

Globalization and the Goodwin Pattern: How American Capital Eliminated the Profit Squeeze

Robert A. Blecker
Professor Emeritus of Economics
American University
Washington, DC 20016
blecker@american.edu

Michael Cauvel
Associate Professor of Economics
University of Southern Maine
Portland, ME 04103
michael.cauvel@maine.edu

Aaron Pacitti
Professor of Economics
Siena University
Loudonville, NY 12211
apacitti@siena.edu

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Abstract: The Goodwin pattern of counterclockwise co-movements of the labor share and unemployment has disappeared from the observed data in the 21st century U.S. economy. Across three forms of analysis, we provide evidence that trade shocks from China and Mexico can empirically explain changes in this relationship. First, we examine the co-movements of the labor share and unemployment rate when estimating the former conditionally upon imports from China and Mexico. We find that these co-movements closely resemble those found before 2001. Second, we find evidence of a structural break in the labor-share unemployment rate relationship in 2002 that disappears when controlling for imports from these two countries. Finally, we find evidence of asymmetries over the business cycle in this relationship emerging around 2002 that also disappear when controlling for these imports. Although we consider other potential explanations, none are capable of empirically explaining the changes across all three forms of analysis. Our results suggest that trade shocks disrupted the distribution-unemployment relationship by undermining labor bargaining power. Before 2002, the labor share falls during recessions but rises as unemployment falls. Following these trade shocks, the pattern holds during recessions, but the labor share no longer rises as labor markets tighten. We argue that globalization has moderated workers' wage demands, even at low rates of unemployment.

Keywords: Goodwin pattern, globalization, offshoring, profit squeeze

JEL Codes: E25, E32, F16, F66

Introduction

Global and domestic economic systems have transformed dramatically over this period. Among other structural changes, economies have become increasingly interconnected through globally integrated, but nationally disintegrated, production through global value chains (GVCs). This has coincided with substantial changes in long-observed stylized facts in macroeconomic trends and relationships. In the United States, the labor share—once thought to be stable in the long run—has developed a secular downward trend. Prior to the 21st century, there was a predictable counterclockwise pattern between the labor share and unemployment rates over the course of the business cycle, known as the Goodwin pattern (Goodwin 1967). When unemployment rates fell and wages growth increased, the labor share rose. Conversely, when unemployment rates increased and wage growth slowed, the labor share decreased. However, this pattern disappeared, as evidenced by a structural break, beginning around 2002.

This disappearance has been caused by falling labor bargaining power that moderates workers' wage demands even at low rates of unemployment. One mechanism responsible for this change has been labor market dynamics related to offshoring. With the passage of the North American Free Trade Act (NAFTA) in 1994, and China being granted permanent normal trading relations with the United States in 2000 and admittance to the World Trade Organization in December 2001, manufacturing jobs that were lost during recessions did not return during recoveries. The result has been lower labor bargaining power driven by increased employment insecurity for the approximately 25% of workers in jobs that are potentially offshorable (Blinder and Krueger 2013), creating fear-based wage moderation (Setterfield 2023, Pacitti 2014). This has led to falling values of the labor share even when labor markets are tight. These forces have caused the Goodwin pattern to substantially weaken, at minimum, and disappear, at most, from the aggregate data. While other structural changes have occurred that reduced labor's bargaining power (Cauvel and Pacitti 2022), the timing of the change in the Goodwin pattern around 2002 suggests a dominant role for globalization.

We observe three related changes in the labor share-unemployment rate relationship beginning around 2002. First, the Goodwin pattern shown by the counterclockwise co-movements of these variables disappears. Second, there is evidence of a structural break in 2002. Third, we observe asymmetric effects beginning in 2002 that were not previously present. Although the term “profit squeeze” is typically used to refer to the impact of unemployment on the labor share, these changes suggest a need for more precise terminology. The “profit-squeeze” relationship refers to the effect of unemployment on the labor share when unemployment is either rising or falling, but the term is only really descriptive in the case of the latter. Therefore, for purposes in this paper, the former might more aptly be called the “profit surge.” We find that profit-surge effects have strengthened, whereas profit-squeeze effects have weakened in the post-2002 period.

Our results suggest that the decline in the labor share in the United States is not driven by forces exogenous to economic activity, but rather emerges from interactions between business cycle dynamics and the shift to GVCs. Across three forms of analysis for the 1959-2019 sample, we provide evidence that trade shocks from China and Mexico can empirically explain changes in this relationship: visual analysis of labor share-unemployment rate co-movements, structural break tests, and regression analysis allowing for asymmetric effects. We document a breakdown in the Goodwin pattern shown by

the variable co-movements. However, when estimating the labor share conditionally upon imports from China and Mexico, the Goodwin pattern reemerges. We find evidence of a 2002 structural break in the labor share-unemployment relationship. However, when controlling for imports from China and Mexico, there is no evidence of a structural break. Finally, we show that the effects of unemployment on the labor share vary depending on whether unemployment is increasing or decreasing. No such asymmetries are found prior to 2002, but following 2002 profit-surge effects are roughly three times stronger than profit squeeze-effects. Controlling for imports from China and Mexico, the asymmetric effects disappear and the estimated relationship is similar to the one found in the earlier subsample. In other words, trade shocks from China and Mexico appear to empirically explain all three of these changes in the labor share-unemployment relationship.

Most results are robust to alternative measures of imports from China and Mexico, although some differences remain in the labor share-unemployment rate relationship when using measures of imports that measure trade in value-added, focus only on the imports of manufactures, or both. Using placebo tests that capture American imports from other countries (a group of commodities-exporting countries and a group of high-wage manufacturing exporters), we show that our results are not spuriously capturing the effects of generalized increases in trade flows. On the contrary, we find that changes in the Goodwin pattern can only be empirically explained by the type of trade shocks most likely to depress the bargaining power of American workers. We also consider other explanations for reduced worker bargaining power, including financialization, automation, deindustrialization, union activity, and rising markups. Some of these variables explain changes across one or two of our tests, but not all three. Although further research is needed to untangle the effects of these interrelated structural changes, our results show that trade shocks offer the strongest empirical explanation for changes in the labor share-unemployment rate relationship.

Background and Literature

The literature that informs our analysis can be divided into five sections. The first is the theoretical foundations of the Goodwin pattern dynamics, including alternative Interpretations. The second is the empirical evidence on the weakening and disappearance of the Goodwin pattern for the U.S. economy. The third looks at VAR models that capture the dynamics between bargaining power and the profit squeeze. The fourth discusses GVCs and their effect on macroeconomic dynamics. Finally, the fifth discusses hypotheses regarding labor market asymmetries over the course of the business cycle.

The relationship between the functional income distribution and aggregate demand over time is foundational to Post-Keynesian macroeconomic theory. Short-run expansion can be driven by a rising profit share, which lowers unit labor costs and increases investment and net exports (Blecker, 1989; Bhaduri and Marglin, 1990). In the long run, growth depends on a rising labor share (Blecker, 2016). Kalecki (1971) argued that longer-run structural trends can depend on short-run fluctuations across successive business cycles.

Within individual cycles, these dynamics unfold according to the Goodwin pattern (Goodwin, 1967). During early recovery phases, elevated unemployment depresses worker bargaining power and wage growth, leading to profit-led growth. As the business cycle matures and the economy approaches full employment, a tightening labor market triggers a profit squeeze as the labor share increases. This

dynamic produces a counterclockwise movement between economic activity and the labor share, known as the Goodwin pattern. Rada, Schiavone, and von Arnim (2024) draw an important distinction between the *Goodwin pattern*—the empirical occurrence of these counterclockwise movements—and the *Goodwin mechanism*, which denotes the underlying theoretical relationship between profit- and wage-led growth dynamics (Barrales-Ruiz et al., 2022).

More broadly, there are five theoretical perspectives to explain this empirical pattern. The first is the pure Goodwin mechanism, as discussed above, which represents the interaction between profit- and wage-led demand regimes. The second looks at procyclical productivity. Lavoie (2017) suggests that observed profit-led demand effects may capture procyclical productivity movements, as overhead labor changes the denominator of the labor share over the cycle. Empirical work by Rolim (2019), Mutlugün (2022), and Cauvel (2023) support this overhead labor dynamic, Rada, Schiavone, and von Arnim (2024) argue that recent countercyclical productivity trends prevent this framework from generating a true Goodwin pattern. Third, the role of financialization, as discussed in Stockhammer and Michell (2017) demonstrates that Minskyan financial dynamics—specifically debt accumulation and financial fragility—can interact with a real profit squeeze to yield pseudo-Goodwin cycles without requiring profit-led demand. Fourth, Setterfield and Wheaton (2024) show that a model featuring wage-led aggregate demand, profit-squeeze dynamics, and cyclical swings in capitalist expectations, or animal spirits, can successfully reproduce the empirical Goodwin pattern. Fifth, and finally, central bank reactions may generate the Goodwin pattern. In this institutional interpretation, monetary authorities react to tightening labor markets by raising interest rates to curb inflation, intentionally inducing economic contractions that suppress the wage share independently of an endogenous profit-led demand transmission channel (Setterfield and Herdelin, 2026).

A growing body of empirical research documents the weakening or disappearance of the Goodwin pattern, particularly throughout the neoliberal era (Carvalho and Rezai, 2016; Nikiforos, 2017; Carrillo-Maldonado and Nikiforos, 2024, Cauvel and Pacitti, forthcoming). Cross-country studies find similar results (Harvie, 2000; Flaschel, 2010; Kiefer and Rada, 2016; Stockhammer and Wildauer, 2016; Charpe, Bridji, and McAdam, 2020). Vector Autoregression (VAR) analyses have shown that the historical responsiveness of the labor share to business cycle dynamics has weakened considerably over time (Araujo, Dávila-Fernández, and Moreira, 2019; Basu and Gautham, 2020; Barrales-Ruiz et al., 2022; Barrales-Ruiz and Mendieta-Muñoz, 2024). Wavelet and filtering analyses by Barrales-Ruiz and von Arnim (2017) and Barrales-Ruiz, Rada, and von Arnim (2024) show that while traditional cycle dynamics persisted during the postwar Golden Age, they weakened substantially after 1980. Similarly, Mendieta-Muñoz et al. (2022) document a marked post-1984 decline in the sensitivity of the U.S. labor share to changes in aggregate demand.

Structural and institutional shifts that have weakened labor's bargaining power have also contributed to the weakening of the Goodwin pattern (Cornwall, 1990; Mishel and Bivens, 2021, Cauvel and Pacitti 2022). Heightened job insecurity and weakened labor market institutions have constrained wage growth even during periods of low unemployment (Pacitti 2014). Setterfield and Blecker (2022) illustrate a flattening of the U.S. Phillips curve, showing that unemployment fluctuations no longer translate into significant wage gains. The reallocation of production toward low-productivity service industries has also played a role (Olney and Pacitti, 2017; Rada, Schiavone,

and von Arnim, 2022). Basu, Chen, and Oh (2013) find that during the early post-WWI decades, economic growth tended to increase labor's bargaining power, creating a profit squeeze. However, their sub-sample estimations reveal that this profit-squeeze feedback loop began to weaken in the late 20th century, suggesting other forces were at play.

One of these dynamics, which is the main focus of this analysis, is offshoring and the role of expanding GVCs in the 21st century. Blecker (1989, 2012) argued that open-economy price competition and global sourcing allow domestic profit shares to remain insulated from local labor market tightness. With the heightened expansion of GVCs following NAFTA (1996) and China's entry into the World Trade Organization (2001), domestic labor faced unprecedented exposure to foreign competition (Blecker, 2014; Cauvel and Pacitti, forthcoming). Trade exposure with Mexico caused negative employment effects (Choi et al., 2024) and wage suppression among exposed U.S. workers (Hakobyan and McLaren, 2016). Similar research on the "China shock" argued that imports from China primarily affected local labor markets, eliminating over 1.5 million U.S. manufacturing jobs (Autor, Dorn, and Hanson, 2013), causing regional economic distress and political polarization (Autor, Dorn, and Hanson, 2020), and generating persistent labor market scarring long after import growth stabilized (Autor, Dorn, and Hanson, 2021).

The final strain of literature related to this analysis deals with labor market asymmetries during the business cycle. As discussed above, the Goodwin pattern suggests that when unemployment is high or rising during recessions and the first part of a recovery, profit-surge effects will reduce the labor share. As the business cycle matures and unemployment decreases, wage growth increases, initiating a profit squeeze. However, we argue that the latter dynamic has substantially weakened in the 21st century. Other work has noted this asymmetry but has not linked to offshoring and heightened integration of GVCs. Jaimovich and Siu (2012) find that post-1980 recessions display structural asymmetry, where economic downturns permanently eliminate middle-skill manufacturing positions, whereas subsequent expansions yield jobless recoveries, where the jobs destroyed fail to return. Olney and Pacitti (2017) demonstrate that deindustrialization—which we argue here is directly related to offshoring—slowed employment recoveries by 50%, prolonging labor market slack and depressing worker bargaining power.

This asymmetry changes how business cycles impact income distribution. Prior to the 2000s, the labor share exhibited symmetric cyclicity—falling during downturns and recovering during expansions. Following major trade shocks at the turn of the 21st century, this symmetry broke down into two distinct phases. During recessions, where the labor share falls as, primarily, manufacturing jobs are eliminated. During expansions, offshoring opportunities, GVC integration, and structural changes that weaken workers' bargaining power and discipline them even at low rates of unemployment, preventing the labor share from rising during expansions, suppressing the traditional profit squeeze. By testing for a structural break around 2001, our paper formally connects trade shocks, deindustrialization, and business cycle asymmetry, demonstrating that after 2001, unemployment's negative effect on the labor share remains during downturns, but becomes significantly weaker during expansions.

This paper aims to contribute to the above literature by demonstrating how trade shocks between the United States, China, and Mexico explain the disappearance of the Goodwin pattern since

2001. By incorporating import exposure from China and Mexico, we show that global trade shocks severed the historical link between low unemployment and rising labor shares. Conditioning the distributional relationship on trade exposure reveals that the underlying Goodwin mechanism remains present but has been masked by structural trade shocks. In other words, American capital has solved the historical profit-squeeze effects through offshoring production, weakening labor's bargaining power, even at low levels of unemployment.

We build upon the initial work of Cauvel and Pacitti (forthcoming) in three primary ways. We conduct sensitivity analysis using measures of imports that may more accurately capture the types of trade shocks most likely to disrupt domestic labor markets. We also conduct placebo tests using U.S. imports from high-wage, high-income countries and exporters of primary commodities, whose export patterns and economic structures differ considerably from Mexico in China, in order to rule out the possibility that the results reflect general changes in trade that are unlikely to be directly related to a labor bargaining story. Additionally, we consider non-trade variables to rule out alternative explanations. Finally, we complement the visual analysis of the Goodwin pattern with econometric analysis of structural breaks and asymmetries in the profit-squeeze effect.

Methodology

We begin by replicating Cauvel and Pacitti's (forthcoming) key findings for the aggregate Goodwin pattern—i.e. its disappearance beginning in 2001 and its reemergence when estimating the labor share conditionally upon real imports from China and Mexico. Following their methodology, we examine changes in the Goodwin pattern through visual analysis of the co-movements of the relevant variable pairs in *labor share - unemployment rate* space across three subsamples 1959-1979, 1980-2000, and 2001-2019. There are clear counterclockwise co-movements characteristic of the Goodwin pattern in the first two subsamples, but not in the third. We show that the counterclockwise co-movements reemerge when adjusting the labor share series for imports from China and Mexico. Given that trade varies with the business cycle, we first adjust the import variable to remove these business cycle effects by regressing real imports from these two countries on the unemployment rate (current period and one lag) and a constant. We then take the residuals from this regression, which we interpret as the employment-adjusted U.S. imports from China and Mexico. We then estimate the labor share dynamics conditional on this variable by regressing the labor share on the employment-adjusted imports (current period and one lag) and a constant. The residuals of this regression represent the parts of the labor share that are independent of trade with China and Mexico. As in Cauvel and Pacitti (forthcoming), we find that the co-movements of this variable and the unemployment rate in the final subsample are similar to those found using the unadjusted data in the first two subsamples. In other words, the Goodwin pattern reemerges when adjusting for imports from China and Mexico.

Whereas Cauvel and Pacitti (forthcoming) examined the role of bargaining power in mediating the relationship between income distribution and unemployment, we focus only on the aggregate relationship itself. We build upon their work in several ways. First, we explore the sensitivity of their findings to alternative measures of imports that may more accurately capture the trade shocks that have the most potential to disrupt domestic labor markets. In addition to a broad measure of total imports from these two countries, we consider alternatives that focus only on manufactured goods and/or

measure the value-added in China and Mexico. The former excludes some imports, such as commodities (particularly oil imports from Mexico), that are unlikely to increase competition for domestic workers. The latter rules out potential measurement distortions that can arise from complex global trade systems, such as transshipments and the separation of assembly and the production of intermediate inputs, in order to give a more accurate measure of the value generated in a particular country. We also present specifications that separate imports from China and Mexico to explore whether the China Shock or NAFTA appears to be the primary source of changes in the Goodwin pattern. We considered an additional sensitivity test in which we include the imports of other low-wage manufacturing exporters along with China and Mexico, but we ultimately decided against this due to conceptual issues (e.g. some countries changing from low-wage to higher-wage over the course of our sample period), methodological concerns (e.g. differing data availability for different countries), and the literature's emphasis on the China and Mexico shocks as primary drivers of changes in U.S. manufacturing employment.

Secondly, we aim to rule out several competing explanations. Although our methodology does not enable us to firmly identify causality, we conduct placebo tests to examine whether other variables can similarly generate a reemergence of the Goodwin pattern in the post-2000 subsample. We separately test real imports from two other groups of countries representing U.S. trade partners that we view as unlikely to alter the Goodwin pattern dynamics. One is composed of high-wage, high-income manufacturing exporters, and the other includes countries of varying income levels that primarily export commodities.

We also hope to rule out other potential explanations for the disappearance of the Goodwin pattern, particularly those that Cauvel and Pacitti (2022), among others, identified as drivers of the decline in the U.S. labor share. These include automation, financialization, rising market concentration, deindustrialization, and deunionization. They identified the first four factors as critical structural changes undermining labor bargaining power, along with a broad measure of globalization that roughly corresponds to our story about import competition, although they consider these factors only collectively and not individually. They consider de-unionization as a measure of bargaining power. However, given that we do not consider bargaining power explicitly in our empirical models, we adopt this variable as a rough proxy for broad institutional changes that affect wage-setting dynamics. We acknowledge that separating these coinciding structural changes is difficult both empirically and conceptually (Cauvel and Pacitti 2022). This is particularly evident in the case of import competition and deindustrialization, which are intrinsically linked as the latter is the direct result of the former. Nevertheless, we consider these variables separately in hopes of gaining some insights. As a final placebo test, we use a simple linear trend to ensure that our results are not simply capturing the downward trend in the labor share that intensified around 2001. For most specifications in the sensitivity and placebo analysis we follow the exact methodology used for the baseline specification, changing only the measure upon which the Goodwin pattern is conditionally estimated. The one exception is the placebo test using a simple linear trend. We do not adjust this measure for business cycle effects because it is acyclical by definition, and we do not include a lag when regression the labor share on the trend because it would be redundant.

Finally, we supplement our visual analysis with more rigorous econometrics. We formally present the structural break tests that are briefly alluded to in Cauvel and Pacitti (forthcoming), which provide evidence of a structural break in the relationship between the labor share and the unemployment rate in 2001 that disappears when controlling for imports from China and Mexico. More importantly, we formally identify asymmetric effects of the unemployment rate on the labor share in the 2001-2019 subsample that are not present in a sample of 1959-2000. To do so, we estimate the following regression equation:

$$(1) \quad \Psi_t = \beta_0 + \beta_1 \Psi_{t-1} + \beta_2 U_t + \beta_3 \lambda_t + \beta_4 U_t \lambda_t + \epsilon_t$$

where t indexes time, ϵ is the error term, Ψ and U represent the labor share and unemployment rate, respectively, and λ is a dummy variable that takes a value of 1 when the unemployment rate is increasing and a value of 0 otherwise. In order to test whether changes in the unemployment rate have a different effect on the labor share when unemployment is increasing rather than decreasing (or remaining unchanged), we test the null hypothesis that $\beta_4 = 0$. We estimate this regression for two sample periods: 1959-2000 and 2001-2019. We find significant asymmetries in the latter period and no significant asymmetries in the former. We then estimate whether the asymmetries in the post-2000 subsample are smaller when controlling for imports from China and Mexico (M) as shown in equation (2).

$$(2) \quad \Psi_t = \beta_0 + \beta_1 \Psi_{t-1} + \beta_2 U_t + \beta_3 \lambda_t + \beta_4 U_t \lambda_t + \beta_5 M_t + \epsilon_t$$

Finally, we conduct similar sensitivity analysis and placebo tests for the structural break and regression analysis, using the same variables described for the visual analysis.

We view this exercise as a useful way of highlighting the asymmetries in the relationship between income distribution and unemployment that characterize the last subsample, and of measuring the extent of these changes that underlie the disruption of the Goodwin pattern. However, this methodology's treatment of unemployment as exogenous to the labor share is a clear limitation. Although equation (1) estimates changes in the profit squeeze, in line with explanations for the breakdown in the Goodwin pattern due offered by the literature (e.g. Barrales and von Arnim 2017, Setterfield 2023), we cannot rule out the possibility that changes in the extent of the reverse relationship (i.e. the effect of distribution on the business cycle) are partially or fully driving the results. Indeed, evidence from time-varying parameter vector autoregressions suggest that changes in the magnitude of profit-led demand (Carrillo-Maldonado and Nikiforos 2024, da Costa Umann and de Oliveira Worm 2026), although that methodology also relies on (less restrictive) identifying assumptions. We view this a useful exercise for further highlighting the role of trade shocks from China and Mexico in disrupting the Goodwin pattern. However, given the potential for simultaneity bias in these estimates, these results should not be viewed as providing evidence related to broader debates about the mechanism driving the pattern. Future research is needed to explore these questions further using methods that can address endogeneity issues.

Data

All of the methods described above utilize annual data. Unless otherwise noted, variables are measured at the aggregate level for the U.S. economy and cover the sample of 1959-2019. Following Cauvel and Pacitti (forthcoming), we measure the two central variables—the business sector labor share index (2017=100) and U-3 unemployment rate—with data from the Bureau of Labor Statistics (BLS) downloaded from Federal Reserve Economic Data (FRED). We also follow their approach in using the International Monetary Fund’s (IMF) International Trade in Goods database to construct the baseline measure of trade with China and Mexico. However, we deviate slightly by capturing the exports from these countries to the U.S., rather than U.S. imports from these countries, as we prefer the measure that excludes shipping and insurance costs. We take the sum of the exports from each country to the United States and deflate it by the U.S. Producer Price Index (PPI, 1982=100) to obtain the final measure.¹ Throughout the paper, we refer to our key variable as U.S. imports from China and Mexico for simplicity, given that our alternative measures of trade all capture U.S. imports rather than the conceptually similar exports to the U.S.

The alternative import measures come from two databases: the United Nations’ (UN) Comtrade and the Organisation for Economic Co-operation and Development’s Trade in Value Added (TiVA). From the former, we utilize a measure of total U.S. imports of manufactured goods from China and Mexico. Using Comtrade’s harmonized long time series of the SITC classification, we measure manufactured goods as the sum of chemicals and related products, manufactured goods, machinery and transport equipment, and miscellaneous manufactured articles, less non-ferrous metals and pearls, precious, and semi-precious stones (using SITC codes this equals 5+6+7+8-68-667, following UNCTAD 2025). This series was divided by 1 million to place it on the same scale as our other import measures (i.e. millions of dollars). We used the TiVA measure of U.S. imports from the world with value-added in China and Mexico, separately considering both total imports and manufacturing imports. These alternative measures were converted to real values by deflating with PPI, as with the baseline measure. These series have limited data availability relative to the IMF database, as the Comtrade data are not available prior to 1981 and the TiVA data begin in 1995. However, both provide full coverage for our final subsample of 2001-2019.

For our placebo tests, we calculate exports from two groups of countries to the U.S. using the IMF database and the methodology described above. The first is a set of high-wage, high-income manufacturing exporters: France, Germany, Japan, the Netherlands, and the United Kingdom. We had initially planned to include Belgium in this group but ultimately decided against this due to the lack of available data before 1997. The second is a set of countries whose exports are primarily composed of primary commodities, regardless of their income level: Argentina, Australia, Canada, Chile, Ghana,

¹ Following Cauvel and Pacitti (forthcoming), we treated missing values of China’s exports to the U.S. as 0. We do not expect this choice to substantially impact our results, as China’s trade with the U.S. is small in comparison to Mexico’s in the early years of the sample for which data is available for both countries. For example, 1978 (the first year for which continuous data is available for China), Mexico’s trade with the U.S. is roughly 15 times the magnitude of China’s.

Kenya, Nigeria, Saudi Arabia, and the United Arab Emirates (UAE).² The countries in each group were predetermined and not altered in response to our findings. Our primary goal in selecting these groups was identifying countries whose export patterns and economic structures differed substantially from those of China and Mexico to ensure that our findings related to changes in the Goodwin pattern are consistent with the story of reduced bargaining power due to increased competition with low-wage workers abroad, rather than coincidentally explained by other changes in trade. As such, we did not include any countries that were low-wage manufacturing exporters competing with China and Mexico for a substantial portion of the sample period, especially after 2000. In selecting the countries to be included in each group, we opted to focus on individual countries rather than groups (such as the EU) that may be diverse or change membership. We aimed to construct groups whose total exports to the U.S. were of a similar order of magnitude as the combined totals from China and Mexico. We did not include countries whose export composition changed dramatically over the course of our sample period, e.g. from commodities to manufactures or vice versa.

The other placebo tests utilize data on non-trade variables. Data for all of these series were downloaded from FRED unless otherwise noted. Deindustrialization is proxied using the ratio of manufacturing employment to total employment using underlying data from BLS. Financialization is measured as the ratio of stock buybacks and dividends payments for nonfinancial corporations to GDP based on underlying data from the Bureau of Economic Analysis (BEA) and the Board of Governors of the Federal Reserve System. Stock buybacks are measured as the negative of the net incurrence of liabilities from the BEA's Integrated Macro Accounts Table S.5.a. We proxy for union activity using the BLS measure of strike activity (work stoppages idling more than 1,000 workers beginning in the period). Capital intensity, measured as the ratio of the real capital stock (as estimated by the Penn World Tables) to the BLS civilian labor force level, is used as a proxy for automation and technological change. Finally, we utilize the gross profit margin (Blecker et al. 2022), a Kaleckian measure of markups, to proxy for firm market power. This measure is calculated using data from the BEA NIPA Table 1.15 (the sum of lines 4 and 7, divided by line 2).

Results

Visual Analysis of Variable Co-movements

We begin by replicating the analysis of Cauvel and Pacitti (forthcoming) for the labor share – unemployment rate relationship. Figure 1 illustrates the co-movements of the labor share and the unemployment rate across three subsamples: 1959-1979, 1980-2000, and 2001-2019. In the first two subsamples (panels a and b), there is a clear counterclockwise pattern. In other words, the Goodwin pattern is clearly on display. There are multiple rotations in each of these subsamples, with each rotation corresponding to a period of roughly 8-11 years. The Goodwin pattern is no longer visible in the final subsample (panel c). From 2001 to 2009, there is a prolonged decline in the labor share that

² Data for Saudi Arabia and Zambia is not available prior to 1964. Given that American trade with these countries was small relative to the other countries in this group in the early years of full data availability, we treat these missing values as 0. Similarly values of 0 were imputed for the missing data points for the UAE lacks data prior to 1976. Given that the UAE did achieve independence until the early 1970s, we expect that this missing data reflects limited trade. Finally, the one missing datapoint for Nigeria in 1980 was imputed as the average of the values in 1979 and 1981.

persists across episodes of both rising and falling unemployment rates. In the final 10 years of the sample, following the end of the Great Recession, there is a dramatic decline in the unemployment rate but little change in the labor share. The finding of a disruption in the Goodwin pattern is consistent with previous literature and suggestive of a substantial change in the relationship between unemployment and functional income distribution, particularly when labor markets are tight. Cauvel and Pacitti (forthcoming) illustrate the role of reduced labor bargaining power in explaining this change, but we did not replicate these findings due to space considerations.

FIGURE 1 HERE

Still following Cauvel and Pacitti (forthcoming), we estimate the Goodwin pattern conditional on trade with China and Mexico by adjusting the labor share on our import variable (which has itself been adjusted to ensure its exogeneity to the business cycle). The co-movements of the import-adjusted labor share and the unemployment rate over the final subsample are shown in Figure 2a. There is a notable difference from the pattern seen in the unadjusted data over the same time period (Figure 1c), as the counterclockwise co-movements indicative of the Goodwin pattern return. Additionally, these rotations occur at a similar frequency to those found using the unadjusted data in the earlier subsamples (Figures 1a and 1b). In other words, the Goodwin pattern returns when adjusting income distribution for shocks in trade with China and Mexico. As Cauvel and Pacitti (forthcoming) argue, this finding suggests that the expansion of GVCs and the accompanying ability of firms to credibly threaten relocation of production processes substantially reduced labor's ability to bargain for higher wages even when labor markets are tight. As a result, the labor share rises little or even continues to fall as unemployment rates decline. This result is not an exact replication of Cauvel and Pacitti (forthcoming) because we utilize a slightly different measure of imports that excludes shipping and insurance costs. However, we find that their results are robust to this alternative measure.

We further deviate from Cauvel and Pacitti (forthcoming) by separately considering imports from China and Mexico. This analysis is presented in Figures 2b and 2c, respectively. When excluding Mexico and focusing solely on imports from China, the return of the Goodwin pattern remains clear. In fact, the counterclockwise rotations are neater and even more clearly defined, as the value of the adjusted labor share at the end of the subsample is much closer to the first observation in the period. On the other hand, the return of the Goodwin pattern is not as definitive in the results found using only imports from Mexico. Although there is a counterclockwise rotation during the Great Recession, the pattern found during the first business cycle (2001-2006, on the right end of the graph) has no cyclical pattern and is little changed from the one found using unadjusted data. These findings suggest that the China shock has more explanatory power than NAFTA in terms of explaining the disruption of the Goodwin pattern and its reappearance in the import-adjusted data in Figure 2a. Of course, U.S. imports from the two countries are likely to be highly correlated, and the rise of imports from Mexico would be theoretically expected to amplify the impacts of any disruptions caused by trade shocks with China. However, it does not appear that trade with Mexico alone can fully explain changes in the Goodwin pattern.

FIGURE 2 HERE

We next conduct sensitivity analysis to explore whether the reemergence of the Goodwin pattern occurs when using alternative measures of imports from China and Mexico. The results of this analysis are shown in Figure 3. Specifications using OECD TiVA data for either total imports in value added (panel a) or manufacturing imports in value added (panel b) differ little from our baseline specification (shown in Figure 2a). There are more differences in the exact co-movements when adjusting the labor share using the UN Comtrade measure of manufacturing imports (panel c). However, the general pattern of counterclockwise rotations is still present in this specification. Therefore, the key result that the Goodwin pattern returns when adjusting the labor share for imports from China and Mexico appears to be robust to alternative data sources. In other words, this result does not appear to be driven by measurement error such as overestimating the degree of production in the origin country or counting trade flows, such as commodities and services, that are less likely to impact domestic labor markets.

FIGURE 3 HERE

For the last stage of our visual analysis, we conduct placebo tests, the results of which are shown in Figure 4. We first explore whether similar results can be obtained by adjusting the labor share for import measures that are not consistent with our story of reduced bargaining power due to the import of cheap manufactured goods. Figures 4b and 4c show the co-movements of the unemployment rate and an adjusted labor share that is estimated conditionally on trade flows from groups of commodities-exporting countries and high-wage manufacturing exporters, respectively. In neither case does the adjustment produce a clear Goodwin pattern. In both cases, the labor share declines independent of the unemployment rate over the course of the 2001 business cycle, and the decline in the unemployment rate during the recovery from the Great Recession brings little change in the labor share. In other words, adjusting for the trade flows that are unlikely to impact domestic labor markets does little to change the disruption in the Goodwin pattern observed in the unadjusted data. These results suggest that our key finding that the China and Mexico shocks empirically explain changes in the Goodwin pattern is unlikely to be a reflection of coincidental correlation between general changes in trade flows and the Goodwin pattern variables.

Figure 4 also displays the results for additional placebo tests designed to explore alternative explanations for changes in the Goodwin pattern, other than trade shocks. As shown in Figure 4a, estimating the labor share conditional on a linear trend leads to more counterclockwise co-movements than the unadjusted data (Figure 1c), but fewer than our baseline import measure (Figure 2a). Notably, the recovery from the Great Recession brings an increase in the trend-adjusted labor share, but there is little evidence of the Goodwin pattern during the 2001 business cycle. It is not surprising that the trend adjustment generates some counterclockwise co-movements, given that there is a strong trend component of our baseline import series. However, it is clear that the imports from China and Mexico explain changes in the Goodwin pattern beginning in 2001 better than the simple linear trend. Some of the other placebo variables generate co-movements that are very similar to those found using the

linear trend, including deindustrialization, union activity, and automation—variables that all include a strong trend component.

Two variables, financialization (panel e) and the markup (panel h) produce more counterclockwise co-movements than the linear trend. In the case of the markup, the resulting co-movements have some resemblance to the Goodwin pattern, although the increase in the labor share during the recovery from the Great Recession gets interrupted and eventually reversed towards the end of the sample period. As such, trade shocks appear to empirically explain the changes in the Goodwin pattern better than the markup. On the other hand, the pattern generated for the financialization-adjusted labor share does not differ substantially in a qualitative sense from the one found using the import-adjusted labor share. As such, based on this visual analysis we cannot rule out financialization as a competing explanation for the disruption of the Goodwin pattern. The difficulty in separating these theoretically-linked and empirically coinciding structural changes in this case is reminiscent of the challenges identified by Cauvel and Pacitti (2022) in separating the interrelated factors responsible for the decline in the labor share. Further research is needed to consider financialization as a potential explanation for the changing Goodwin pattern.

FIGURE 4 HERE

Structural Break Analysis

Cauvel and Pacitti (forthcoming) suggest a structural break in the labor-share unemployment rate based on visual analysis and a Chow breakpoint test. We utilize a Quandt-Andrews test to confirm whether 2001 is the optimal date for the break. This test, which considers all potential break points (excluding 15% of the sample trimmed from each end), is estimated for a regression of the labor share on the unemployment rate, along with a constant and a lag of the dependent variable.³ We allow all variables to vary across breakpoints.⁴ This test rejects the null hypothesis of no breaks at the 1% level and identifies 2002 as the optimal break date. Although Cauvel and Pacitti (forthcoming) focused on 2001, in part because of their consideration of dynamics related to the business cycle and their measure of labor bargaining power, 2002 is perhaps a more logical breakpoint for two reasons. Empirically, 2002 is the year that the steep decline in the labor share begins. Theoretically, although China joins the WTO in 2001, it does so in December, after which there is little time for annual data to be impacted. Additionally, as we will explore in more detail below, changes in the relationship between the labor share and unemployment rate appear to occur primarily during the portion of the business cycle in

³ We initially considered a regression with no lag of the dependent variable, but this regression had econometric issues (non-normal residuals and serial correlation) and suggested no significant relationship between unemployment and the labor share. The addition of the lagged dependent variable corrects these issues but introduces heteroskedasticity. Given that we are not using the regression itself for hypothesis testing, only structural break tests, we are comfortable with this specification.

⁴ When using the Quandt-Andrews test, our key finding that the structural break disappears when controlling for imports from China and Mexico is robust to a specification that allows only the unemployment rate to vary. However, a Chow test for a break in 2002 allowing only the unemployment rate to vary around the breakpoint rejects the null hypothesis of no break at the 5% level.

which the unemployment rate is falling. Therefore, these changes are most likely to be captured by the structural break test during the recovery from the 2001 recession, which began in 2002.

We next test whether the structural break in 2002 remains when controlling for other factors—including our baseline measure of imports from China and Mexico, alternative measures of imports from these countries, and our placebo variables. We initially estimate specifications using unadjusted variables, but we also report results using the variables that are adjusted to remove the effects of unemployment (in line with those we used for the visual analysis above). The results are summarized in Table 1. Columns (1) and (2) are estimated using the unadjusted variables, whereas Columns (3) and (4) use the employment-adjusted versions. Columns (1) and (3) report the p-value of the Quandt-Andrews test, along with the optimal break date in cases wherein the null hypothesis of no breaks is rejected. In cases wherein the null hypothesis of no break is rejected but an optimal break date other than 2002 is suggested, we run a Chow test with a break date of 2002 to test whether a break in 2002 remains. These results are presented in columns (2) and (4). Note that estimates for the two TiVA trade measures are not included in the table because the structural break tests are not estimable for these specifications given the small sample size.

TABLE 1 HERE

Our key finding is that there is no longer a structural break in 2002 when controlling for imports from China and Mexico. This finding is robust to the use of the unadjusted import measure or the unemployment-adjusted measure. When utilizing the Comtrade import measure including only manufactured imports, there is no evidence of a break in 2002 but there is evidence of a weakly significant break in 1998 when using the unadjusted measure. When separating imports from China and Mexico, the results are sensitive to the unemployment-adjustment. When using the unadjusted measures, there is no evidence of a structural break when focusing on imports from either country alone. However, when adjusting these measures of imports for unemployment effects, the structural break tests suggest breaks both in the 1990s and in 2002. Notably, the use of our placebo measures does little to remove the structural break in 2002. When controlling for the unemployment-adjusted measure of automation, there is no evidence of a structural break. However, using every other measure—including unadjusted automation—there is a significant structural break in 2002. Overall, trade shocks from China and Mexico appear to empirically explain the structural break in 2002 better than the other factors that we considered. Moreover, the total imports from the two countries are better able to explain the structural break than imports from either country alone, at least when adjusting the trade measures to remove business cycle effects.

Regression Analysis of Asymmetric Unemployment Effects

Although structural break tests are useful for identifying the timing of the disruption in central Goodwin relationship within the sample, they cannot pinpoint where changes have occurred within the business cycle. To do this, we run regressions allowing for asymmetric effects when the unemployment rate is increasing or not increasing (i.e. decreasing or remaining unchanged). Table 2 displays the results for three specifications. The first, shown in Column 1, covers the subsample period

prior to the 2002 structural break, whereas the others focus on the subsample period after the break. Column 2 shows the results for the specification including no additional controls, and the specification shown in Column 3 includes our baseline import measure. Note that the import measure is adjusted to remove unemployment effects, as is the case for all control variables used in the following analysis, with the exception of the trend.

TABLE 2 HERE

As shown in Column 1, there is no evidence of asymmetric unemployment effects prior to the structural break. The unemployment rate coefficient captures the estimated effect of unemployment on the labor share when unemployment is falling (i.e. when the dummy variable and interaction term are equal to 0)⁵. During this phase of the business cycle, a 1 percentage-point decrease in the unemployment rate is associated with a roughly 0.64 point increase in the labor share index. This effect is significant at the 1% level. The coefficient on the interaction term captures the degree of asymmetry in these unemployment effects. As this coefficient is insignificant, there is no evidence the effects of unemployment on the labor share are significantly different when the unemployment rate is increasing.

The relationship differs dramatically following the structural break, as shown in Column 2. When unemployment is falling, its effect on the labor share is substantially weaker. Comparing the point estimates across the two subsample periods, those following the structural break are only 45% of the magnitude of those before the break, and they are insignificantly different from 0. In contrast to the earlier subsample, there are significant asymmetries, as the interaction term is significant at the 5% level. The estimated effect of a one percentage-point increase in the unemployment rate is three times the magnitude of that for a one percentage-point decrease in the unemployment rate (a roughly 0.68 change in the labor share index for an increase vs. a 0.20 change for a decrease). The effects of increasing unemployment also differ dramatically across subsamples, as the change in the labor share associated with is estimated to be roughly 0.20 before the break and 0.68 after the break.

These results are suggestive of a major change in the relationship between income distribution and unemployment over the course of the business cycle. After the 2002 structural break, income distribution is much more responsive to rising unemployment and much less responsive to falling unemployment. In other words, the effect traditionally considered to reflect the profit squeeze—increases in the labor share as labor markets tighten—has effectively disappeared, as it has weakened to the point that it has become statistically insignificant. However, the reverse effect—what we refer to as the profit surge—of a falling labor share during recessions has grown stronger in magnitude. We reiterate that our methodology makes the unrealistic assumption that the unemployment rate is unaffected by the labor share. As such, there are other potential interpretations for some of these effects. For example, what we refer to as a growing profit surge during downturns could reflect stronger profit-led demand effects. Further research is needed to explore these dynamics in the context of empirical models wherein the labor share is endogenous in order to reasonably discuss

⁵ Cases in which the dummy variable equals zero technically include cases wherein the unemployment rate is unchanged. However, if the unemployment rate is not changing, changes in the labor share cannot be attributed to the unemployment rate. Therefore, such estimates reflect only cases wherein unemployment is declining.

causality. Nevertheless, we view the finding of growing asymmetries in the relationship between the labor share and the unemployment rate at different stages of the business cycle as an important finding worthy of further exploration.

As our main goal in this exercise remains explaining the changes in the Goodwin pattern, we next consider whether these asymmetries remain when controlling for other factors. As shown in Column 3 of Table 2, these asymmetries are no longer statistically significant when controlling for our baseline import measure. When trade shocks from China and Mexico are accounted for, the estimated relationship between the labor share and unemployment rate is qualitatively very similar to the relationship we find before the structural break (shown in Column 1). When the unemployment rate is falling, a one percentage-point change in unemployment is associated with a 0.41 change in the labor share index in the latter subsample, compared to 0.45 in the earlier subsample. In both cases, these effects are not found to differ significantly when unemployment is rising. In other words, the trade shocks from China and Mexico appear to empirically explain the asymmetries that develop beginning in 2002.

TABLE 3 HERE

Table 3 displays the results for sensitivity tests designed to explore whether our findings are robust to alternative measures of imports from China and/or Mexico. When separately examining imports from China and Mexico (Columns 1 and 2), results are qualitatively similar to those found using their combined imports. There is no evidence of asymmetric effects, and the unemployment rate coefficient is similar in magnitude to the estimate found when using the combined imports. However the coefficient is only weakly significant in the case of China. For the TiVA and Comtrade measures, the interaction term remains insignificant, suggesting no asymmetries. However, no significant relationship between unemployment and the labor share is found when controlling for these measures of imports.

TABLE 4 HERE

Table 4 contains the results for the placebo tests. Significant asymmetries remain when controlling for four of the placebo variables: imports from high-wage manufacturing exporters, financialization, union activity, and the markup. This suggests that these factors cannot explain the emergence of asymmetry in the labor share-unemployment relationship beginning in 2002. Among the other variables, imports from the commodities-exporting group and deindustrialization appear to explain some of the changes in the Goodwin relationship, but not all. In particular, the unemployment rate coefficients are substantially lower in these specifications than in the estimates for the earlier subsample. The unemployment rate coefficient is weakly significant in the case of imports from the commodities group and insignificant in the case of deindustrialization. The remaining variables, the trend and automation, have results that are similar to our baseline imports measure. In both cases, the estimated effects of the unemployment rate on the labor share when the unemployment rate rate is

decreasing are similar to those found in the earlier subsample, and there is no evidence of asymmetric effects when the unemployment rate is increasing.

Discussion

We consider changes in the labor share-unemployment rate relationship using three forms of analysis: visual analysis of variable co-movements, structural break tests, and regression analysis of asymmetric effects. Across all of these exercises, we find that imports from China and Mexico empirically explain the changes in the Goodwin relationship. Based on visual analysis, imports from China alone better explain changes in the Goodwin pattern than imports from Mexico alone. However, some of our structural break tests suggest that the structural break remains when controlling for imports from either country alone, but not when controlling for the total across both countries. Results of the visual analysis are robust to alternative measures of imports that measure value-added in imports, focus only on manufacturing imports, or both. Results of structural break tests are robust to the focusing only on manufacturing, but we do not have sufficient data to run the structural break tests using the value-added measures.

Considering regression analysis of asymmetric effects, the sensitivity tests are mixed. Although the asymmetry disappears when controlling for any measure of imports from China and Mexico, there is no significant relationship between unemployment and the labor share in these specifications, suggesting some differences from the pre-2002 subsample remain unexplained by these measures. Placebo tests using trade from two groups of countries other than China and Mexico—commodities exporters and high-wage manufacturing exporters—are generally unable to explain changes in the labor share-unemployment rate relationship. This suggests that our central results are unlikely to be driven by spurious effects that are coincidentally related to more general trade flows. Instead, it appears that only the trade shocks most likely to lower labor bargaining power in the U.S. can explain changes in the Goodwin pattern.

We also considered alternative structural changes beyond trade shocks related to labor bargaining power (Caivel and Pacitti 2022). In each of our three exercises, some of these variables empirically explained changes in the labor share-unemployment rate relationship as well as imports from China and Mexico. For the visual analysis, estimating variable co-movements conditionally on financialization or, to a lesser extent, the markup restored some semblance of the Goodwin pattern. Automation explained changes via the structural break test and asymmetric regression effects. A linear trend did so for the latter, but not the former. However, no variable other than imports from China and Mexico explained changes in the central relationship of interest across all three forms of analysis. Although it remains difficult to empirically separate the various structural changes impacting bargaining power in the U.S. economy, trade shocks appear to be the strongest explanation for the changes in the Goodwin pattern that developed around 2002. However, further research is needed to consider these other potential explanations.

Conclusion

We empirically observe three interrelated changes in the relationship between the U.S. labor share and the unemployment rate beginning around 2002: a breakdown of the counterclockwise co-movements

of these variables (i.e. the Goodwin pattern), a structural break in 2002, and the emergence of asymmetric effects over the business cycle. We argue that imports from China and Mexico are responsible for these changes and, subsequently, the falling labor share, even during periods of labor market tightness.

We conduct three forms of analysis to test this hypothesis. We estimate the Goodwin pattern conditionally upon imports from China and Mexico, conduct structural break tests with and without the addition of imports as a control variable, and we estimate regressions allowing for asymmetric effects with and without the import variable included. In all three cases, the addition of imports to the empirical model restores the relationship seen before the 2002 structural break. These results are generally robust to the use of alternative measures of imports from China and Mexico, although some differences from the pre-2002 relationship remain in the regression analysis using alternative measures.

Additionally, we conduct placebo tests to ensure that our results are not capturing spurious effects related to a more generalized increase in trade flows among countries. We conduct a similar analysis using imports from two other groups of countries: commodities exporters of varying income levels and manufacturing exporters from high-wage countries. Imports from these groups are unable to explain changes in the Goodwin relationship. As such, it appears that the empirical changes in this relationship are driven by reduced bargaining power for American workers following the expansion of low-cost imported goods from China and Mexico. We also consider other potential explanations for the reduction of bargaining power, including automation, union activity, financialization, deindustrialization, and rising markups. Some of these variables explain changes across one or two of our empirical exercises, but not all three. Although further research is needed to untangle the effects of these interrelated structural changes, it appears that trade shocks offer the best empirical explanation for changes in the relationship between the labor share and the unemployment rate in the United States.

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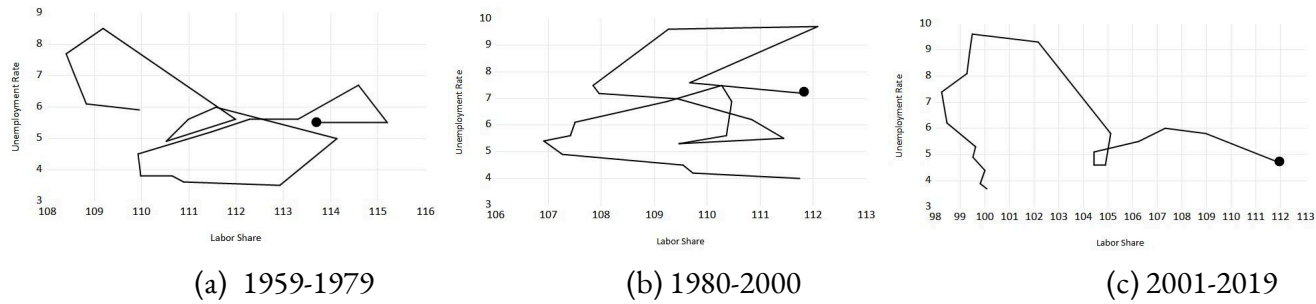


Figure 1: Co-movements of Labor Share (X) and Unemployment Rate (Y)

Note: The black dot denotes the first observation.

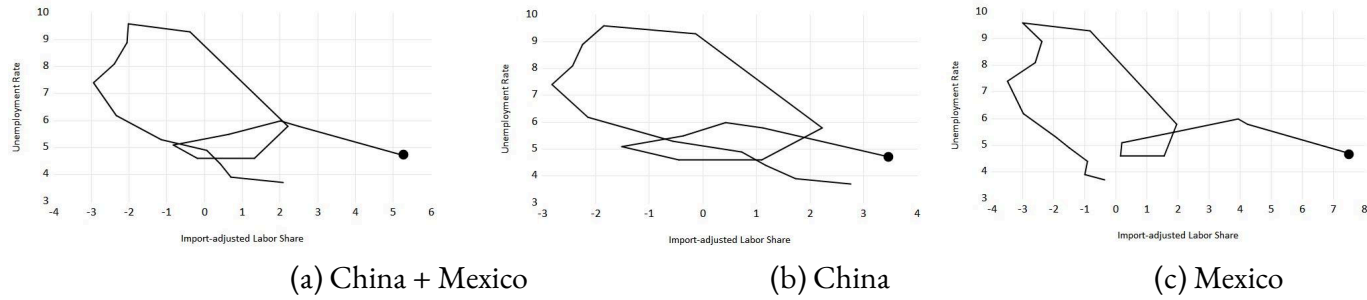


Figure 2: Co-movements of Import-adjusted Labor Share (X) and Unemployment Rate (Y), 2001-2019

Note: The black dot denotes the first observation.

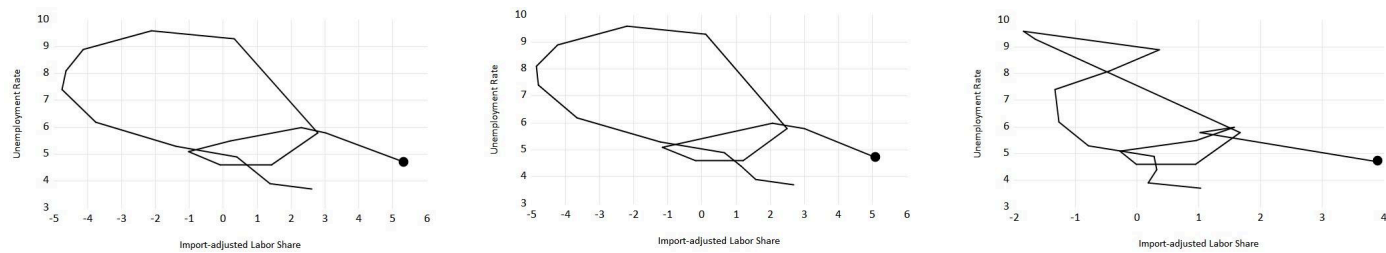
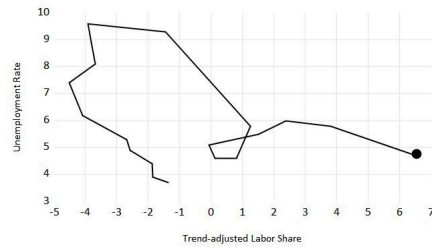


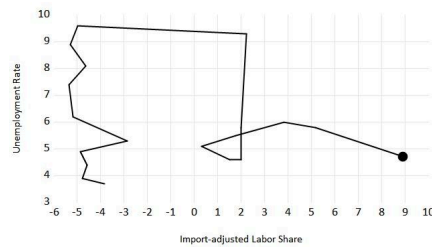
Figure 3: Sensitivity Analysis with Alternative Trade Measures, 2001-2019

Note: The figures show co-movements of the import-adjusted labor share (X) and the unemployment rate (Y).

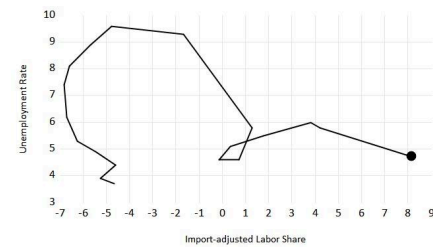
The black dot denotes the first observation.



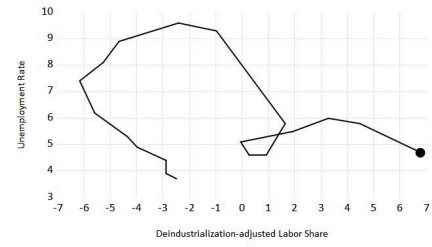
(a) Trend



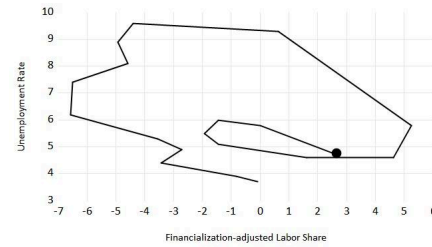
(b) Imports from commodity group



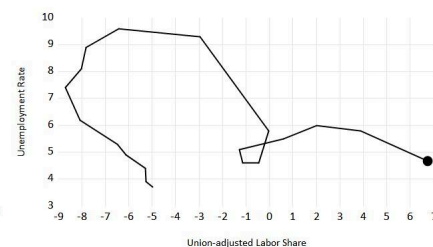
(c) Imports from high-wage group



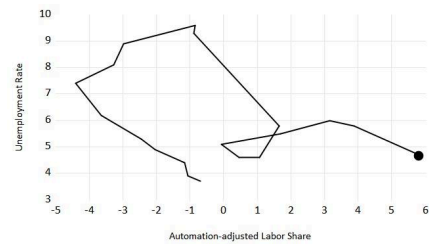
(d) Deindustrialization



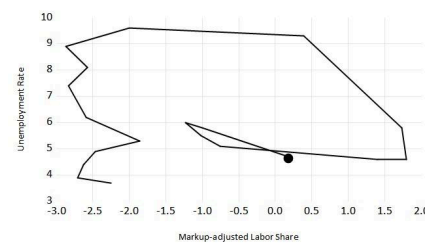
(e) Financialization



(f) Union activity



(g) Automation



(h) Markup

Figure 4: Placebo Tests with Alternative Variables, 2001-2019

Note: The figures show co-movements of the adjusted labor share (X) and the unemployment rate (Y).

The black dot denotes the first observation.

Table 1: Structural Break Tests

Control Variable	Unadjusted variable Q-A p-value (optimal break)	Unadjusted variable Chow 2002 p-value	Unemployment-adjusted Q-A p-value (optimal break)	Unemployment-unadjusted variable Chow 2002 p-value
None	0.0033 (2002)		Not applicable	
Baseline imports	0.3426		0.1020	
Imports from China	0.4055		0.0444 (1993)	0.0418
Imports from Mexico	0.2740		0.0906 (1989)	0.0240
Imports of manufactures	0.0907 (1998)	0.1812	0.1005	
Trend	0.0244 (2002)		Not applicable	
Imports from commodities group	0.0236 (2002)		0.0218 (2002)	
Imports from high-wage group	0.0208 (2002)		0.0272 (2002)	
Deindustrialization	0.0083 (1998)	0.0036	0.0413 (2002)	
Financialization	0.0137 (2002)		0.0104 (2002)	
Union activity	0.0215 (2002)		0.0246 (2002)	
Automation	0.0667 (1998)	0.0204	0.1693	
Markup	0.0004 (1971)	0.0237	0.0549 (1971)	0.0837

Table 2: Asymmetric Unemployment Effects with and without Baseline Import Control

Dependent variable: Labor share

	(1)	(2)	(3)
Constant	38.6708*** (11.1854)	22.7808*** (5.9413)	48.9290** (18.5746)
Lagged Dependent	0.6708*** (0.1008)	0.7848*** (0.0567)	0.5607*** (0.1610)
Unemployment Rate	-0.4455*** (0.1620)	-0.2027 (0.1224)	-0.4089** (0.1822)
Unemployment Increasing Dummy	-0.6466 (1.9824)	3.1002* (1.6156)	-0.3029 (0.2342)
Interaction Term	0.2491 (0.2982)	-0.4735** (0.2129)	-0.3029 (0.2342)
Imports			-0.0000 (0.0000)
Sample Period	1960-2001	2002-2019	2002-2019
R ²	0.6552	0.9705	0.9751

Table 3: Sensitivity Tests for Asymmetry Analysis

Dependent variable: Labor share

	(1)	(2)	(3)	(4)	(5)
Constant	40.8909* (19.4636)	49.5697*** (13.7585)	33.6969** (14.6721)	36.2575** (14.3513)	55.0370** (18.7885)
Lagged Dependent	0.6270*** (0.1711)	0.5638*** (0.1163)	0.6901*** (0.1295)	0.6675*** (0.1270)	0.4884** (0.1732)
Unemployment Rate	-0.3500* (0.1944)	-0.3985** (0.1431)	-0.3806 (0.2509)	-0.4205 (0.2440)	-0.1769 (0.1140)
Unemployment Increasing Dummy	2.6987 (1.6698)	2.9481* (1.4382)	2.8024 (1.6770)	2.7279 (1.6517)	2.2535 (1.5658)
Interaction Term	-0.3428 (0.2518)	-0.3416 (0.1994)	-0.3652 (0.2533)	-0.3366 (0.2505)	-0.2611 (0.2296)
Imports	-0.0000 (0.0000)	-0.0000* (0.0000)	-0.0000 (0.0000)	-0.0000 (0.0000)	-0.0000* (0.0000)
Import Measure	China only	Mexico only	TiVA total	TiVA Manufacturing	Comtrade manufactures
Sample Period	2002-2019	2002-2019	2002-2019	2002-2019	2002-2019
R ²	0.9726	0.9785	0.9721	0.9729	0.9768

Table 4: Placebo Tests for Asymmetry Analysis

Dependent variable: Labor share

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Constant	68.4238*** (18.3029)	25.0222*** (5.6590)	26.8955*** (6.7219)	23.3779* (12.2032)	17.1609** (6.3233)	22.0305*** (6.3498)	37.1583** (15.3151)	15.4233 (10.4734)
Lagged Dependent	0.4667*** (0.1316)	0.7469*** (0.0568)	0.6960*** (0.0912)	0.7808*** (0.0911)	0.8290*** (0.0579)	0.7812*** (0.0590)	0.6684*** (0.1276)	0.8504*** (0.0956)
Unemploy- ment Rate	-0.4965*** (0.1526)	-0.2404* (0.1156)	0.0625 (0.2469)	-0.2152 (0.2557)	-0.0949 (0.1281)	-0.0867 (0.2847)	-0.3419* (0.1834)	-0.2027 (0.1237)
Unemploy- ment Increasing Dummy	2.8401* (1.3504)	2.5597 (1.5305)	3.7655** (1.6748)	3.0709 (1.7593)	3.6878** (1.5289)	3.2652* (1.7064)	2.7394 (1.6518)	3.8899* (1.8743)
Interaction Term	-0.3078 (0.1886)	-0.3617 (0.2075)	-0.5858** (0.2280)	-0.4652 (0.2654)	-0.5790** (0.2054)	-0.5272* (0.2495)	-0.3499 (0.2448)	-0.5911** (0.2551)
Control	-0.2222** (0.0858)	0.0000 (0.0000)	0.0000 (0.0000)	0.0162 (0.2851)	0.2497* (0.1392)	-0.0047 (0.0103)	-17.7194 (17.4010)	0.0920 (0.1073)
Control Variable	Trend	Imports from commodities group	Imports from high-wage group	Deindustrialization	Financialization	Union activity	Automation	Markup
Sample Period	2002-2019	2002-2019	2002-2019	2002-2019	2002-2019	2002-2019	2002-2019	2002-2019
R ²	0.9811	0.9766	0.9738	0.9705	0.9767	0.9710	0.9729	0.9722