits remained at unprecedented levels until September 2021, and even when these benefits had expired, the improvement in workers' financial situation meant that they could now afford to be more selective. Combine these factors with lingering health concerns and it becomes less surprising that wages did not decline when unemployment soared and that there were large increases in the absolute and relative

¹⁸The estimates are based on administrative data from JP Morgan Chase Institute. The data are weekly, describe actual benefit receipts, cover 1.2 million unemployment spells, and allow an accurate calculation of actual replacement rates relative the pre-separation earnings (Ganong et al., 2021).

¹⁹Not all unemployed workers received unemployment benefits. But workers without benefits gained jobs and wage increases because of the increase in the reservation wage of those who did receive benefits.

wage at the low end of the distribution during the hiring spree in 2021.

Some part of the rise may be due to what can be seen as 'market effects' associated with the interventions. High benefit levels raised reservation wages, which would affect wages even in traditional neoclassical models of perfect competition. These models provide a poor approximation to real-world labour markets, but the effects carry over to, and may be accentuated in, models with 'imperfections'.

Autor et al. (2024) highlight how their model with frictions fits the data better than traditional friction-less models. Frictions exist and are important, and frictions generate monopsony effects, with firms' monopsony power decreasing as labour markets tighten. But the universe of economic theory need not be restricted to a choice between the frictionless neoclassical model and search and matching models with uniform workers and perfect optimization.

As argued above, the cyclical job ladder says nothing about inequality across different groups of heterogeneous workers. Monopsony and monopoly, moreover, are not the only sources of power in the struggle over distribution. Power balances are influenced by institutional and technological forces – including the extent of unionization (itself influenced by legal and regulatory frameworks) and the ability of firms to monitor workers and their 'effort' and productivity.²⁰ They can also change for other reasons, however.

Unlike most technological and institutional changes, fiscal interventions can have significant short-run effects on wage setting, and the policy response to COVID was power biased in favour of low-wage workers. Their fallback position improved greatly as a result of the fiscal packages. An indebted household living from paycheck to paycheck can be forced to accept bad jobs to avoid disastrous economic and social implications. The presence of alternative sources of income (like enhanced unemployment benefits) or windfall gains (like stimulus checks) means that the consequences of unemployment become less disastrous, thereby allowing workers to be more selective and demand higher pay despite the associated increase in the risk of being laid off or failing to get a job.²¹

An increase in unemployment benefits has obvious implications for the balance of power. Windfall gains and positive shocks to households' financial position, by contrast, would have limited effects on the labour supply in standard models of intertemporal optimization. Intuitively, a positive shock to wealth has consumption effects that are spread out over the whole trajectory of consumption, which greatly reduces its impact on current consumption; a relatively inelastic labour supply, moreover, implies that the optimal proportionate reduction in

 $^{^{20} {\}rm See}$ Guy and Skott (2007) and Skott (2023, chapter 7) for a discussion of power biased technological and institutional change.

 $^{^{21}{\}rm Kim}$ et al. (2019) analyze interactions between household indebtedness, workers' bargaining strength, and the distribution of income.

labour supply is smaller than the proportionate increase in consumption.²²

The behavioural evidence shows systematic deviations from the standard model, however. Current consumption reacts more strongly than the model predicts to changes in current income, while predictable future changes in income have limited effects on consumption until implemented.²³ The standard model also misrepresents the employment relation. The labour market is one of 'contested exchange' using the terminology of Bowles and Gintis. Capturing this aspect, some efficiency wage models relate workers' effort on the job to the cost of job loss (e.g. Bowles 1985); other versions emphasize the influence of fairness norms, with unfair wages generating resentment and provoking reactions from workers that reduce labour productivity (e.g. Akerlof and Yellen 1990).²⁴ Both of these different versions of the efficiency wage argument imply that workers' effort and productivity will be influenced by their own situation as well as by their wage. If losing a job spells economic and social disaster, the fear of job loss will dampen their reaction to a low wage.²⁵ Conversely, an improvement in workers' financial position and their ability to cope with losing their job will make for a stronger response to low wages and unfair treatment.

The pandemic may have affected not just workers' response to unfairness but also the norms of fairness. Social norms typically exhibit strong inertia, but the

$$\max \int e^{-\rho t} u(c, l) dt$$

s.t.
 $\dot{a} = ar + w(1 - l) - c$

where $c, l, (1 - l), a, w, \rho, r$ are consumption, leisure, labour supply, (non-human) wealth, the real wage, the discount rate and the rate of interest

Using a standard specification of the utility function, let $u(c,l) = (c^{1-\theta}-1)/(1-\theta)-\nu(1-l)^{\eta}$ where $-\infty < \theta < 1, \nu > 0, \eta > 1$. The first-order conditions imply that

$$\begin{aligned} u_l &= \nu \eta (1-l)^{\eta-1} = wc^{-\theta} = wu_0 \\ \hat{c} &= \frac{1}{\theta} (r-\rho) \end{aligned}$$

Stimulus checks, tax cuts and child benefits of \$13,000 provided a positive wealth shock of 32.5 percent of annual income for a family with an income of \$40,000. With empirically plausible values of the parameters, however, the implied decline in the current labour supply (for a given real wage) will be very small: if r = 0.05, current consumption will rise by less than 2 percent, and evidence points to relatively inelastic labour supply, that is, a large value of η ; Romer (2018, p. 277) uses $1/(\eta - 1) = 0.11$ in his numerical example, implying that the labour supply falls by less than 0.2 percent in the benchmark case with $\theta = 1$.

²³Early studies include Campbell and Mankiw (1989) and Shea (1995); Skott (2023, chapter
3) offers a broader discussion of behavioral deviations from the standard model.

 24 Fehr et al. (2009) and Bewley (1998), among others, provide experimental and real-world evidence on the role of fairness norms and reciprocal behaviour in labour markets. See also Skott (2023, chapters 6-7).

²⁵This deterrence effect helps explain weak wage pressures in the pre-COVID period despite smouldering outrage over stagnant wages and exploding inequality.

 $^{^{22}}$ A benchmark household optimization problem can be written

obvious health risks of frontline workers (and perhaps also the increased visibility of these workers and their importance when COVID struck) appear to have spurred an increase in support for higher minimum wages, suggesting a significant shift in wage norms among the general public. In Public Agenda/USA Today/IPSOS polls the share of people expressing strong or moderate support for "raising the minimum wage so that every full-time job provides enough income to keep people above the poverty line" jumped from 65 percent to 72 percent between February and August 2020; the increase among Republican voters was particularly strong, going from 48 percent in February to 62 percent in August (Public Agenda 2024). Changes in popular views have had some effect on minimum wages at the state level. The federal minimum wage has remained stuck at \$7.25 an hour since 2009, but at the state level there have been significant increases, with 30 states and DC now having a minimum wage above the federal level. In all of these states the minimum wage has increased between 2020 and 2024. Including scheduled future increases, nearly half of all US workers will be in states with a minimum wage of at least \$15 by 2027 (EPI $2024).^{26}$

The shift in fairness norms has arguably been accentuated by the elevation of frontline workers in the health and service sectors to the status of 'hero workers'. This elevation may have been motivated, at least in part, by a cynical attempt to get low-paid workers to put their lives at risk without increased monetary compensation, and the attempt was partially successful, with some groups responding in this way. But as pointed out by Cameron et al. (2024), when organizations praise workers as heroes, some workers may "become even more disenchanted with the organization, seeing the praise as disingenuous in the absence of other improvements in work conditions, such as increased pay, opportunities for advancement, or meaningful ways to advocate for organizational changes". Repeated strikes in non-unionised companies like Amazon and Starbucks during the COVID years and greatly increased efforts at unionisation in these and other companies point in this direction (Rosenbaum 2022).

Other indicators of public opinion have been changing. The public overwhelmingly sided with workers in the prolonged strikes by autoworkers and Hollywood screen writers in 2023: 57 percent supported and 31 percent opposed the autoworkers, while 60 percent supported and 27 percent opposed the screenwriters according to a Reuters/IPSOS poll. The evidence shows more broadly that in "labor disputes from the last few years, Americans are more likely to say that they have sided with unions rather than companies" (IPSOS 2023). The number of strikes and the number of workers involved in collective action have also increased in recent years (see Appendix A), but large variations from year to year makes interpretation difficult (Poydock and Sherer 2024).

As another example, public approval of unions has increased from 64% in August

 $^{^{26}}$ Another shift in public sentiment has led to heightened rates of government monitoring of health insurance companies (Klippenstein 2025).



2019 to 71% in 2022, a level not seen since 1965; the share of people who would like to see labour unions having the same as or more influence than today jumped from 65% to 73% between 2018 and 2023, and the share of people that think labour unions help the overall economy reached a record-high 61% in August 2023 (Gallup 2024). Recent polling also shows that a majority of workers in the U.S. across all sectors—59%—support unionization in their own workplace (Rosenbaum 2022). These changes have not, as yet, produced any substantial increase in the extent of union coverage; in 2023 unionization rose from 6.8 to 6.9 percent in the private sector but declined from 36.8 to 36.0 in the public sector. Unionization drives have succeeded, however, in making gains in previously non-unionized, low-wage companies like Amazon and Starbucks. These limited successes have been achieved despite fierce opposition from employers and nearly 50 years of legislative changes to the National labour Relations Act (NLRA) that weakened unions and their ability to organize (Domhoff 2013; Schierholz et al. 2024).

4 Wage-Phillips estimates

Considering the role of labour market tightness in wage dynamics relative to other factors naturally lends itself to an estimate of wage-Phillips curves. The wage-Phillips relation has been a subject of almost constant conversation across a variety of traditions in modern macro and labour economics over much of the last seven decades.²⁷ Phillips' (1958) initial characterisation of the role of labour

²⁷Chapter 5 of Skott (2023) covers this topic in greater depth.

market slack in wage-setting related the level of unemployment to the growth rate of money wages and was tested for using highly aggregate data. Even though concerns about potential bias in the econometric analysis conducted by Phillips emerged almost immediately (Samuelson & Solow 1960), it is primarily since Blanchflower & Oswald (1994; 1995) that attempts to test for the relationship, or related variations, moving beyond macroeconomic aggregates have been increasingly widespread. Prior to COVID, with unemployment rates and (price-) inflation unexpectedly low, much of the discussion of the Phillips curve concerned whether the relation may be altogether dead.

Having discussed some graphical associations between distribution and the state of the cycle in previous sections, in this section we more systematically analyse the association with a special interest in how *nominal* wage dynamics have varied by educational attainment over the business cycle in general and in the aftermath of COVID particularly.

In the process, we contribute to a growing literature that makes greater use of within-country cross-sectional variation to estimate wage- and price-Phillips curves (Kumar & Orrenius 2016; Leduc & Wilson 2017; Beraja et al. 2019; Hazell et al. 2022; Domash & Summers 2022, Autor et al. 2024.) Part of the motivation for making greater use of regional data lies in overcoming issues related to small national samples (with infrequent episodes of exceptionally tight labour markets), as well as the endogeneity of monetary policy that can confound estimates using national time-series data (Fujita 2019; Hooper et al. 2019; Fitzgerald et al. 2024.) A prior literature that neglects within-country cross-sectional variation struggles to find strong evidence for a role of labour market conditions in explaining wage inflation using recent data (or else finds evidence for a *weakened* Phillips curve, as in Blanchard (2016)), possibly due to endogeneity problems. In the case of Gali (2011), a relatively parsimonious specification abstracting from the role of lagged price inflation fails to capture much role for labour market conditions in wage inflation.

To conduct our own empirical estimates of the wage-Phillips relation, we use monthly CPS data after 2000 (Flood et al. 2023) and BLS-LAUS state unemployment data, also at the monthly frequency for the corresponding period. For our baseline estimates, we filter the earnings data for those in full-time employment and of working age and construct a college-educated, union status, sex, and race dummies. Several post-COVID dummies are also constructed, to capture different phases in the economic repercussions of the pandemic. In line with the prior literature, we limit our sample to those earning less than \$100,000 for the period before 2003, after which we cap our sample of wageearners at \$150,000. Following an approach similar to Blanchflower & Oswald (1994), which uses individual-level earnings measures as the dependent variable (principally wage *levels*) to analyse implications of labour market conditions for wage-setting, the dependent variable is the change in log nominal hourly earnings and our key measures of labour market tightness are the level and change in the state unemployment rate. Our model is specified as follows:

$$\begin{split} \Delta \ln(Wage_{ist}) &= \beta_1 URate_{st-1} + \beta_2 \Delta URate_{st} + \beta_3 College_{ist} \\ &+ \beta_4 (URate_{st-1} \times College_{ist}) \\ &+ \sum_{p=1}^3 \delta_p Period_p + \sum_{p=1}^3 \gamma_p (Period_p \times URate_{st-1}) \\ &+ \sum_{p=1}^3 \theta_p (Period_p \times \Delta URate_{st}) + \sum_{p=1}^3 \lambda_p (Period_p \times College_{ist}) \\ &+ \sum_{p=1}^3 \omega_p (Period_p \times URate_{st-1} \times College_{ist}) \\ &+ \beta_5 X_{ist} + \alpha_s + \lambda_t + \varepsilon_{ist} \end{split}$$
(1)

Where:

- $\Delta \ln(Wage_{ist})$ is the month-to-month change in log hourly earnings for individual *i* in state *s* at time *t*
- $URate_{st-1}$ is the one-month lag in the unemployment rate in state s
- $\Delta URate_{st}$ is the month-to-month change in unemployment rate in state s
- $College_{ist}$ is a binary indicator for whether individual *i* has college education
- X_{ist} is a vector of individual-level demographic controls including age, age squared, gender, race, and union membership
- $Period_p$ are binary indicators for three pandemic/post-pandemic periods: Period 1 (Mar–Dec 2020), Period 2 (Jan–Sep 2021), and Period 3 (Oct 2021 onwards²⁸
- $(URate_{st-1} \times College_{ist})$ is the interaction between lagged unemployment rate and college education
- $(Period_p \times URate_{st-1})$ represents the interaction between each period indicator and the lagged unemployment rate
- $(Period_p \times \Delta URate_{st})$ represents the interaction between each period indicator and the change in unemployment rate
- $(Period_p \times College_{ist})$ represents the interaction between each period indicator and college education

 $^{^{28}}$ Corresponding to 1) an initial shutdown with large one-time cash transfers and reopening with workers returning to past employment, 2) an expansionary period with firms endeavouring to hire new workers alongside large transfers, and 3) a period with no new federal insurance or transfers to individuals.

- $(Period_p \times URate_{st-1} \times College_{ist})$ represents the three-way interaction between period indicators, lagged unemployment rate, and college education
- α_s represents state fixed effects
- λ_t represents year fixed effects
- ε_{ist} is the error term with standard errors clustered at the state level

The model examines how unemployment rate changes affected hourly wage dynamics during different phases of the pandemic, with particular focus on differential effects between college and non-college educated workers. In particular, the model allows us to estimate the 'effect' of the unemployment rate (level and changes), as a measure of labour market tightness, on individual earnings while controlling for various individual factors, as well as accounting for state fixed effects and time shocks related to extraordinary post-COVID fiscal policies. Importantly, we expect that an increase in unemployment benefits and cash transfers to boost nominal wage growth, particularly at the bottom of the wage distribution. In terms of how we try to capture this effect, we expect that uniform federal supplementary benefits should be found as a factor positively influencing nominal wage dynamics in all states, showing up as a time fixed effect in the estimates. The effect should be especially strong, however, in states with high increases in unemployment and among groups of workers that suffered large increases in unemployment. The interaction between the Period 1 post-COVID dummy and the tightness variables captures this effect.

As shown in Table 1, we find a significant and economically meaningful negative association between the change in log hourly nominal earnings and labour market conditions, with the latter measured by the change in the unemployment rate. However, the one-month lag of the unemployment rate (in levels) fails to show a significant negative association with nominal wage growth. Interacting with the one-period lag of the unemployment rate with the college-educated dummy, we also do not find clear evidence in favour of cyclical compression of the wage distribution by education status. Most interestingly, with respect to the recent experience with COVID, we find that an interaction term between an initial post-COVID dummy ('Period 1', in Figure 15) and both the change in the unemployment rate is significantly *positively* associated with nominal wage growth. One interpretation is that unusual post-COVID policies in the initial post-pandemic period, like unemployment insurance with exceptionally high replacement rates, have been a considerable driver of the recent nominal wage growth; power-biased policies like strong unemployment insurance have the potential to confound traditional wage-Phillips estimations.²⁹ Our estimates suggest that the contraction of the college wage premium after COVID may have little to do with tight labour markets exclusively; in contrast to some

 $^{^{29} \}rm The time fixed effect for 2020 is positive, relatively large (relative to the omitted year <math display="inline">-$ 2015), and statistically significant.

of the popular narratives around Bidenomics, we do not find evidence that nominal wage growth systematically differs over the cycle between college- and non-college-educated workers (row four in Table 1.) As regards the returns to college education over the post-pandemic period, while the findings are not statistically significant, controlling for the state of labour market conditions we find a negative correlation between nominal wage growth and the college dummy interacted with Period 1 of the post-COVID era (Figure 16.) This negative association weakens over time.

Figure 17 meanwhile looks at how wage growth is associated with labour market tightness by education status over different periods. During the pandemic period, there is some variation in the association, with the returns to college positively associated with slack initially and negatively associated with slack in the latter most period. In short, there is certainly some ambiguity.

Some of the recent discussion on wage-setting in the US have emphasised that wage-Phillips curves have steepened post-pandemic. Two pieces of evidence presented here contrast with this characterisation. Table 1 suggests that there is a *general*, i.e., across all periods after 2000, negative association between the *change in* labour market conditions and nominal wage growth. Moreover, Figure 15 suggests a *positive* association between slack and nominal wage growth for some periods of the pandemic. The labour market has changed since the pandemic, and policy is (in our assessment) likely a relevant part of the story, however, the changes that have led to heightened nominal wage growth since the pandemic do not appear to run through labour market tightness. In fact, *slack*, and not tightness, is significantly associated with nominal wage growth in period 1 and period 2 of the post-pandemic era.³⁰

One potential source of bias to the significance of the results, also discussed in Blanchflower & Oswald (1995), concerns the higher level of aggregation on the key explanatory variable than that of the dependent variable, which may lead to underestimates of the standard errors.³¹ We attempt to address this issue by clustering standard errors at the state level and through the inclusion of state fixed effects.

 $^{^{30}}$ More generally, one may wonder about the implications of a steepening of the wage-Phillips; if it is a steepening of the wage-Phillips relation that has primarily driven nominal or real wage growth (particularly among certain parts of the wage distribution), then we should expect wage growth /compression for a given level of tightness. This conclusion would favour the interpretation that turbulence, shocks to institutions and social norms, sectorial shocks, and pandemic-related health risks were primary factors in recent wage dynamics – rather than tightness, per se.

 $^{^{30}}$ Full model includes demographic controls, period indicators and interactions. Period 1: Mar-Dec 2020; Period 2: Jan-Sep 2021; Period 3: Oct 2021+

 $^{^{31}}$ See Moulton (1990) for a corresponding characterisation of potential challenges to such an estimation method. However, a large literature has assessed the Blanchflower & Oswald methodology favourably. In a review, Card (1995) suggests Blanchard & Oswald's so-called 'wage curve' approaches an "empirical law of economics." Meanwhile, Nijkamp & Poot (2005) conduct a meta analysis, finding consistent results accounting for publication bias.



Figure 15: Change in Unemployment rate - Post-COVID dummy interactions



Figure 16: College-educated - Post-COVID dummy interactions



Figure 17: College-educated - Post-COVID dummy - Unemployment rate interactions

	$\frac{Dependent \ variable:}{\Delta \ Log \ Hourly \ Earnings}$
Unemployment Rate (1-month lag)	-0.002
	(0.001)
Δ Unemployment Rate	-0.008^{***}
	(0.002)
College Educated	0.011
	(0.007)
Lag Unemp. Rate \times College Ed.	-0.0005
	(0.001)
Δ Unemp. Rate \times College Ed.	-0.0002
	(0.002)
State Fixed Effects	Yes
Year Fixed Effects	Yes
Clustered SE	State
Observations	161,706

Table 1: Earnings Response to Unemployment Rate Changes (Year FE)

Note: Abbreviated table from estimates of eq. 1. *p<0.1; **p<0.05; ***p<0.01

5 Policy issues

5.1 Long-run implications of tightness

If the general tightness of the labour market is seen as the main source of the recent compression, expansionary aggregate demand policy and tight labour markets would seem to offer a relatively simple way to sustain and maybe enhance the reduction in wage inequality.³² Theoretical frameworks (including the search and matching framework) that generate a natural rate of unemployment render it impossible, however, for aggregate demand policy to influence the tightness of the aggregate labour market in the long run without sparking explosive inflation. To get around this problem, one might modify the policy ad-

 $^{^{32}}$ This appears to be the policy conclusion drawn by Autor et al. (2024). They describe their analysis as focusing "on how macroreconomic shocks that amplify labour market tightness yield aggregate wage compression" (p. 33). Dube (2024) also highlights the role of expansionary macroeconomic policy, arguing that their findings

point to the importance of policies aimed at enhancing tightness during this period and underscore the effectiveness of the administration's macroeconomic approach

and that

policies promoting full employment – such as those pursued by this administration – have been crucial in fostering wage growth and reducing pay disparities.

vice, focusing instead on increasing the tightness of low-wage sectors through an expansion of the demand going to these sectors. But if supply-demand balances for workers with different skills lie behind the inequality, a tightness-induced compression would be associated with an employment shift from high- to low-wage sectors – not, one would think, a desirable result. Rather than shifting demand towards low-wage jobs, one would presumably want to shift the supply of labour from low- to the high-wage sectors. From this perspective an educational strategy would seem more promising.³³

The natural rate of unemployment hypothesis should be rejected on both behavioural and empirical grounds. Both employment and the wage distribution are undoubtedly subject to hysteresis which, in principle, could create space for sustained labour market tightness to compress inequality as well as reduce the profit markup and raise real wages. But there are upper bounds on the range of feasible employment rates, even if the exact location of these bounds is uncertain.³⁴ ³⁵ It is not obvious, furthermore, that tight labour markets and high rates of wage inflation will tend to raise the real wage. The tightness could put a damper on firms' investment and hiring decisions, leading to demand being met by a rise in the markup rather than by an increase in output.³⁶

5.2 Bidenomics

The successes of Bidenomics have been extolled by influential commentators. Our economy "Isn't 'Goldilocks'. It's better", Paul Krugman suggested (NYT, Feb 1, 2024). Inflation was back down close to 2 percent without a recession, employment creation had been amazing during the Biden years, there had been strong GDP growth, and real wages had increased, with low wage workers benefiting the most. America had outperformed its peers "in part because Biden's spending boosted growth and employment" ((NYT Feb 1, 2024) These policies also lay behind the compression which, following Autor et al., was explained by Krugman as mainly the result of a tight labour market: "Full employment greatly increases workers' bargaining power" (NYT, Jan 15, 2024).

³³This was the policy advocated by Goldin and Katz (2008), among others, as a response to skill-biased technological change. However, if inequality, has risen primarily as a result of power-biased institutional and technological change (Skott and Guy 2007, Skott 2023, chapter 7), education would do little or nothing to bring down inequality.

 $^{^{34}}$ Aggregate demand policy should aim for employment rates are close to but below the upper bound; a Keynesian 'full employment target' should be determined in this way.

 $^{^{35}\}mathrm{In}$ an open economy rising nominal wages can clearly squeeze profit margins if the exchange rate fails to adjust and domestic firms face increasing competition from foreign producers. A deterioration of the balance of payments is likely to limit the magnitude and sustainability of this distributional effect, however, especially in smaller economies; the US represents a somewhat special case because of its size and the role of US dollar in international trade.

 $^{^{36}\}mathrm{Skott}$ (1989, 2023) discusses the short- and long-run employment effects on profit share in greater detail.

Despite this economic record, many people expressed negative views on the Biden economy during the 2024 presidential campaign, and the Democrats have been losing support, especially among low income groups, eventually losing the election.³⁷ Krugman has explained this puzzle as a reflection of partisanship: "what people say about the economy reflects what they hear, either from news organizations or on social media, rather than their own experiences" (NYT Nov 14, 2023).

Partisanship undoubtedly plays a role in people's perceptions of economic performance, but Krugman paints a picture that is misleading in important respects.³⁸ As argued above, the large compression cannot be explained exclusively by a tight labour market, and the claims of real wage growth can also be questioned. It is correct that real wages have been increasing for some groups between 2019 and 2024, such as those with some college but less than a BA, and that there has been a substantial compression of inequality. But much of the compression and the real wage growth appears to have taken place in 2020 and 2021 when labour markets were relatively slack, by various measures.

Breaking down the population by age and education, the data in Autor et al. (2024) show that workers under 40 with only a high school degree had an hourly real wage approximately 3 percent higher in June 2023 than in February 2020, but they still received a real wage below the level associated with the prepandemic trend. And in June 2023 the real wages of workers with at least a BA and of workers of age 40 and above with less than a BA were about 1.5 and 5 percentage points below their respective levels in February 2020 (Autor et al. 2024, figure 10). ³⁹ Similar conclusions apply with respect to the trajectories of real wages by percentile (Autor et al. 2024, figure A3). Biden clearly cannot be given credit for developments before he took office in January 2021.

³⁸Krugman is not alone. In an open letter sixteen Nobel laureates suggested that:

 39 Autor et al. (2024, p. 1) note that

³⁷The political pollster Adam Carlson's measure of the change in support between the 2020 election and June 2024 polls (prior to Biden dropping out of the race) suggest that Republicans had gained over 4 percentage points among white non-college voters, over 8 percentage points among a non-college voters, and over 11 percentage points on those earning less than \$50,000. Nate Silver (2024) has also presented data from exit polls that show a long-term decline in Democrats' support among low income groups, and if polling data from March were correct Republicans would take a majority of low-income voters for the first time in several decades.

[&]quot;During Joe Biden's presidency we have also seen a remarkably strong and equitable labour market recovery – enabled by his pandemic stimulus. An additional four years of Joe Biden's presidency would allow him to continue supporting an inclusive U.S. economic recovery."

https://www.documentcloud.org/documents/24777566-nobel-letter-final.

A key fact motivating our inquiry is that both real and relative wages have grown substantially more at the bottom of the distribution (10th percentile) than at the median or top (90th percentile) since the onset of the pandemic.

An alternative description of the findings in their Figure 1 could be that real wages at the 10th percentile have continued roughly on their pre-pandemic trend, while real pay at the median and top of the wage distribution has been significantly below pre-pandemic trends.



Figure 18: Median real weekly earnings

The picture is no different using BLS data. Both the median weekly real earnings of full-time employees and the average real wage of nonsupervisory workers were lower in the third quarter of 2024 than when Biden took office. During the first Trump presidency, by contrast, real wages rose significantly; see Figures 18-19.

With real wage growth that has been weak (at best), increasing profits and a surge of inflation we may not have to rely exclusively on partisanship to account for the democrats' loss of support from the working class.⁴⁰ It may be noted also that the profound unpopularity of inflation among the general population has sparked or at least contributed to serious political backlash in other historical episodes. Prominent examples include the neoliberal ascent with the election of Margaret Thatcher in the UK and Ronald Reagan in the US, and the collapse of the Mitterand experiment in France.⁴¹

⁴⁰Stantcheva (2024) presents interesting survey evidence that 'Biden and the administration' is the leading explanation for high inflation among survey respondents in all income groups (in open-ended text responses), but particularly those earning below \$40,000. This is the case despite the survey including multiple other categories of response related to policy, including 'fiscal policy', 'war and foreign policy', 'demand side mechanisms', and 'government debt'.

 $^{^{41}\}mathrm{See}$ Skott (2025) for a more detailed discussion of the implications of inflation aversion for labour movements and economic policy.









5.3 Price setting and inflation

The real wage is not determined in the labour market but through the interaction between wage and price setting. The shift in the functional distribution towards profits since 2020 exemplifies the importance of this interaction.

Prominent discussions of the increase in the profit share have emphasized corporate greed, with corporations using the pandemic and the supply chain disruptions as cover for raising their profit margins.⁴² There is no doubt that corporations are greedy – this is what profit maximization means. Deregulation, the increasing acceptance since the 1980s of shareholder value as the exclusive performance criterion, and performance-based remuneration of top management may have made the pursuit of profits more ruthless over the last 40 years, and it is also likely that the pandemic and the public awareness of supply constraints may have reduced the adverse reaction of consumers to price increases, rendering managers less worried about competitors taking advantage of their price increases. Having said this, however, to a large extent the post-pandemic price increases likely reflected price flexibility in the face of supply constraints.⁴³

Auto makers were able to sell their cars at list price, with many dealers adding an additional margin on list price, and the combined profits of GM, Ford and Stellantis surged from \$20 billion in 2020 to \$37 billion in 2022 (EPI 2023). But the supply of cars was not held back deliberately by scheming managers: the supply was limited because domestic and international supply disruptions made them unable to increase production. And although car prices increased, they did not rise enough to clear the market: inventories dropped by 85 percent between January 2020 and January 2022,⁴⁴ pre-ordering cars became the norm, and car buyers sometimes had to wait many months for delivery. The influence of demand forces also showed up in industries that experienced falling demand: airline tickets dropped by about 35 percent when the pandemic hit and demand plummeted, before rising steeply when demand came back in the second half of 2022 and the airlines scrambled to find pilots.

The fluctuations of prices and profit margins take place around benchmark levels that are influenced by structural characteristics, including firms' monopoly and monopsony power. These characteristics may be affected by changes in, *inter alia*, technology, labour market institutions, domestic regulation and trade policies. If, for simplicity, the benchmark profit margin and profit share are taken as exogenous and constant, the average real wage becomes independent of nominal wages; the struggle for higher nominal wages now determines the wage distribution. Workers that obtain large wage increases gain at the expense those with a weak bargaining position and low wage increases; the wage struggle

 $^{^{42}}$ Weber & Wasner (2023). Other broadly post-Keynesian discussions of the recent inflation have stressed other factors; e.g. Wildauer et al. (2024) and Lavoie (2024).

 $^{^{43}\}mathrm{As}$ argued in Skott (1989, 2023, chapter 10), both post-Keynesians and new-Keynesians underestimate the degree of price flexibility.

⁴⁴BEA, Domestic Auto Inventories [AUINSA]



Source: Federal Reserve Economic Data (FRED). Series ID: AUINSA

Figure 21: Domestic auto inventories



Source: Federal Reserve Economic Data (FRED). Series ID: CUSR0000SETG01

Figure 22: Airline fares

favours the strong. This conclusion applies to non-unionized labour markets as well as to economies with fragmented unions, each bargaining exclusively to advance the narrow interests of its own members.

The implications of tight labour markets are not obvious in this context. A strike by auto workers at Ford, General Motors, and Stellantis in 2023 won wage increases ranging from 33 percent to 160 percent over the life of their contracts⁴⁵. This outcome has been hailed as a historic victory, but if average profit margins remain unchanged, the effect could be a squeeze on relative and real wages for other workers, many of whom with lower paying jobs.⁴⁶

The evidence shows that unionization tends to reduce wage inequality.⁴⁷ The effect is stronger in economies with centralised unions, however, and it may be a mistake for progressives to cheer strikes and generous contracts if the gains go to groups that are already highly paid. Yes, the nominal wage increases for the strong are likely to produce a cascade of nominal wage increases for weaker groups, but if the proportionate increases are smaller than for the well-paid groups and average markups are unchanged, the result will be greater inequality and lower real wages for the weak. The same proportionate nominal wage increases for all groups leave relative and real wages unchanged but leads to inflation.

A tight-labour-market strategy and rapid nominal wage growth as the main routes to greater income equality must be rejected if expansionary aggregate demand policy generate (potentially explosive) inflation and uncertain distributional outcomes. An alternative approach, articulated explicitly by the Swedish Rehn-Meidner plan (LO 1953), has influenced union strategies and economic policies in the Nordic countries.

In the Rehn-Meidner vision, reconciling tight labour markets with low inflation and wage compression requires institutions like centralised, solidaristic wage bargaining, as well as active labour market policies to facilitate the mobility of workers from low-wage jobs to sectors and firms with higher productivity and wages. As outlined by Rehn and Meidner, full employment does not in and of itself generate compression of the wage distribution. Furthermore, wage restraint may be called for to avoid inflation and the erosion of competitiveness of sectors that are exposed to international trade. The power that comes from high employment rates should be channelled into securing political and institutional changes to benefit workers instead of into fighting for increasing average nominal wages.

Full employment was seen as posing a threat to progressive priorities in the

⁴⁵See https://uaw.org/uaw-members-ratify-historic-contracts-at-ford-gm-and-stellantis/)

 $^{^{46}}$ The issues take a slightly different form for workers in the public sector. Public services in other areas may be cut or taxes raised if strong wage gains for professors at state universities are financed by higher state grants.

⁴⁷See Pontusson (2013), Freeman (1988), Wallerstein (1999).

absence of these institutions. According to Meidner (1993), the weakening of the Swedish model after the 1970s was in large part the result of a failure of aggregate demand policy to follow these guidelines:⁴⁸ 49

[t]he essence of the Swedish Model, as outlined in the report to the 1951 LO Convention, was the notion that full employment and economic stability could be made compatible. We argued that antiinflationary full employment policy had to be based on two pillars: a restrictive general economic policy which does not guarantee full employment, and selective labour market policy measures which absorb redundant labour. Swedish governments have frequently neglected the first part of the recommendation and tolerated periods of excess demand in the product and labour markets... To ensure economic stability and to combat inflation is the responsibility of the national government – but the government had neither the courage nor the strength to play this role. Gunnar Myrdal's warnings [that inflation poses a deadly threat to socialism; AA and PS] came true: inflation mercilessly undermined the basis of the Swedish Model.

5.4 Prospects

The Swedish economy was highly unionized with strong centralisation when Gösta Rehn and Rudolf Meidner presented their report in 1951. The current situation in the US is quite different, and the relevance of the Nordic experience for the labour movement in the US may seem tenuous.

To gain credibility and expand the membership, weak and fragmented unions will undoubtedly have to fight for the immediate interests of their members, giving a high priority to wages. But in retrospect the deliberate choice by AFL leaders during the early phases of American labour unions to pursue a 'pure and simple unionism' may have been a mistake.⁵⁰ By adopting an agenda focused on wages and working conditions while eschewing broader political issues and involvement with national political organizations, the strategic orientation of the American labour movement became quite different from that of many European counterparts. This may have been costly.

Without legislative and institutional reforms, the recent compression is unlikely to last. The wage distribution, like employment, may be subject to hysteresis,

 $^{^{48}\}mathrm{It}$ should acknowledged that other centrifugal forces also contributed to a weakening of both unions and the degree of centralization in the Nordic countries.

 $^{^{49}{\}rm See}$ also Silverman et al. (1980, 43-44) for Myrdal's views on how full employment accorded with the Rehn-Meidner vision.

⁵⁰See https://aflcio.org/about/history/labour-history-people/samuel-gompers for a brief presentation of the views of Samuel Gompers, the leader of the AFL for nearly 40 years from its formation in 1886. Domhoff (2013) provides an interesting overview of the history of US labour unions.

and the erosion of the relative position of low-wage workers will therefore happen gradually. But a palette of policy interventions will be needed to lock it in.

A radical increase in federal minimum wages with rules that adjust the minimum in line with prices (or the average wage) could have a big impact. A short list of other interventions could include improved unemployment benefits, regulatory changes that facilitate unionization, the enforcement of measures to prevent the evasion of labour market regulations by the use of gig workers and franchises, and breaking up firms with a dominant monopoly or monopsony positions. Broader reforms would be at least as important. Universal, publicly financed health insurance would eliminate the monopsony effects of employment-based health plans (in addition to other more commonly discussed benefits), while increased child support and a general strengthening of the social safety net would reduce the stress and anxiety of low- and middle-income households.

Unlike the power-biased fiscal packages of the pandemic, many of these structural changes have limited short-term effects. They are crucial for the long term, however. The labour movement in many European economies, most notably the Nordic countries, succeeded in creating affluent societies with an extensive social safety net and relatively low levels of social and economic inequality. Strong unions, with general strikes as the ultimate weapon, used their power to push for broader political and institutional change. The push sometimes took the form of social pacts, with labour unions agreeing to wage restraint in return for legislative progress on other issues. Arguably more important, but less visible, the organized labour movement played a crucial role in shaping public opinion through various forms of outreach and education, including affiliated newspapers.⁵¹

Labour friendly change in the US will be met by fierce opposition, and substantial progress will require strong political pressure and powerful alliances. Labour unions will be crucial in this respect, but to perform this role a break with 'pure and simple unionism' will be needed. While attending to pressing needs immediate priorities of their current memberships, unions must coordinate and increase their efforts towards advancing broader goals.⁵²

⁵¹Biden should get credit for his efforts to support organised labour. The National labour Relations Board (NLRB) was strengthened, for instance, with increased funding and the appointment of experienced labour advocates to the board (Rhinehart et al. 2024). Embarrassing levels of disorganization (or a degree of cynicism) have led to the ceding of a progressive majority on the NLRB just as Republicans take over the presidency (Zhang 2025).

 $^{^{52}}$ As a recent step in this direction, the AFL and SEIU reunited in January 2025 in order for the labour movement "to challenge the status quo and build a movement of workers who will fight—on the job, in the streets, at the ballot box, in our communities—for higher pay, expanded benefits and new rules that empower them to join together in unions and organize across industries" (https://aflcio.org/press/releases/seiu-joins-afl-cio-build-unprecedented-worker-power-win-unions-all-workers).

6 Conclusion

The COVID pandemic and the ensuing policy intervention can be seen as exogenous shocks that potentially offer valuable policy lessons. One reading of this period has highlighted a tight labour market as the key source of large wage gains at the low end of the income distribution, and some wage compression during expansions is in line with the general cyclical pattern. While this reading is buttressed by a series of interesting statistical findings, it is hard to square with three observations: 1) the magnitude of the compression cannot be explained by a tight labour market alone, 2) hourly real wages for workers with lower levels of educational attainment (those with less than a BA) were by 2023 at or below their 2015-2019 trend, and 3) the timing of a tightness-centered story is off; a large part of the compression happened during the first half of 2021 when all standard measures of tightness were low. Although we found some support for the presence of a wage-Phillips relationship in a particular form, we do not find strong evidence that such a relationship is particularly strong for groups at the lower end of the earnings distribution, like workers without a college degree. Both the evidence and behavioural considerations suggest that the policy response to the pandemic may have provided a boost to low-wage workers' income, wage aspirations and power. The composition of the pandemic fiscal packages represented a break with past policy trends: the policy intervention was power-biased and, unusually, the power bias was in favour of low-wage workers.

The broad, bipartisan support behind most of the fiscal interventions makes this power bias all the more surprising. One can speculate that the power biases in favour of low-income groups may have been related to time pressures, the obvious political need to 'do something', and an administrative inability to tailor measures less crudely. Or perhaps politicians simply got carried away by their own rhetoric about 'hero workers'. Whatever the explanation, in our reading, the pandemic experience shows the importance of selective interventions that affect the power balances. The pandemic policy packages boosted aggregate demand, but the main source of wage compression plausibly derived from the power biases of the packages and from pandemic-induced turbulence and sectoral shocks. The packages achieved the compression through a radical increase in unemployment benefits and a general improvement in the financial position of low-income households.

The recent period also illustrates how inequality measures can move in different directions. Wage inequality fell but there were increases in both the profit share and the pre-tax income inequality. In general, expansionary aggregate demand policies that raise employment rates and reduce wage inequality may simultaneously raise profit shares and have ambiguous total effects. Positive real-wage effects from expansionary policies and tight labour markets, moreover, would be mediated by rising nominal wages, with associated inflationary pressures and the risk of backlash. Fortunately, a wider menu of distributional policies are available; addressing inequality need not be reduced to boosting aggregate demand.

To be clear, the argument in this paper is not that aggregate demand policy and the tightness of labour markets cannot influence income distribution. There are many reasons to question the existence of a well-defined natural rate of unemployment, and sustained periods of high employment will shift the balance of power, with potential effects on wage and price setting. But a pure wage struggle may have limited effects on the distribution of income, and rising nominal wages easily lead to increasing inflation, contractionary policy and a reversal of earlier gains – including through shifts in political balances of forces.

The likelihood of sustained improvements towards a more equal society is enhanced if the shift in power relations associated with high employment is channeled into fighting for institutional changes against commodification and for a labour voice in political affairs, rather than towards raising nominal wages.

References

- Aboobaker, A. & Ugurlu, E. (2023). Weaknesses of MMT as a guide to development policy. Cambridge Journal of Economics, Vol. 47, Issue 3, pp. 555-574.
- [2] Autor, D., Dube, A., & McGrew, A. (2024). "The unexpected compression: Competition at work in the low wage labour market (Working Paper No. 31010). NBER Working Papers. Cambridge, MA.
- [3] Autor, D. H., Katz, L. F., & Kearney, M. S. (2008). Trends in U.S. wage in- equality: Revising the revisionists. Review of Economics and Statistics, 90 (2), 300–323.
- [4] Beraja, M., Hurst, E., & Ospina, J. (2019) The aggregate implications of regional business cycles. Econometrica, Vol. 87, No. 6.
- [5] Bivens, J. and Zipperer, B. (2018) "The importance of locking in full employment for the long haul". Economic Policy Institute, https://files.epi.org/pdf/147755.pdf
- [6] Blanchard, O. 2016. The Phillips Curve: Back to the '60s? American Economic Review, Vol. 106, No. 5.
- [7] Blanchflower, D. G. and Oswald, A. J. (1994) Estimating a Wage Curve for Britain 1973-90. Economic Journal, Vol. 104, No. 426.
- [8] Blanchflower, D. G. and Oswald, A. J. (1995) An introduction to the wage curve. Journal of Economic Perspectives, Vol. 9, No. 3.
- [9] Burdett, K., and Mortensen, D. T. 1998. Wage differentials, employer size, and unemployment. International Economic Review 39(2): 257-73.

- [10] Card, D. (1995). The Wage Curve: A Review. Journal of Economic Literature
- [11] Cameron, L.D., Chan, C.K. and Anteby, M. (2024) "Why Calling Your Workers Heroes Can Backfire". Harvard Business Review, https://hbr.org/2024/02/why-calling-your-workers-heroes-can-backfire
- [12] Carvalho, L., & Rezai, A. (2016). Personal income inequality and aggregate demand. Cambridge Journal of Economics, 40 (2), 491–505.
- [13] Domash, A., & Summers, L. (2022). 'How tight at US labour markets?. NBER Working Paper 29739.
- [14] Dube, A. (2024) "Credit Bidenomics for rising US wages". Project Syndicate, Feb 8, 2024.
- [15] Dunklow, S. (2020) "Poll: More Americans on both sides of the political spectrum want a higher minimum wage". https://www.witf.org/2020/09/30/poll-more-americans-on-both-sidesof-the-political-spectrum-want-a-higher-minimum-wage/
- [16] Farber, H. S., Herbst, D., Kuziemko, I., & Naidu, S. (2021). Unions and inequality over the twentieth century: New evidence from survey data. Quarterly Journal of Economics, 136, 1325–1385.
- [17] Firpo, S., Fortin, N. M., & Lemieux, T. (2009). Unconditional quantile regres- sions. Econometrica, 77 (3), 953–973.
- [18] Fitzgerald, T., Jones, C., Kulish, M. & Nicolini, J. B. (2024). Is there a stable relationship between unemployment and future inflation. American Economic Journal: Macroeconomics, 16(4), 114–142.
- [19] Flood, S., King, M., Rodgers, R., Ruggles, S., Warren, J. R., Backman, D., Chen, A., Cooper, G., Richards, S., Schouweiler, M., & Westberry, M. (2023). IPUMS CPS: Version 11.0 [dataset]. Minneapolis, MN: IPUMS. https://doi.org/10.18128/D030.V11.0
- [20] Fujita, S. (2019).Where is the Phillips curve. Federal Reserve Bank of Philadelphia Research Department. https://www.philadelphiafed.org/-/media/frbp/assets/economy/articles/economic-insights/2019/q3/eiq319phillips-curve.pdf
- [21] Gallup (2024) labour unions. https://news.gallup.com/poll/12751/labourunions.aspx (accessed 18 December 2024)
- [22] Gethin, A., Martinez-Toledano, C., & Piketty, T. (2022). Brahmin left versus merchant right: Changing political cleavages in 21 western democracies, 1948–2020. Quarterly Journal of Economics, 137, 1–48.
- [23] Goodwin, R. M. (1967). A growth cycle. In H. Feinstein (Ed.), Socialism, capitalism and growth. Cambridge University press.

- [24] Gould, E., & deCourcy, K. (2024). Fastest wage growth over the last four years among historically disadvantaged groups. Economic policy Institute.
- [25] Guy, F. and Skott, P. (2008) "Information and communications technologies, coordination and control, and the distribution of income" Journal of Income Distribution, 17 (3-4), pp. 71-92.
- [26] Guy, F. and Skott, P. (2013) "Power, luck and ideology technological and institutional parameters of the agency problem for CEOs". Review of Radical Political Economics, 45(3), pp. 323-332.
- [27] Hazell, J., Herreno, J., Nakamura, E., Steinsson, J. (2022). The slope of the Phillips Curve: Evidence from US States. Quarterly Journal of Economics, Vol. 137, Issue 3, pp. 1299-1344.
- [28] Kalecki, M. 1943. Political Aspects of Full Employment. Political Quarterly, 14(4): 322- 331.
- [29] Katz, L. F., & Murphy, K. M. (1992). Changes in relative wages, 1963-1987: Supply and demand factors. Quarterly Journal of Economics, 107 (1), 35–78.
- [30] Katz, L. F., & Krueger, A. B. (1999). The High-Pressure U.S. labour Market of the 1990s. Brookings Paper on Economic Avtivity.
- [31] Kim, Y.K., Lima, G.T. and Setterfield, M. (2019) "Political aspects of household finance: debt, wage bargaining, and macroeconomic (in)stability". Journal of Post Keynesian Economics, 42(1), pp. 16–38
- [32] Klippenstein, K. (2025). Government Monitoring Those With "Negative" Views of Health Insurance Companies. https://www.kenklippenstein.com/p/government-monitoring-those-with
- [33] Kumar, A., & Orrenius, P. M. (2016). A closer look at the Phillips curve using state-level data. Journal of Macroeconomics, 47.
- [34] Kuziemko, I., Longuet-Marx, N., & Naidu, S. (2023). "compensate the losers?" economic policy and partisan realignment in the us (Working Paper No. 31794). NBER Working Papers. Cambridge, MA.
- [35] Lavoie, M. 2024. Conflictual Inflation and the Phillips Curve. Review of Political Economy, Vol. 36, Issue 4.
- [36] Leduc, S. & Wilson, D. J. (2017). Has the Wage Phillips curve gone dormant? FRBSF Economic Letter. https://www.frbsf.org/wpcontent/uploads/sites/4/el2017-30.pdf
- [37] Manning, A. (2020). Monopsony in labour markets: a review. ILR Review, 74 (1), 3-26.
- [38] Martins, G. K., & Skott, P. (2021). Sources of inflation and the effects of balanced budgets and inflation targeting in developing economies. Industrial and Corporate Change, 30 (2), 409–444.

- [39] Meidner, R. (1993). Why did the Swedish Model fail? Socialist Register.
- [40] Meidner, R. (1998). The rise and fall of the Swedish Model. Challenge, Vol. 41, No. 1.
- [41] Morin, A. (2019). Wage dispersion over the business cycle. Economics Letters, 181, 17–21.
- [42] Moulton, B. R. (1990). An Illustration of a pitfall in estimating the effects of aggregate variables on micro units. Review of Economics and Statistics, Vol. 72, No. 2, 334–338.
- [43] Mueller, A. I. (2017). Separations, sorting, and cyclical unemployment. American Economic Review, 107 (7), 2081–2107.
- [44] Nijkamp, P & Poot, J. (2005). The Last Word on the Wage Curve? Journal of Economic Surveys, Vol. 19, No. 3.
- [45] OECD. (2011). Divided we stand: Why inequality keeps rising (tech. rep.).OECD Publishing.
- [46] Petach, L. (2024). Assessing the Political Aspects of Full Employment: Evidence from Strikes and Lockouts. PKES Working Paper 2407.
- [47] Phillips, A. W. (1958). The Relation between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1861-1957. Economica, Vol. 25, No. 100.
- [48] Public Agenda (2024). "Economic Opportunity and Inequality A Public Agenda/USA Today/Ipsos Hidden Common Ground Survey", Sept 2024, https://publicagenda.org/wp-content/uploads/HCG-Economic-Opportunity-Inequality.pdf
- [49] Rhinehart, L., McNicholas, C. and Poydock, M. (2024). "The Biden board - How President Biden's NLRB appointees are restoring and supporting workers' rights". Economic Policy Institute (https://www.epi.org/publication/bidens-nlrb-restoring-rights/#fullreport)
- [50] Samuelson, P. A. & Solow, R. M. (1960). Analytical Aspects of Anti-Inflation Policy. The American Economic Review, Vol. 50, No. 2, 177–194.
- [51] Silver, N. (2024). How culture trumps economic class as the new political fault line. https://www.natesilver.net/p/how-culture-trumps-economicclass
- [52] Silverman, B., Myrdal, G., Rehn, G., Hedborg, A., & Edin, P-O. (1980). The crisis of the Swedish welfare state. Challenge, Vol 23, No. 3, pp. 36-51.
- [53] Skott, P. (1989). Effective demand, class struggle and cyclical growth. International Economic Review, 30 (1), 231–247.

- [54] Skott, P. (2006) "Wage Inequality and Overeducation in a Model with Efficiency Wages". Canadian Journal of Economics, 39 (1), pp. 94-123.
- [55] Skott, P. (2023). Structuralist and behavioral macroeconomics. Cambridge University Press.
- [56] Skott, P., & Guy, F. (2007). A model of power-biased technological change. Economics Letters, 95, 124–131.
- [57] Skott, P. and Guy, F. (2008) "Power, productivity and profits". In M. Braham and F. Steffen (eds) Dimensions of Power: Concepts, Models, and Applications, Springer Verlag, pp. 385-404.
- [58] Slonimczyk, F. and Skott, P. (2012) Employment and Distribution Effects of the Minimum Wage. Journal of Economic Behavior and Organization, 84 (1), pp. 245–264.
- [59] Stantcheva, S. (2024). Why do We Dislike Inflation?. Brookings Paper on Economic Activity.
- [60] Starr, E. (2019). Consider this: training, wages, and the eforceability of covenants not to compete.ILR Review, 72(4), pp. 783-817.
- [61] Weber, I. M. & Wasner, E. (2023). Sellers' inflation, profits and conflict: why can large firms hike prices in an emergency? Review of Keynesian Economics, Vol. 11, No. 2, 183 - 213.
- [62] Wildauer, R., Kohler, K., Aboobaker, A., & Guschanski, A. (2023). Oil Price Shocks, Conflict Inflation, and Income Distribution in a Three-sector Model. Energy Economics, Vol. 127, Part B.
- [63] Zhang. S. "Inexcusable": (2025).Khanna Explains How Democrats Failed to Trump-Proof Labor Board. Truthout, https://truthout.org/articles/inexcusable-khanna-explains-howdemocrats-failed-to-trump-proof-labor-board/.