Hochschule für
Wirtschaft und Recht Berlin
Berlin School of Economics and Law

Institute for International Political Economy Berlin

A Kaleckian approach to the financialization–distribution–inflation nexus: Germany and Austria in comparative perspective

Author: Cara Dabrowski

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Cara Dabrowski
Berlin School of Economics and Law

Abstract:
In this paper, I extend the Hein and Stockhammer model of distribution and inflation by incorporating structural trends of financialization through three Kaleckian channels: (1) sectoral recomposition, (2) financial overhead costs and rentiers' profit claims, and (3) the bargaining power of trade unions and workers. The model is calibrated to two scenarios that reflect the institutionalized fear experienced by workers under neoliberal income policies. Following a theoretical exploration of potential inflationary shocks, an empirical case study comparing Germany and Austria is conducted. The analysis validates the relevance of all three Kaleckian channels, though their individual strength varies. The findings indicate that while rising import prices triggered the initial inflationary shock, firms subsequently increased unit profits by keeping overall domestic prices high even though import prices decreased. An inflation decomposition suggests a more pronounced class conflict in Austria, potentially attributable to less severe labor market deregulation.

JEL codes: D33; D43; E31; Q43

Key words: Inflation; conflict inflation; distribution; Kaleckian theory of distribution; finance-dominated capitalism; financialization; financial and economic crisis

Contact:
Cara Dabrowski: dabrowski.cara@gmail.com

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1. Introduction

Inflation has always been and always will be conflict: Conflicting claims of income distribution between different social classes drive inflationary dynamics (Hein, 2024). During the period of the Great Moderation (1980–2007), scholars focused on other topics, and inflation faded into the background of academic research. However, recent inflationary shocks, taking off in the second half of 2021, have put inflation back on the agenda and have occupied scholars ever since (e.g., Ferguson & Storm, 2023; Setterfield, 2023; Storm, 2022a, 2022b; Bernanke & Blanchard, 2023; Kilian & Zhou, 2022; Weber & Wasner, 2023). While some orthodox scholars still argue that inflation is caused by excess demand created through excess money supply or government deficits, there has been large agreement among heterodox scholars that inflation is created by conflict between workers, capitalists, rentiers, and the government. Another commonality of arguments regarding the recent inflationary dynamics is that they are rooted in the aftermath of the pandemic and the war in Ukraine, resulting in supply bottlenecks and hiking energy prices (e.g., Weber, 2022).

Nevertheless, the current dynamics have given rise to much discussion within the heterodox paradigm. Some authors, most prominently Isabella Weber, have stated that we are witnessing so-called *sellers' inflation*. The concept derives from microeconomics and refers to a situation where firms with market power can increase their prices in crisis times (Weber & Wasner, 2023). However, other scholars, such as Lavoie (2024), have argued that the term *profit inflation* is misleading since a rise in imported raw material costs will necessarily increase the profit share even if the percentage mark-up remains constant. Furthermore, unit overhead cost digression may also lead to a diminishing wage share, while keeping mark-ups and target rate of returns constant. Recent debates have focused on whether current inflation is transitory or persistent. Since accelerating inflation has eased towards the end of 2022, many scholars have argued that the process was transitory in its nature; apart from the price-setting behavior of firms, the weakness of organized labor is one of the potential explanations (Weber & Wasner, 2023). Nevertheless, given the fact that inflationary processes are likely to occur again because of climate change and geopolitical tensions (Ferguson & Storm, 2023) and considering the substantial harm and socio-economic instability of inflation, especially for (low-income) workers who have been disproportionally affected by the price rise in essential goods and services (Storm, 2022a), such transitory shocks cannot be taken lightly.

This now begs the question of what has changed compared to the period of the Great Moderation or whether structural changes that created the possibility of this period in the first place may also impact the current dynamic. Post-Keynesian scholars have argued that the continuous downward trend in inflation and volatility during this period was only possible because of worker's stagnating wage growth and falling import prices (Perry & Cline, 2016). Put differently, workers paid the price for this period of low and rather constant inflation. Therefore, incorporating redistribution dynamics due to financialization into the income claims of firms and workers is a crucial piece of the puzzle to explain the recent evolution in inflationary dynamics. Embedding the current dynamics into a long-term context of financialization and neoliberalism can provide important insights for developing strategies to deal with future inflationary impulses to avoid or at least limit their detrimental consequences.

Financialization, which is defined as 'the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies' (Epstein, 2005, p. 3), has been connected to a diminishing wage share across OECD countries by various authors (e.g., Guschanski & Onaran, 2022; Kohler et al., 2019). Heterodox

scholars argue that the rise of neoliberal economic policies implemented since the late-1970s can partly explain the intensifying income inequality between workers and capitalists. Deregulation and financial liberalization gave rise to the era of finance-dominated capitalism (e.g., Akçay et al., 2022; Lapavitsas, 2009). Additionally, the institutionalization of 'neoliberal income policies of fear', which created severe income and employment insecurity for workers, can lend explanatory power to understanding the decrease in the wage share (Setterfield, 2007, 2021).

By incorporating three Kaleckian channels of income redistribution (Hein, 2015), namely the sectoral composition of the economy, gross profit targets/rentiers' income claims, and workers' bargaining power, as well as neoliberal income policies (Setterfield, 2007) into the *Hein and Stockhammer approach* to an open macroeconomic model with conflict inflation (Hein, 2023), changes in income targets and inflationary conflict can be analyzed. The contribution of this paper is two-fold. First, financialization dynamics are integrated into the income targets of the theoretical model. Furthermore, to explain country heterogeneity, two possible scenarios to gain a better understanding of the consequences of institutionalized fear of workers in the model are provided. Second, a comparative case study is conducted to verify the theoretical elaborations.

Drawing on post-Keynesian theory, I hypothesize that long-term trends of financialization have affected income targets of social classes, thereby facilitating the period of the Great Moderation. Furthermore, due to shifted power relations in favor of capital, the short-run inflationary shock enabled firms to raise their profits during times of emergency. Finally, differences in wage developments after the initial shock may be explained by different degrees of neoliberal income policies of fear. The remainder of the paper is structured as follows. Section 2 provides a delineation of the Hein and Stockhammer model. After discussing and incorporating the impacts of financialization into the respective income targets in the theoretical framework and calibrating the model to two scenarios in section 3, the comparative case study in section 4 examines the inflationary dynamics and the three Kaleckian channels for Germany and Austria. Section 5 concludes.

2. Distribution and inflation as joint outcomes of conflict

In line with post-Keynesian theory, I argue that distribution and inflation must be seen as joint outcomes of conflict between social groups. Inflationary shocks can be initiated by either a supply or demand shock (Hein, 2023, chapter 5). There are two main approaches to distributional conflict and inflation in the post-Keynesian paradigm. First, the *Blecker, Setterfield and Lavoie approach* follows their elaborations in publications such as Lavoie (2022, chapter 8) and Blecker and Setterfield (2019, chapter 5). Second, the *Hein and Stockhammer approach* is based on the works by Hein (2006, 2008, chapter 16), Stockhammer (2008), and Hein and Stockhammer (2009, 2010, 2011). My following elaborations will focus on the latter approach, which develops an inflation barrier to the employment rate by including possible inflation expectations.[1] This choice is made to ensure consistency with the Kaleckian channels (Hein, 2015) and due to its clear distinction between power relations and expectations (Hein & Häusler, 2024).

An open macroeconomic model with conflict inflation. To understand pricing dynamics in the *Hein and Stockhammer model*, it is crucial to determine the respective target income claims of firms and workers (Hein, 2023, chapter 5). The target gross profit share of firms (h_F^T) or their

[1] The main difference to the *Blecker, Setterfield and Lavoie approach*, is that in this model incomplete "indexation", i.e., inflation has only incomplete or no effects in the wage and price equations, is assumed. Consistent claims generate zero inflation, while inconsistent claims create constant inflation (Hein & Häusler, 2024).

target wage share ($\Omega_F^T = 1 - h_F^T$), which includes retained earnings and interest payments to rentiers, is determined by mark-up pricing over unit labor costs (h_0). This implies that their target profit share is influenced by the degree of price competition in the goods market and overhead costs. In the short run, both the firms' target wage and profit share are constant until full capacity output. However, in the medium run, the target profit share of firms will be affected by inflation-targeting interest rate policies by the central bank and thus by persistent changes in the "ex ante" interest rate, since firms perceive interest payments as costs (h_3). Furthermore, the target profit share of firms will increase with a higher nominal exchange rate or higher foreign trend inflation relative to domestic trend inflation (h_5). The target profit share can be written as:

$$h_F^T = 1 - \Omega_F^T = h_0 + h_3 i_r^e + h_5 a_r^e \qquad 1 > h_0 > 0, h_3, h_5 \geq 0 \tag{1}$$

According to Hein (2023, chapter 5), the workers' target wage share, which also implies their target profit share ($\Omega_W^T = 1 - h_W^T$), is on the one hand determined by the wage bargaining and social benefits system, such as union density, wage bargaining coverage and coordination, employment protection legislation, minimum wages, or unemployment benefits, and socio-institutional characteristics of the labor market in the medium run, and on the other hand by the rate of employment and thus the rate of unemployment. The employment rate is defined as $e = N/L$, with N corresponding to employment and L to the labor force. Conversely, the unemployment rate is defined as $ue = U/L$, where U denotes unemployment. Employment (N) and unemployment (U) sum up to the labor force (L). In this approach, it is assumed that the real exchange rate does not have a direct effect on trade unions' and workers' target wage share, since workers only consume domestically produced goods that are not directly affected by the real exchange rate.[2]

$$\Omega_W^T = 1 - h_W^T = \Omega_0 + \Omega_1 e \qquad 1 > \Omega_0 > 0, \Omega_1 \geq 0 \tag{2}$$

It is assumed that institutional circumstances are constant in the short run, which are denoted by the constant Ω_0, whereas the coefficient Ω_1 indicates the response of trade unions and workers to changes in the rate of employment (e). Employment and hence unemployment are expected to vary in the short run due to changes in effective demand in the goods market. With constant institutional factors, higher employment increases workers' bargaining power and thus their target wage share.[3]

The income claims of both groups will be consistent if the two targets are consistent, which implies that the target wage share of workers and firms is the same. Put differently, consistency of claims is achieved if the target wage share of workers and the target profit share of firms sum up to unity:

$$\Omega_W^T = \Omega_F^T \rightarrow \Omega_W^T = 1 - h_F^T \rightarrow \Omega_W^T + h_F^T = 1 \tag{3}$$

Incorporating equation (1) and (2), equation (3) can be rewritten as:

$$h_0 + h_3 i_r^e + h_5 a_r^e + \Omega_0 + \Omega_1 e^N = 1 \tag{4}$$

[2] For a more detailed elaboration see Hein (2023, chapter 4 and 5). Note that this assumption is different from the approach by authors such as Lavoie (2022, chapter 8), who does assume a direct effect on workers' target wage share.

[3] It is assumed that workers and trade unions do not consider potential macroeconomic inflationary processes or resulting restrictive monetary policy reactions in their wage demands.

The employment rate that is obtained if the income claims of both groups are consistent is called the "consistent claims rate of employment" and can be equated to the "stable inflation rate of employment"; (SIRE, e^N). This rate can be written as:

$$e^N = \frac{1 - \Omega_0 - h_0 - h_3 i_r^e - h_5 a_r^e}{\Omega_1} \tag{5}$$

Consequently, the actual wage share will be consistent with the target wage share of workers and the one of firms:

$$\Omega^N = \Omega_W^T = \Omega_F^T = \Omega_0 + \Omega_1 e^N = 1 - h_0 - h_3 i_r^e - h_5 e_r^e \tag{6}$$

Any deviation of the actual employment rate from the SIRE will result in inconsistent income claims: Income claims will exceed the output to be distributed if $e > e^N$, which can be written as $\Omega_W^T + h_F^T > 1$, or fall short of distributable output if $e < e^N$, that is $\Omega_W^T + h_F^T < 1$. As established by Hein and Stockhammer (2009, 2010, 2011), the former case will increase unexpected inflation, which will make the income claims temporarily consistent. Analogously, an unexpected fall in inflation will have the same result.

Assuming productivity growth to equal zero, this can be shown as follows. Starting with a wage inflation equation:

$$\widehat{w_t} = \omega(e_t - e^N) + \widehat{p_{t-1}}, \qquad \omega \geq 0 \tag{7}$$

In the first case, $e > e^N$, trade unions and workers will increase nominal wage demands above expected inflation to reach a target wage share higher than the wage share Ω^N at e^N. Assuming adaptive expectations, expected inflation in period t is determined by inflation in $t-1$, which can be written $\widehat{p_t^e} = \widehat{p_{t-1}}$. The coefficient ω denotes the required rise in wage inflation exceeding expected price inflation to achieve the target wage share at $e > e^N$ and is thus positively related to Ω_1 in equation (2).

Assuming firms try to protect their target profit share and consider changes in the real exchange (allowing for considerations of rising import prices), following Hein (2024), price inflation can be written as[4]:

$$\widehat{p_t} = \xi_1[\vartheta\omega(e_t - e^N) + \widehat{p_{t-1}}] + \xi_2\left(\widehat{p_f} + \hat{a}\right) \qquad 1 \geq \vartheta \geq 0 \tag{8}$$

The coefficient ϑ denotes the pass-through factor for the rise in nominal unit labor costs to inflation. Due to heterogeneity within the firm sector, as it is done by Hein and Stockhammer (2009, 2010, 2011), we assume $\vartheta < 1$. Therefore, actual inflation will increase in comparison to unexpected inflation, which results in unexpected inflation ($\widehat{p_t^u}$), defined as the difference between current inflation and previous inflation:

$$\widehat{p_t^u} = \widehat{p_t} - \widehat{p_{t-1}} = \xi_1\vartheta\omega(e_t - e^N) + \xi_2\left(\widehat{p_f} + \hat{a} - \widehat{p_{t-1}}\right) \tag{9}$$

[4] Note this specification is different to the short-run model depicted by Hein (2023, chapter 5).

Incorporating the considerations on unexpected inflation into firms' target profit share (1) and workers' target wage share (2), yields the ex-post income shares:

$$h = h_F^T - h_2\widehat{p^u} = h_0 + h_3 i_r^e + h_5 a_r^e - h_2\widehat{p^u}, \qquad 1 > h_0 > 0, h_2, h_3, h_5 \geq 0 \tag{10}$$

$$\Omega = \Omega_W^T - \Omega_2\widehat{p^u} = \Omega_0 + \Omega_1 e - \Omega_2\widehat{p^u}, \qquad 1 > \Omega_0 > 0, \Omega_1, \Omega_2 \geq 0 \tag{11}$$

Therefore, unexpected inflation can be written as:

$$\widehat{p_t^u} = \frac{h_0 + h_3 i_r^e + h_5 a_r^e + \Omega_0 + \Omega_1 e - 1}{h_2 + \Omega_2} \tag{12}$$

The different target wage shares are visualized in Figure 2.1 and incorporate the workers' target from equation (2), the firms' target from equation (1), and the realized wage share, including unexpected inflation, from equation (11). In the upper part of the graph, all targets are functions of the employment rate. Related unexpected inflation (9) is shown in the lower part. It should be noted that unexpected inflation is depicted as a function of employment and not the inflation rate, as it is in the usual Phillips curve. Both the distribution between firms and workers, as well as unexpected inflation, vary with the employment rate and, thus, economic activity. Considering a monetary production economy, it should be noted that unexpected inflation will lead to real debt effects between firms and rentiers.

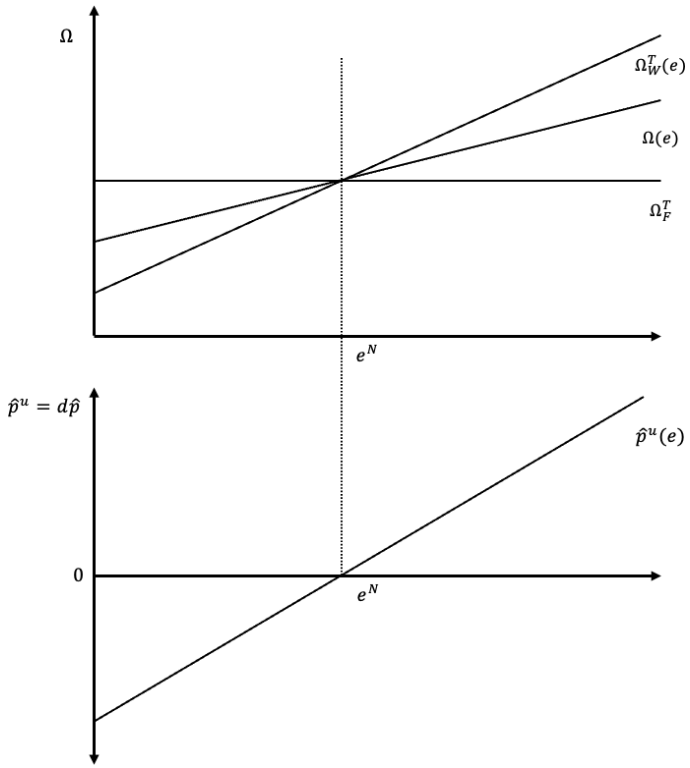


Figure 2.1: Conflicting claims, distribution, and inflation in the Hein and Stockhammer approach
Source: Hein (2023, p. 151), author's depiction

3. Inflation dynamics in the age of financialization

Over the last five decades, a persistent downward trend in inflation and decreased volatility could be observed, giving rise to the era of the Great Moderation. Inflationary dynamics in the early-2000s were rather restrained and succeeded by disinflationary pressure in the aftermath of the GFC crisis (Kim, 2024). This period is particularly puzzling since high employment rates were accompanied by low and stable inflation rates. While mainstream economists have attributed those dynamics to "good policy" of independent central banks and "good luck" regarding supply-side shocks, post-Keynesian authors such as Perry and Cline (2016) have argued that low and less volatile inflation was rather caused by stagnant wage growth of workers and lower import prices due to exchange rate effects and increased international competition. These observations raise the question of how various aspects of financialization, including structural changes along socio-economic dimensions (see e.g., Epstein, 2021; Van Der Zwan, 2014), may illuminate the underlying dynamics.

3.1. Kaleckian theory of financialization and functional income distribution

Heterodox and in particular post-Keynesian scholars have relied on Kaleckian mark-up pricing theory to establish a link between the long-run effects of financialization and functional income distribution. According to Kalecki (1954, chapters 1 & 2, 1971, chapters 5 & 6), income distribution between factors of production is determined by active mark-up pricing of firms in the industrial sector under monopolistic or oligopolistic competition. The mark-up is applied over marginal costs, which are assumed to be constant until full capacity output, and must cover both firms' gross profits, which include retained earnings as well as interest and dividend payments, and overhead costs, which are constituted by the depreciation of capital and salaries of overhead labor (Hein, 2015, pp. 920f.). Assuming constant technological factors ($\bar{y}$ and $\bar{\mu}$), a rising gross profit share can be explained by the change of different factors: a rising mark-up, a decreasing nominal wage rate, increasing import prices of intermediate products and raw materials in foreign currency, a depreciation of the domestic currency, or a sectoral composition shift towards sectors with higher profit rates.[5]

Hein (2015, p. 923) argues that multiple factors affect the mark-up or the "degree of monopoly", as Kalecki (1954, chapters 1 & 2, 1971) calls it. Building on the vast body of literature on the multi-dimensional phenomenon of finance-dominated capitalism, Hein (2015) establishes three non-ambiguous effects of financialization on functional income distribution. First, changes in the *sectoral composition of the economy* have occurred due to a growing financial sector and declining government activity. Both developments will lead to higher economy-wide profit shares since the profit share is zero in the government sector by definition and it can be assumed that the wage share in the non-financial corporate (NFC) sector is higher than in the financial sector (Dünhaupt, 2012).

Second, due to financialization *overhead costs and gross profit targets* have risen, influencing the gross profit share and mark-ups positively. The corporate governance strategy focusing on maximizing shareholder value by 'downsizing and distributing' (Lazonick & O'Sullivan, 2002, p. 13) incentivizes firms to attribute a larger share of profits towards dividend and interest payments (Dallery, 2009). Multiple studies have identified an inverse relationship between firms' financial payments/financial earnings of rentiers and the wage share (Epstein & Power, 2003; Epstein, 2005; Dumenil & Levy, 2005; Hein & Schoder, 2011; Dünhaupt, 2012; Lin & Tomaskovic-Devey, 2013; Hein, 2015; Kohler et al., 2019; Marques & Rugitsky, 2024).

[5] For a formal depiction see Appendix A.

Finally, the *bargaining power and activity of trade unions* has been negatively affected by four main features: First, increasing short-termism and the maximization of shareholder value (Lazonick & O'Sullivan, 2002); second, a diminishing significance of the non-financial sector vis-à-vis the financial sector (Krippner, 2005); third, globalization, leading to potential outsourcing and relocation threats to low-wage regions; and finally, the adoption of neoliberal policies which lead to deregulation of the labor market and restricted government intervention (Whalen, 2021). Numerous authors have attested to the negative relationship between corroded bargaining power of workers and the wage share (Stockhammer, 2009; Kristal, 2010; Stockhammer, 2017; Guschanski & Onaran, 2022), including short-termism and management practices (Lin & Tomaskovic-Devey, 2013; Alvarez, 2015; Gouzoulis et al., 2024), trade-openness (Kohler et al., 2019), wage dispersion (Keune, 2021), and fragility of workers' households (Fuller, 2021).

Multiple studies have utilized the Kaleckian framework outlined by Hein (2015) to analyze the relation between functional income distribution and financialization for distinct country cases in the period of finance-dominated capitalism. While they all find evidence for the theory, there is strong country heterogeneity regarding the strength of the channels (Hein & Detzer, 2015; Dünhaupt, 2017; Hein et al., 2017, 2018; Dünhaupt & Hein, 2019; Dabrowski & Kuhls, 2024).

3.2. Redistribution mechanisms in an open macroeconomic model

Incorporating the three channels established by Hein (2015) into the income targets of firms and workers yields the mechanisms visualized in Figure 3.1.[6] Table 3.1 summarizes the transmission mechanisms. The factors which affect the target gross profit share of firms via the *sectoral composition channel* and the *overheads costs and rentiers' profit claims channel* result in a higher firms' profit target. There are multiple factors through which the *bargaining power and activity of trade unions channel* and the *sectoral composition channel* decrease workers' capacity to exert bargaining power and thus results in a lower target wage share.

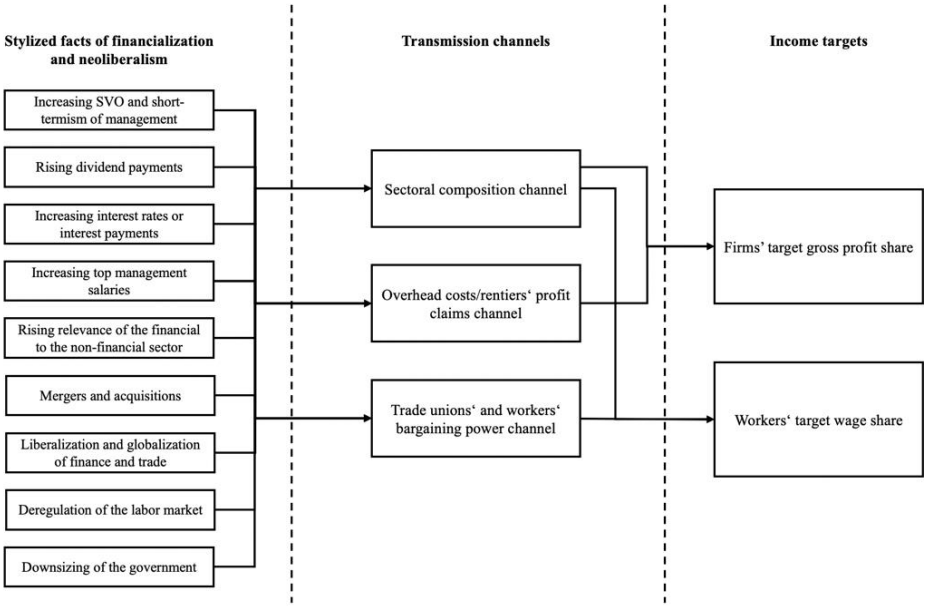


Figure 3.1: Transmission channels of financialization on target income claims
Source: author's depiction

[6] While decreased bargaining power could also impact the mark-up of firms, this effect will be excluded to ensure a clear stylized version of the model with transparent transmission channels.

Table 3.1: Financialization, neoliberalism, and target income claims

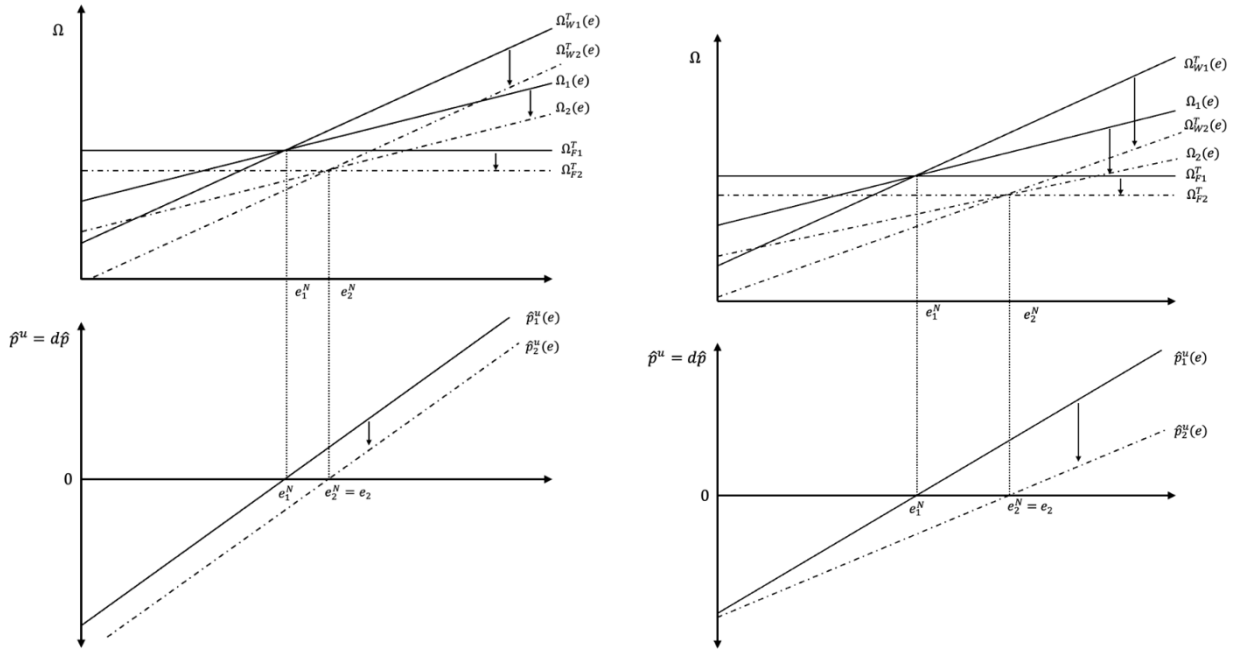
Kaleckian channels of income redistribution	Determinants of firms' and workers' income targets				
	Firms' target profit share			Workers' target wage share	
	h_0	h_3	h_5	Ω_0	Ω_1
Sectoral composition					
Increasing relevance of financial compared to non-financial sector	+			-	
Downsizing of government	+			-	
Overhead costs and gross profit target					
Increasing shareholder value orientation and short-termism	+				
Rising dividend payments	+				
Increasing interest rates or interest payments		+			
Increasing top management salaries	+				
Bargaining power and activity of trade unions					
Increasing shareholder value orientation and short-termism				–	
Increasing relevance of financial to non-financial sector				–	
Liberalization and globalization of finance and trade				–	
Deregulation of the labor market				–	
Downsizing of government				–	
Increased household debt / financial fragility				–	

Notes: + positive effect on the target income share, – negative effect on the target income share
Source: author's depiction

3.3. Two scenarios: financialization and neoliberal policies of fear

To make sense of the dynamics of the last five decades, it is crucial to include additional arguments regarding the diminishment in workers' bargaining power, such as neoliberal income policies of fear (Setterfield, 2007, 2023). Utilizing the proposed channels as well as the argument of neoliberal income policies allows us to calibrate the model to two potential scenarios.

The first scenario summarizes the redistributive changes due to financialization via the three identified Kaleckian channels (Figure 3.2). To explain the period of the Great Moderation, I argue that the effect on the workers' target will dominate in the model. This claim is based on the argument of stagnating real wage growth lending great explanatory power to understanding this period (Perry & Cline, 2016). The first two theoretical channels affect the target wage share of firms negatively, resulting in a cumulative downward shift from Ω_{F1}^{T} to Ω_{F2}^{T}. The first and third channel affect the target wage share of workers negatively, shifting Ω_{W1}^{T} to Ω_{W2}^{T}. Since the actual wage share is affected by changes in both targets, we can observe a shift from $\Omega_1(e)$ to $\Omega_2(e)$. The cumulative effect of these redistributive changes results in a higher SIRE (e_2^N). Correspondingly, the Phillips curve shifts downward to $\widehat{p_2^u}(e)$. In this calibration of the model, higher levels of employment would be reconcilable with stable inflation rates. However, this development is only possible at the expense of workers' claims.



(a) Scenario 01: Base line **(b)** Scenario 02: Neoliberal income policies of fear

Figure 3.2: Cumulative effect of financialization on the SIRE
Note: Based on Hein (2023, chapter 5), author's depiction

Another aspect to consider is institutional changes in income policies due to neoliberalism. Disembarking from the historic compromise between labor and capital of the post-war *Golden Age* period, state and corporate responses to the change in macroeconomic circumstances in the 1970s resulted in restrictive macroeconomic policies and to changes in income policies (Cornwall, 1990). Authors such as Setterfield (2007) have argued that various policies were initialized that made workers' employment and income more insecure, thereby aiming at reducing workers' ability and aspirations to fight for higher wages at any given employment level. Such policies are summarized under the term "income policies of fear" (Setterfield, 2007, p. 141). While I will focus on this particular argument in

the following, I acknowledge that other authors have pointed out the connection between neoliberalism, financialization, and insecurity, too (e.g., Whalen, 2021).

The individual constituents of these policies include changes in labor laws, which made it harder for workers to form trade unions, such as "institutionalized labor market slack" based on non-standard forms of employment like involuntary part-time or contingent employment. Furthermore, increased internationalization and globalization of multi-national corporations have created the constant threat of plant relocation and downsizing, which pose the potential danger of job loss and have further structurally diminished workers' ability to bid for higher nominal wages. These dynamics have been incorporated into the *Blecker, Setterfield and Lavoie approach* by Setterfield (2023), who argues for a rotation in the corresponding wage-bargaining curve. Applying this argument to the *Hein and Stockhammer approach*, another scenario can be derived in which the parameter Ω_1 is affected by income policies of fear. This results in changes in the target wage share of workers and in the Phillips curve.

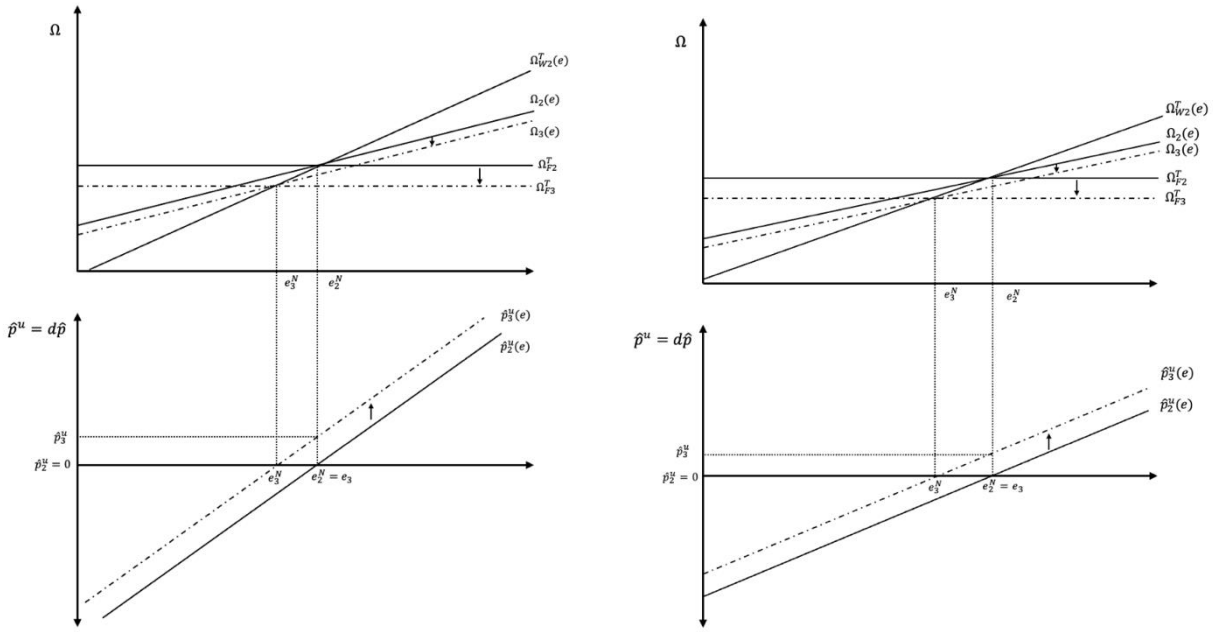
Similar dynamics unfold in the scenario incorporating neoliberal polices of fear. Those policies will affect the ability and willingness of workers to bid for higher wages at any level of employment, which is depicted by a decrease in the parameter Ω_1. Therefore, the slope of the workers' target wage share decreases. This change corresponds to the diminishing bargaining power of workers regardless of unemployment. As outlined in equation (18), unexpected inflation is also affected by Ω_1, resulting in a flatter Phillips curve. Put differently, changes in the employment level will trigger less severe accelerating inflationary pressures than in the first scenario. Incorporating the effects induced by financialization into the second scenario, yields the same results as the first scenario, except for one important difference: the new SIRE in the second scenario is considerably higher than the new SIRE in the first scenario (Figure 3.2).

3.4. Rising oil prices and mark-ups in a period of turmoil

To gain a better understanding of possible inflationary dynamics in the two scenarios, the following depictions visualize two shocks. Analyzing the two systems in succession allows insights into why countries might experience different inflationary dynamics. Methodologically, the subsequent investigation follows Hein (2024), who provides a detailed analysis of the recent inflationary shock in a stylized version of the Hein and Stockhammer model and discusses the potential effects of an inflation-targeting central bank as well as a post-Keynesian alternative strategy, including negative effects on the employment rate. Here, however, employment is assumed to stay constant ($e_2 = e_3 = e_4$) since no strong increase in unemployment has been observed in the data due to fiscal stabilization policies among others ignored in Hein (2024).

Figure 3.3 visualizes the effect of an imported oil price shock in an environment of financialization. The starting point of scenario one is the equilibrium at the new SIRE at $e_2^N = e_2 = e_3$, $\Omega_2 = \Omega_{W2}^T = \Omega_{F2}^T$, $\widehat{p_2^u}(e) = 0$. A rise in imported energy prices affects the target wage share of firms since such an increase relative to domestic nominal wages and prices raises the real exchange rate (a_r^e) and thus lowers the firms' target. The rise in the real exchange rate shifts the target wage share of firms downwards from Ω_{F2}^T to Ω_{F3}^T, and the actual wage share shifts from $\Omega_2(e)$ to $\Omega_3(e)$. The Phillips curve moves from $\widehat{p_2^u}(e)$ to $\widehat{p_3^u}(e)$. Since employment is assumed to stay constant in the stylized version of the model, a new transient position at $e_3 > e_3^N$, $\Omega_{W2}^T > \Omega_3 > \Omega_{F3}^T$, $\widehat{p_3^u}(e) > 0$ is reached. Although employment remained unchanged, accelerating inflation is now observed since the new SIRE is lower than actual employment and income claims are inconsistent. Importantly, inflation accelerates, and the wage share decreases although firms have *not* increased their mark-ups. As Hein (2024) points out, counterforces may bring the economy back to the initial equilibrium: Unexpected positive

inflation decreases the real exchange rate, increases the target wage share of firms, raises the SIRE, downshifts the Phillips curve, and moves the actual wage share upwards. Nonetheless, these forces can only take effect if firms do not take advantage of the situation of supply chain constraints and bottlenecks by raising mark-ups (Weber & Wasner, 2023).

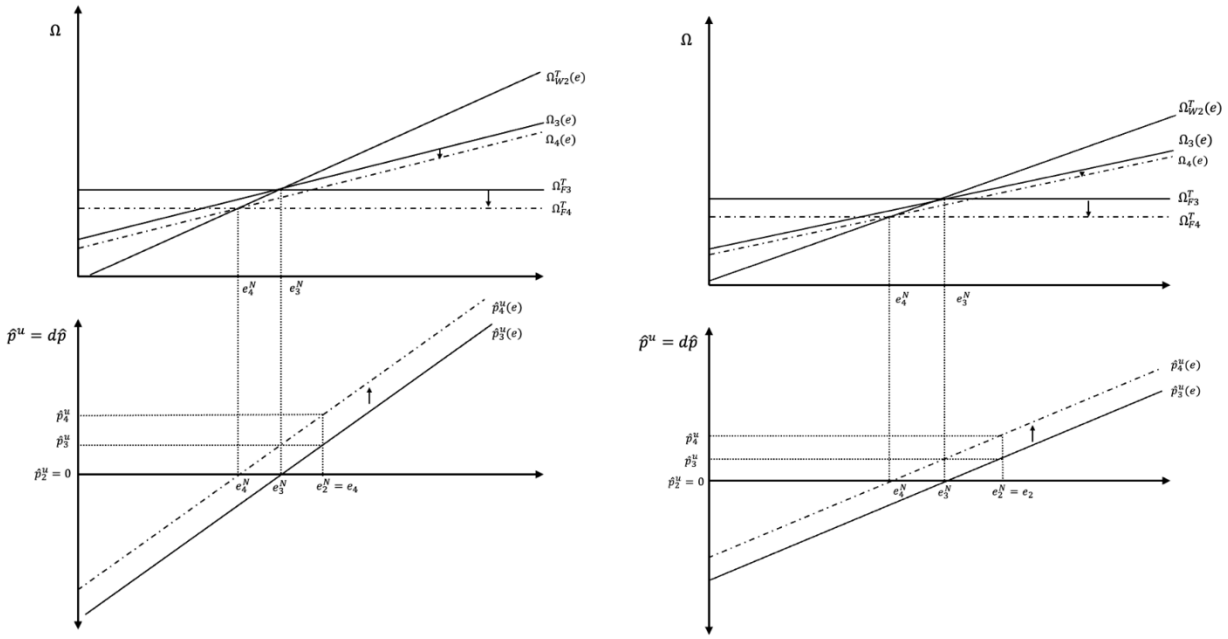


(a) Scenario 01: Base line **(b)** Scenario 02: Neoliberal income policies of fear

Figure 3.3: Oil price shock in the adapted Hein and Stockhammer model
Note: Based on Hein (2023, chapter 5), author's depiction

The same results hold for scenario two. While the inner dynamics of the two scenarios are the same, the results differ due to their calibration. First, the SIRE level is higher in the second scenario, where workers are discouraged by neoliberal income policies, than in the first scenario. This result holds for the comparison before the supply-side shock as well as after. Second, since the Phillips curve is flatter in this scenario, the increase in unexpected inflation is less pronounced. These findings are crucial to understanding country-specific differences during the inflationary shock: A country whose labor market has been exposed (more substantially) to neoliberal policies of fear may face relatively high employment levels with less inflationary pressure than countries with less deregulated labor markets.

A scenario in which firms do raise their mark-ups and make use of the unsettled environment due to supply chain problems is visualized in Figure 3.4. An increase in the mark-up (h_0) of firms further decreases their target wage share, which shifts from Ω_{F3}^T to Ω_{F4}^T. The actual wage share decreases further to $\Omega_4(e)$. A new SIRE at e_4^N can be observed and the Philips curve moves further up to $\widehat{p_4^u}(e)$. Since employment is assumed to be exogenous and constant, there will once more be accelerating inflationary pressure. The system arrives at a new temporary position at $e_4 = e_3 > e_4^N$, $\Omega_{W2}^T > \Omega_4 > \Omega_{F4}^T$, $\widehat{p_4^u}(e) > 0$. Compared to the prior situation, higher unexpected inflation ($\widehat{p_4^u(e)} > \widehat{p_3^u(e)}$), a lower wage share ($\Omega_3 > \Omega_4$), and a lower SIRE ($e_3^N > e_4^N$) are observed. As mentioned above, there are countertendencies in the model that would bring the economy back to its initial position. However, these will not be effective if the central bank increases the short-term real interest rates.



(a) Scenario 01: Base line

(b) Scenario 02: Neoliberal income policies of fear

Figure 3.4: Oil price shock and increased mark-ups in the adapted Hein and Stockhammer model

Note: Based on Hein (2023, chapter 5), author's depiction

Similar to the first sequence, the inherent dynamics are the same between the two scenarios. Nevertheless, we can once more observe less severe inflationary pressure in the second scenario due to the incorporation of neoliberal income policies.

According to Hein (2024), interest rate hikes may be able to bring down unexpected inflation but at the cost of a lower employment rate and a lower SIRE, assuming the "normal case" effects on aggregate demand and a wage-led employment curve. A post-Keynesian alternative policy response could replace macroeconomic fine-tuning of central banks with the use of income policies aiming for high levels of employment with stable inflation. In an environment of rising energy prices, it is crucial that capital and labor share the burden of a higher real exchange rate. Such policies could include extensive wage coordination between employer associations and trade unions that creates a SIRE corridor in which there is no unexpected inflation. Fiscal policies could stabilize aggregate demand and reduce inequality of disposable income (Hein, 2023, pp. 201-6).

4. Comparative case study of two OECD countries

In this chapter the relevance and accuracy of the potential effects on the income targets' determinants are discussed, assessing whether the corresponding empirical indicators lend support to the proposed channels of influence. Furthermore, a comparative analysis of the inflationary and redistributive dynamics in Austria and Germany is conducted.

4.1. Data and methodology

I select two OECD countries, namely Germany and Austria, which share many similarities such as a strong industrial sector and a comparable institutional framework (Stockhammer et al., 2016), a Continental European/Corporative welfare state (Hay & Wincott, 2012), and an export-led mercantilist growth regime (Hein et al., 2021). However, they have experienced different inflationary

dynamics (Fritzer, 2023). Furthermore, since the GFC and the following Great Recession (2007–09) can be classified as a crisis *of* financialization and is, therefore, a potential break in the financialization–distribution nexus (Hein, 2012, chapter 8), redistributive trends before and after the crisis will be analyzed. For a detailed discussion of methodology see Appendix B.

4.2. Inflationary and redistributive trends in 1995–2025

Inflationary pressure triggered by supply bottlenecks and hiking energy prices has been an international phenomenon (e.g., Ferguson & Storm, 2023; Storm, 2022a). This dynamic has also been observed in Germany and Austria. The rate of change of the GDP deflator to the previous year for both countries is visualized in Figure 4.1. From 1995 until 2021, the rate of change of the GDP deflator fluctuated around or was below the 2% target of the ECB. Afterwards, inflation skyrocketed for both countries. The highest changes were recorded from 2022 to 2023, peaking with annual changes in rates of 6.3% in Germany and 7.6% in Austria.[7] Between 2021 and 2022 the growth rate of the GDP deflator in Austria surpassed the German one.

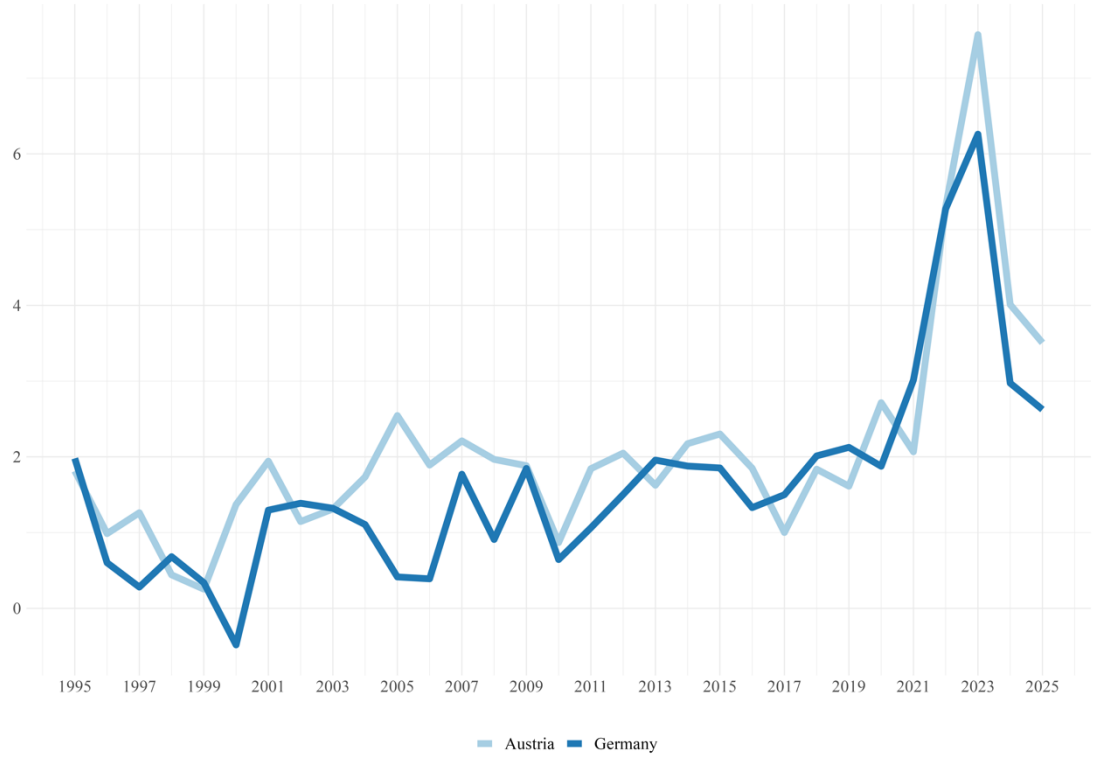


Figure 4.1: Rate of change in the GDP deflator, Germany and Austria, 1995–2025
Source: European Commission (2024a), author's calculations
Note: The years 2024 and 2025 are forecasts by the European Commission.

After the initial shock, scholars have increasingly pointed towards increased profits of firms as a possible inflation driver (e.g., Bivens, 2022; Weber & Wasner, 2023). Subsequently, multiple studies focusing on Austria and Germany found similar results. Ragnitz (2022) utilizes a gross value-added deflator and finds that in Germany, firms in some sectors could increase their profits regardless of rising costs. In an Austrian study, Tölgyes and Picek (2023) apply the same methodology as Ragnitz (2022) and argue that profits were a strong driver of inflation. Both studies show that some sectors, such as agriculture, construction, and energy, were particularly important regarding profit inflation. Furthermore, Dullien et al. (2023) comprise a discussion of inflation drivers. They argue that profits

[7] It should be noted that temporarily, the inflation rates were higher in both countries. The changes visualized here must be understood as changes in annual averages.

may drive inflation even with constant profit margins since higher import prices would still lead to higher unit profits.

Figure 4.2 displays the development of the adjusted wage share for Germany and Austria in 1960–2023, visualizing the continuous redistribution to profits at the expense of labor from the late-1970s/early-1980s until the GFC crisis and beyond. In the Austrian case, since there is more data available, the fall of the wage share already started in the early-1980s. Focusing on the period in consideration, Austria's adjusted wage share fell constantly between 1995 and the GFC. During the crisis, the trend was temporarily reversed. Afterward, the wage share remained approximately constant at 55% until 2019. Starting in the early-1990s, a similar trend can be observed for Germany until the GFC. Thereafter, the adjusted wage share recovered and settled around 57–58% until 2019. The introduction of a minimum wage in Germany in 2015 may have partly contributed to increases in the wage share.

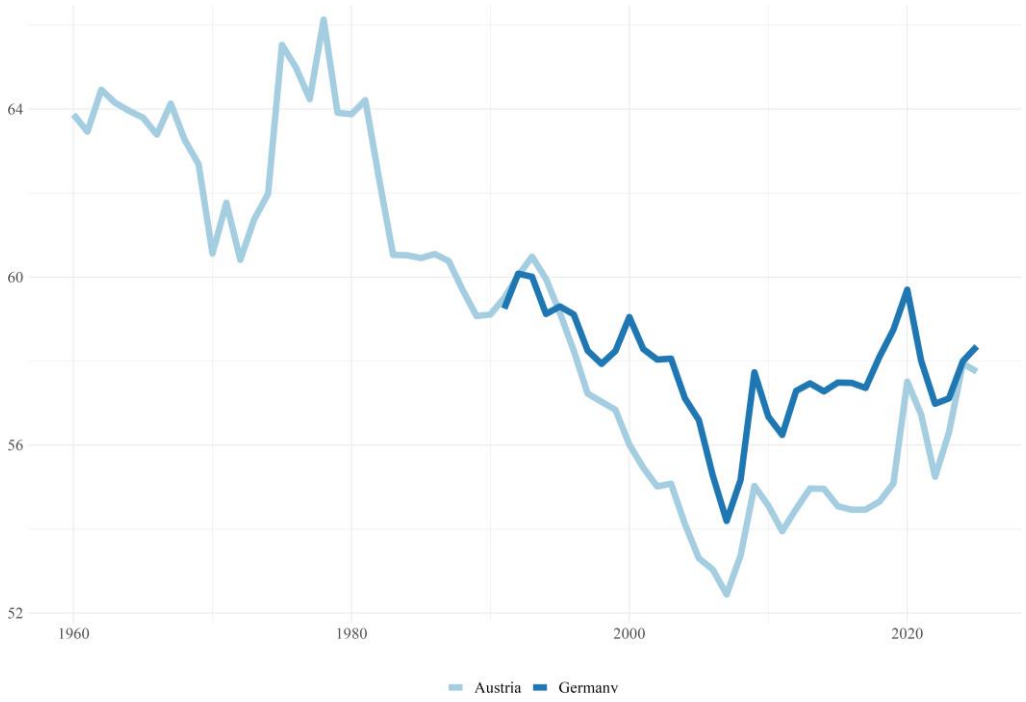


Figure 4.2: Adjusted wage share in Germany and Austria, 1960–2025 (% of GDP)
Source: European Commission (2024a), author's calculations
Note: The adjusted wage share is defined as compensation per employee as a share of GDP at factor costs per person employed (Hein et al., 2018, p. 3)

4.3. Germany

Germany before the crisis. It is evident that there was no substantial recomposition in the economy towards the financial sector (Figure 4.3). Moreover, there is no evidence that the profit share in the financial sector was higher than in the non-financial sector (Figure 4.4). However, there was a falling tendency of the government sector in value added. Therefore, there is some evidence for the sectoral composition channel influencing income targets.

There is substantial evidence for increasing financial overhead costs and rentiers' profit claims affecting firms' profit targets. First, both net property income and retained earnings as a share of net national income increased at the expense of compensation of employees (Figure 4.5). Second, the decomposition of rentiers' income reveals that the rise was solely driven by an increasing share of dividends (Figure 4.6).

Indicators referring to the bargaining power of workers were divided into *macroeconomic* and *institutional* indicators (Table 4.1). As shown above, Germany is characterized by a retreating government sector before the crisis and a focus on balanced budgets and international price competitiveness (Hein et al., 2018). Overall, the macroeconomic situation provided unfavorable conditions for workers' bargaining power. Regarding the institutional factors, it is evident that the power of trade unions declined since union density and bargaining coverage decreased before the crisis.

Authors such as Dustmann et al. (2014) also attest to an erosion of collective bargaining in connection to higher international competitiveness. Furthermore, deregulating labor market policies, including the "Hartz" reforms, have created a low-wage sector in Germany (Giannelli et al., 2013). A strong deregulation regarding temporary contracts can be observed, increasing insecurity for workers. Decreases in unemployment benefits were also a result of the reforms in the early-2000s. Considering workers who have been unemployed for over a year, labor market reforms in the early-2000s decreased the benefits rate tremendously. While the decrease in unemployment benefits is mitigated by social assistance and housing benefits, the rate decreased from 55% to 45.2%. Overall, there is profound evidence for a decrease in workers' income target due to labor market deregulation.

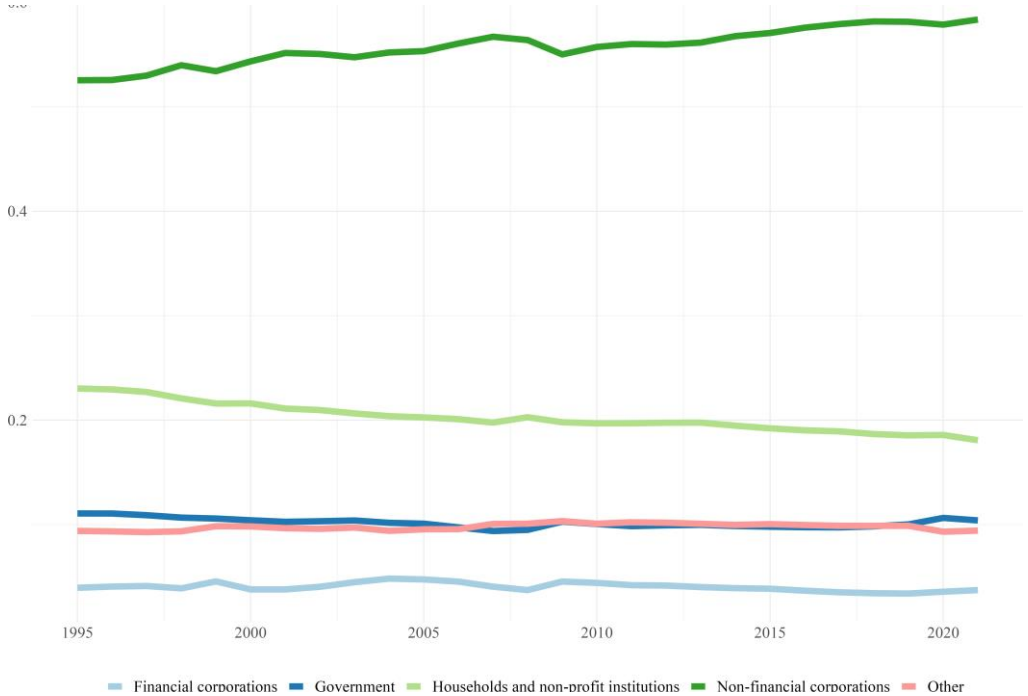


Figure 4.3: Sectoral shares in nominal gross value added, Germany, 1995–2021
Source: OECD (2024a), author's calculations

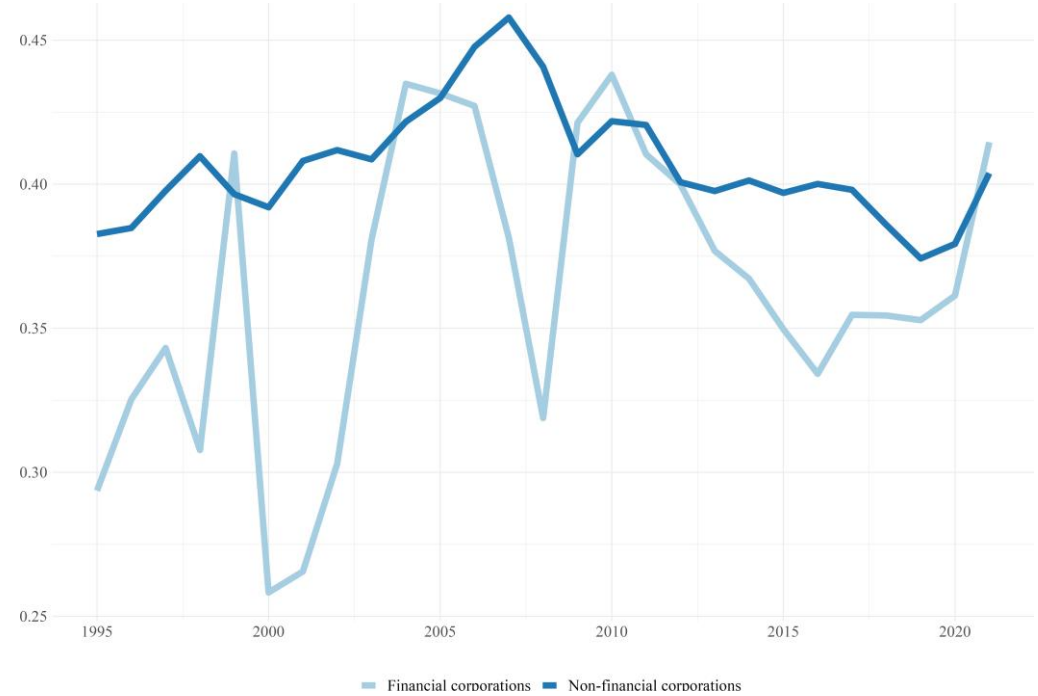


Figure 4.4: Sector gross operating surplus as a share of sector gross value added, Germany, 1995–2021
Source: OECD (2024a), author's calculations

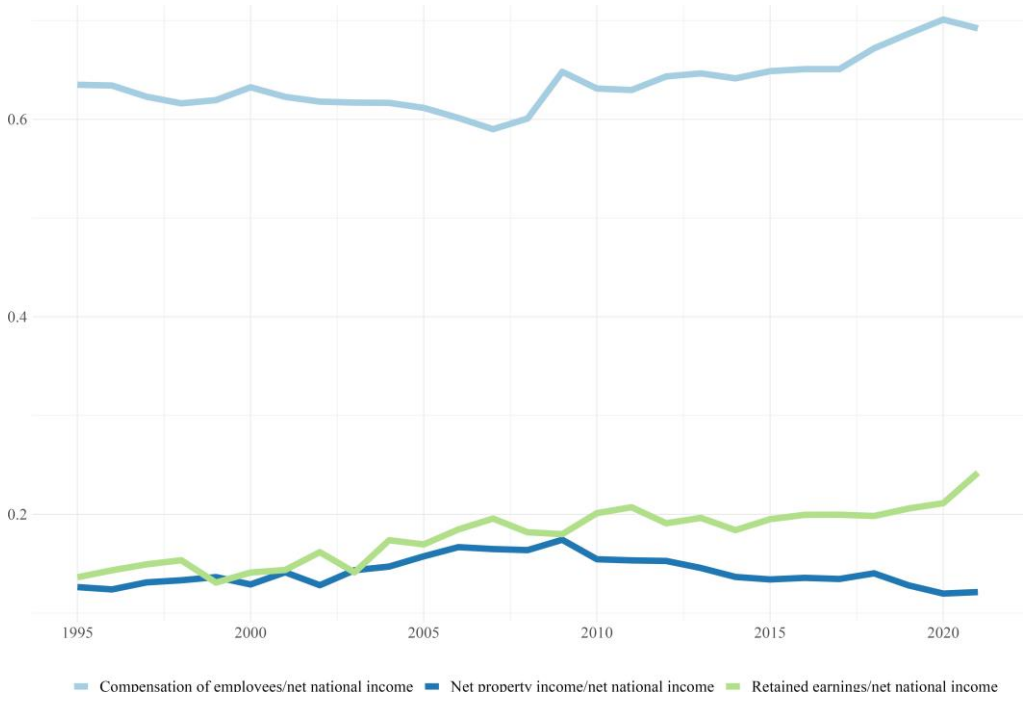


Figure 4.5: Income shares in net national income, Germany, 1995–2021
Source: OECD (2024a), author's calculations

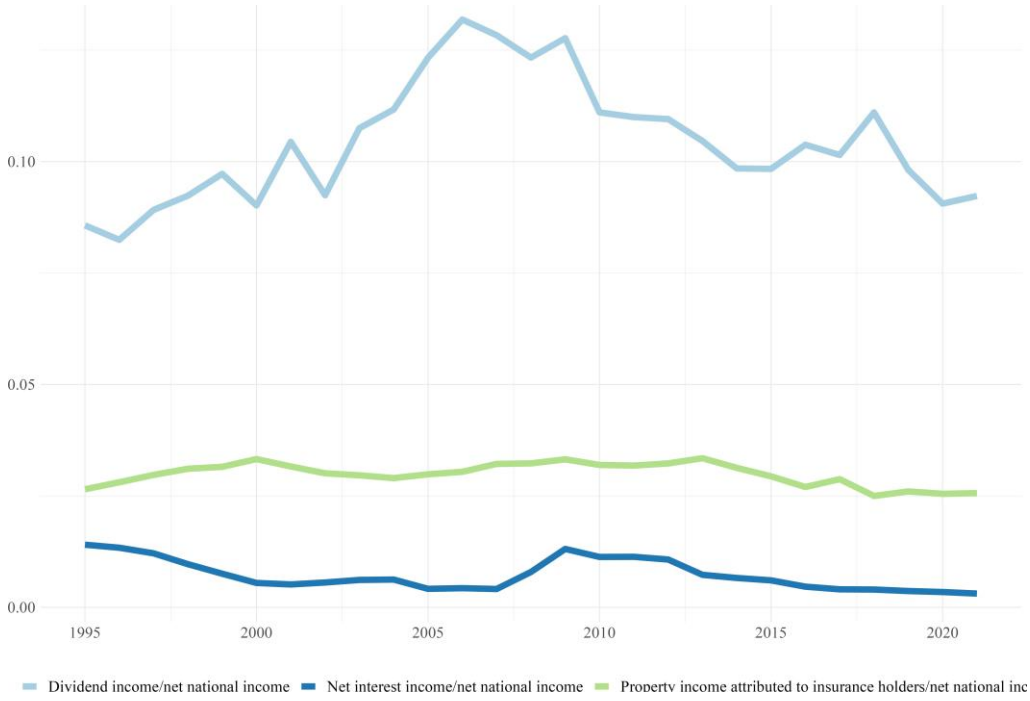


Figure 4.6: Components of rentiers' income as a share in net national income, Germany, 1995–2021
Source: OECD (2024a), author's calculations

Table 4.1: Selected indicators for bargaining power, Germany, 1995–2023

	1995–99	2000–04	2005–09	2010–14	2015–19	2020–21	2022–23
Macroeconomic indicators							
Unemployment rate (%)	8.6	8.5	8.5	5.4	3.6	3.7	3.1
Household debt (% of GDP)	65.3	70.1	63.3	56.6	53.2	56.8	
Trade openness (% of GDP)	48.6	62.5	76.2	84.3	87.0	85.2	
Institutional indicators							
Trade unions							
Union density rate (%)	27.0	23.4	19.9	18.3	16.8		
Bargaining coverage rate (%)	75.1	67.6	62.6	58.5	55.5		
Strictness of employment protection (Index: 0–6)							
Collective dismissals	3.6	3.6	3.6	3.6	3.6		
Individual dismissals (regular contracts)	2.6	2.6	2.6	2.6	2.6		
Temporary contracts	2.6	1.7	1.0	1.1	1.2		
Unemployment benefits							
Net replacement rate in unemployment – short-term (excl. social assistance and housing benefits) (%)		61.0	61.0	59.2	59.0	59.0	59.0
Net replacement rate in unemployment – short-term (incl. social assistance and housing benefits)(%)		61.0	61.0	59.2	59.0	59.0	59.0
Net replacement rate in unemployment – long-term (incl. social assistance and housing benefits) (%)		55.0	45.2	36.0	34.6	34.0	31.5

Notes: Unemployment as a percentage of active population; trade openness: imports and exports as a share of GDP; union density rate: proportion of employees who are members of a trade union among all employees; bargaining (or union) coverage rate: proportion of employees who are covered by (collective) wage agreements (adjusted for sectors without bargaining rights); net replacement rate: as a percentage of previous average wage, short-term corresponds to two months of unemployment and long-term to 13 months of unemployment
Source: OECD (2024a, 2024b, 2024c), OECD and AIAS (2021), and European Commission (2024b), author's calculations

Germany during and after the crisis. The government sector and the financial sector stayed roughly constant, while the non-financial sector increased slightly (Figure 4.3). Furthermore, the profit share exhibited a decreasing tendency in both corporate sectors (Figure 4.4), thereby lending little to no evidence of changes in income targets based on the first channel.

The strength of the second channel declined, as net property income decreased while employee compensation rose again (Figure 4.5). Moreover, dividend income decreased substantially, and net interest income also showed a falling trend (Figure 4.6). Reduced pressure from the overhead costs/rentiers' profit claims channel may have contributed to the less stringent income claims of firms.

Regarding workers' bargaining power, an ambiguous trend in the macroeconomic indicators could be observed. However, the institutional indicators show a declining tendency. Overall, the diminishment in workers' bargaining power did not come to a halt after the crisis, thereby further decreasing workers' income targets (Table 4.1).

Recent developments in Germany. The development of the wage share became more volatile starting with the COVID-19 pandemic, but it would be too early to derive any long-term trends. This also holds true for the three Kaleckian channels.

Table 4.2: Decomposition of contributions to price inflation, Germany, 1995–2025

Year	GDP price inflation	Unit labor costs	Unit imported material costs	Unit profits	Real GDP growth	Wage share
1995	1.980	1.009	0.736	0.235	1.545	59.301
1996	0.602	0.120	0.473	0.009	0.806	59.110
1997	0.281	−0.517	1.540	−0.742	1.784	58.247
1998	0.682	0.061	0.633	−0.012	2.020	57.934
1999	0.339	0.364	0.803	−0.828	1.892	58.240
2000	−0.482	0.369	2.811	−3.663	2.905	59.048
2001	1.296	0.000	−0.011	1.307	1.690	58.287
2002	1.388	0.380	−1.039	2.047	−0.207	58.036
2003	1.321	0.550	0.574	0.197	−0.700	58.058
2004	1.106	−0.213	1.078	0.241	1.184	57.112
2005	0.415	−0.199	1.585	−0.971	0.722	56.596
2006	0.390	−0.732	2.006	−0.884	3.824	55.279
2007	1.771	−0.081	0.659	1.193	2.976	54.194
2008	0.909	0.958	1.011	−1.060	0.960	55.165
2009	1.847	2.348	−2.701	2.199	−5.698	57.732
2010	0.644	−0.462	2.694	−1.587	4.181	56.679
2011	1.064	0.109	2.100	−1.145	3.931	56.242
2012	1.503	1.209	0.498	−0.204	0.412	57.289
2013	1.957	0.832	0.001	1.124	0.440	57.469
2014	1.878	0.565	−0.071	1.384	2.209	57.278
2015	1.854	0.822	0.440	0.592	1.492	57.488
2016	1.330	0.489	−0.246	1.087	2.228	57.481
2017	1.500	0.479	1.207	−0.186	2.684	57.361
2018	2.013	1.233	1.134	−0.354	0.976	58.102
2019	2.125	1.216	0.408	0.502	1.080	58.746
2020	1.876	1.332	−1.629	2.173	−3.830	59.700
2021	3.014	0.038	3.386	−0.411	3.170	58.007
2022	5.273	1.272	6.121	−2.119	1.801	56.984
2023	6.260	2.271	−1.390	5.378	−0.271	57.112
2024	2.973	1.705	0.320	0.948	0.807	57.997
2025	2.625	0.893	0.700	1.031	1.246	58.350

Notes: The years 2024 and 2025 are forecasts by the European Commission. Unit labor costs, unit imported material costs and unit profits sum up to GDP price inflation and have to be interpreted as contributions to overall price inflation.
Source: European Commission (2024b), author's calculations

To better understand the inflationary dynamics in Germany, Table 4.2 displays a decomposition of GDP price inflation into weighted averages of contributions of unit labor costs, unit imported material costs, and unit profits. Furthermore, real GDP growth and the wage share are visualized for reference. First, note that until 2021, overall price inflation was around or even below the 2% target of the ECB. Overall price inflation already started increasing in 2021, where unit imported material cost inflation contributed to a large degree to the overall change in the price level (3.39 percentage points). Unit labor cost contributions remained rather constant, unit profit contributions were negative. In 2022, price inflation increased to 5.27%, the dominant contribution was clearly unit imported material inflation with 6.12 percentage points, unit labor costs contributed only slightly, and unit profit inflation contributions were negative. It should be noted that price inflation peaked in 2023 at 6.27%. Interestingly, the contribution of unit imported material cost inflation became negative, unit labor cost inflation contributed with around 2.27 percentage points. However, the contribution of unit profit inflation was tremendous, amounting to 5.38 percentage points. In the last two years of the considered timeframe, price inflation is expected to decrease to rates between 2.5–3%. In 2024, unit labor cost inflation is anticipated to contribute rather more to overall price inflation, which could imply workers are trying to make up for real wage losses.

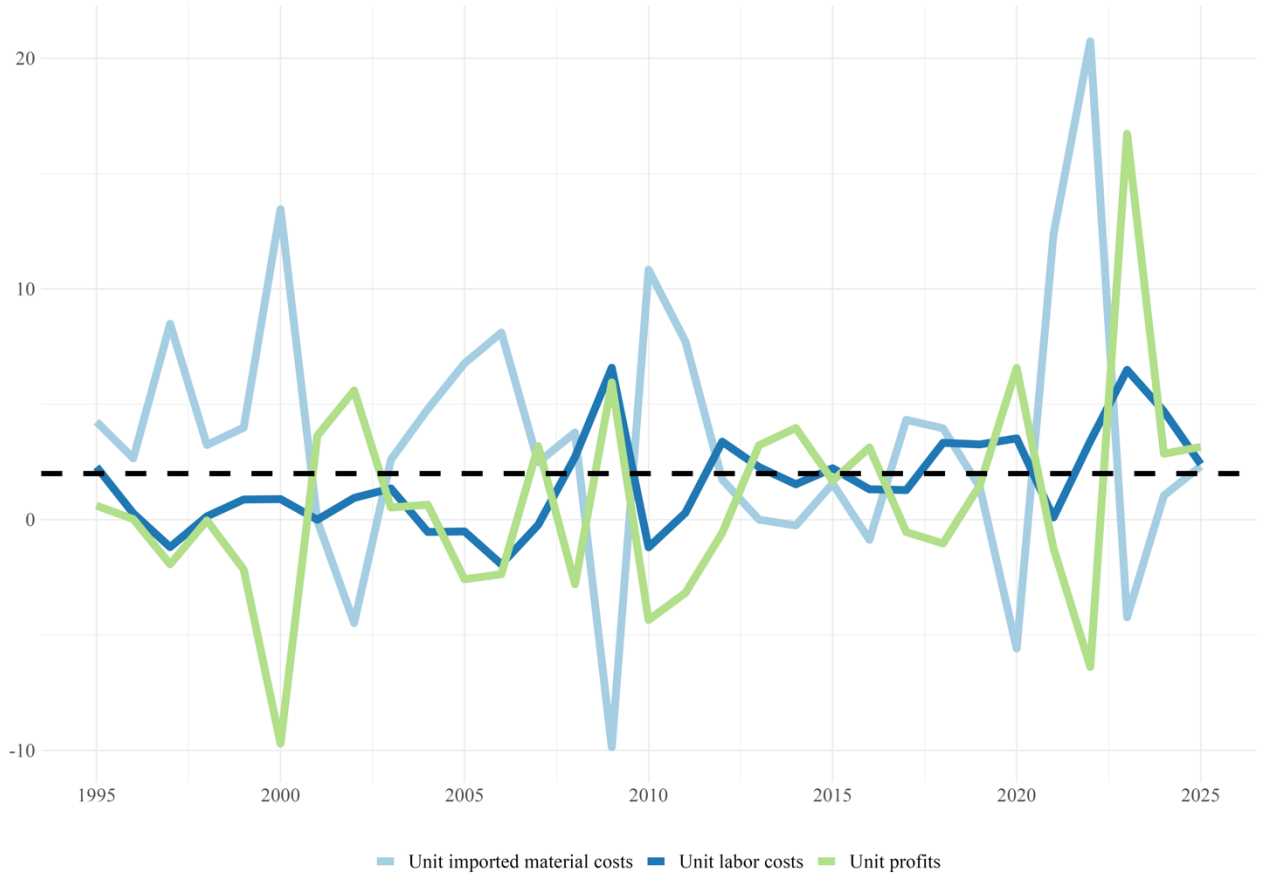


Figure 4.7: Growth rates of unit labor costs, unit imported material costs, and unit profits, Germany, 1995–2025
Source: European Commission (2024b), author's calculations

Coming back to the ECB's inflation target of 2%, Figure 4.7 visualizes the growth rates of the indicators used for the inflation decomposition. Theoretically, all growth rates should fluctuate around the 2% target if constant distribution and inflation are assumed. Until 2020, with exceptions in 2000 and 2009, these dynamics could to some extent be observed, since all three rates moved around the target. However, the dynamic changed in 2020, when the growth rate of unit imported material costs turned negative. In 2021, unit imported material costs started growing, mirrored by negative unit profit growth rates. This process peaked in 2022, and the dynamic reversed in 2023, when the unit profit inflation increased greatly. The growth rate of unit labor costs peaked in 2023. In line with previous arguments, the growth rates seem to settle down again starting in 2024/2025.

4.4. Austria

Austria before the crisis. Considering sectoral recomposition, neither the share of the financial sector nor the government share in value added show any considerable changes (Figure 4.8). Furthermore, the profit share in the financial sector was continuously below the share in the non-financial sector (Figure 4.9). Combining these trends, there is no substantial evidence for the first channel affecting income targets.

Regarding the second channel, the decrease in compensation of employees was accompanied by an increase in net property income and retained earnings (Figure 4.10), driven by rising dividend incomes (Figure 4.11). Therefore, there is evidence that the overhead costs/rentiers' profit claims channel may have contributed to increased target profit shares of firms.

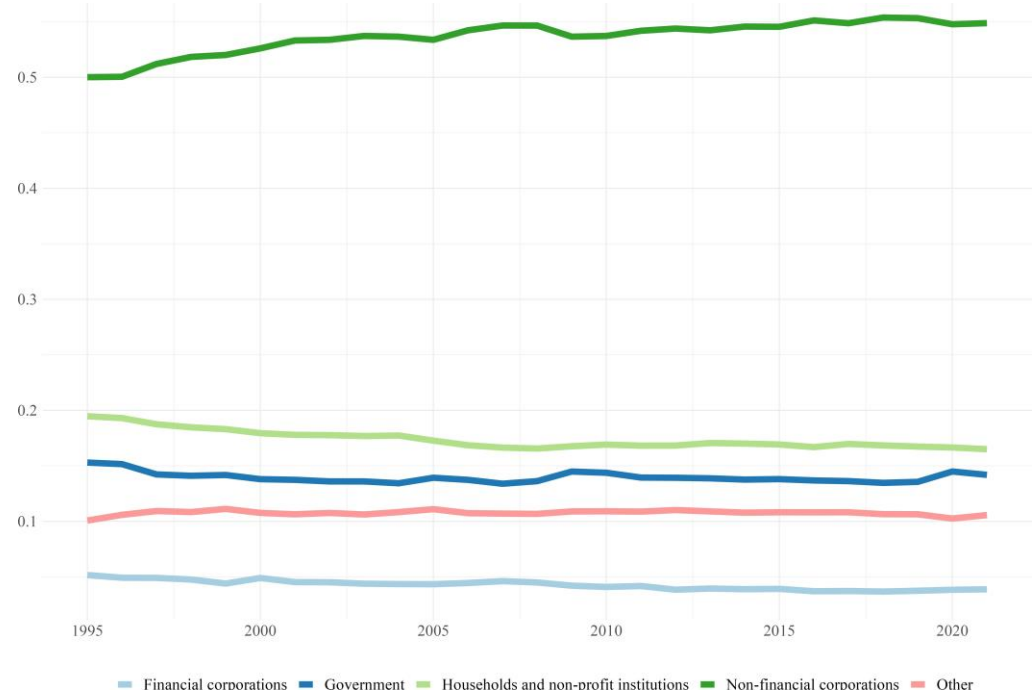


Figure 4.8: Sectoral shares in nominal gross value added, Austria, 1995–2021
Source: OECD (2024a), author's calculations

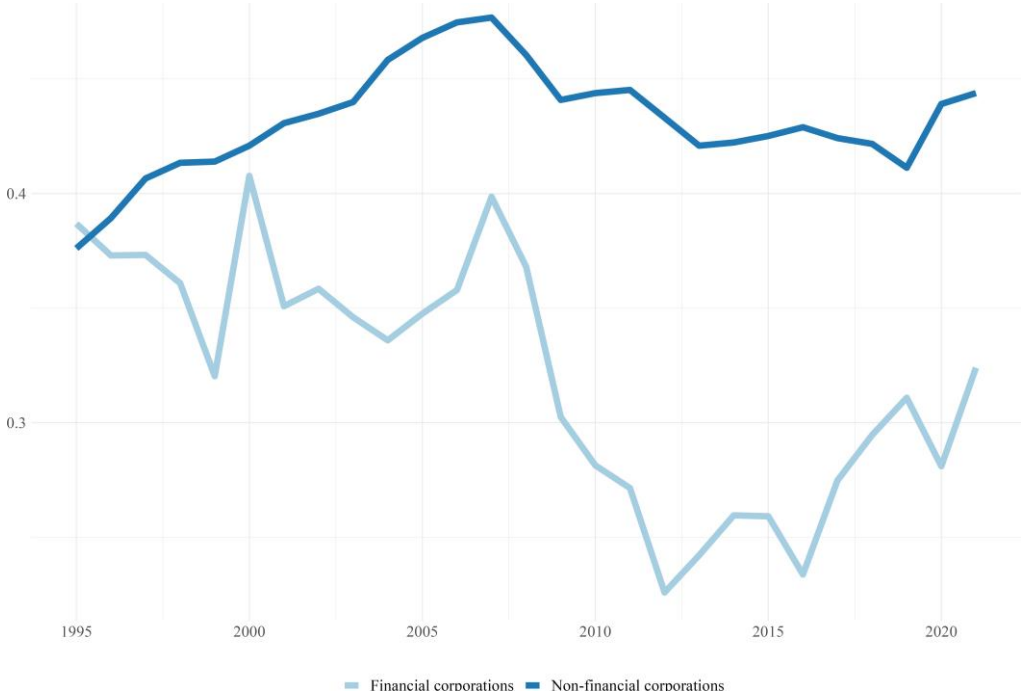


Figure 4.9: Sector gross operating surplus as a share of sector gross value added, Austria, 1995–2021
Source: OECD (2024a), author's calculations

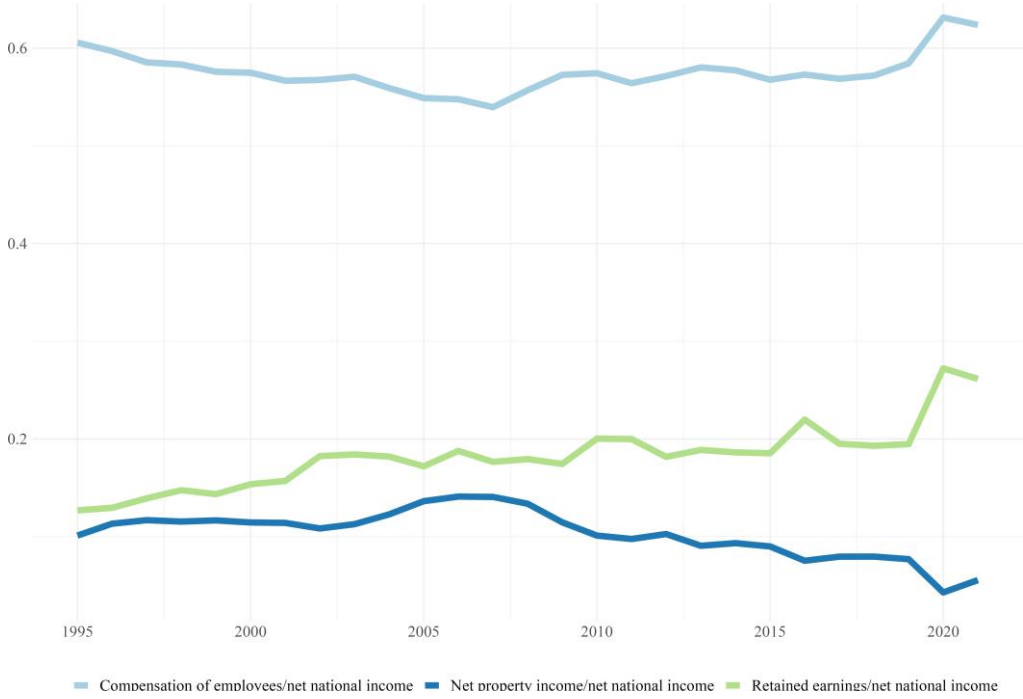


Figure 4.10: Income shares in net national income, Austria, 1995–2021
Source: OECD (2024a), author's calculations

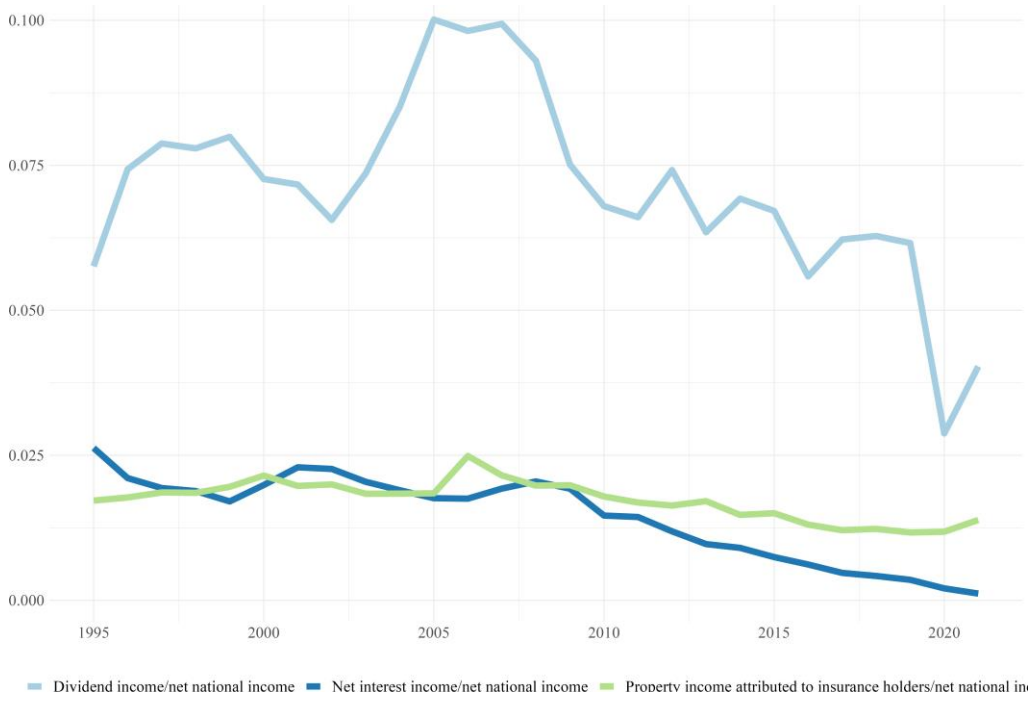


Figure 4.11: Components of rentiers' income as a share in net national income, Austria, 1995–2021
Source: OECD (2024a), author's calculations

Finally, there is nuanced evidence for the diminishment of the bargaining power. The macroeconomic situation was characterized by an ambiguous trend. Regarding the institutional indicators, while union density decreased, bargaining coverage remained high. These findings of initial high union density and continuous high bargaining coverage is in line with strong social partnerships in Austria (Famira-Mühlberger & Leoni, 2013). Furthermore, employment protection and unemployment benefits excluding social assistance remained rather constant. Overall, the effect on workers' income targets is ambiguous: While some indicators contributed to a fall in bargaining power, others stayed constant, implying a stable institutional framework.

Austria during and after the crisis. Concerning the first channel, the government sector increased slightly during the crisis, while the share of the financial sector and the non-financial sector decreased minimally. However, both the government sector and the financial sector remained rather constant after the crisis (Figure 4.8). Additionally, to the observation that the profit share of the financial sector was continuously below the share in the non-financial sector, the gap between the two widened after the crisis (Figure 4.9). The sectoral composition channel may partly explain the temporary increase of the wage share during the crisis but has subsequently lost significance regarding income claims.

Table 4.3: Selected indicators for bargaining power, Austria, 1995–2023

	1995–99	2000–04	2005–09	2010–14	2015–19	2020–21	2022–23
Macroeconomic indicators							
Unemployment rate (%)	4.6	4.5	5.4	5.4	5.7	6.1	5.1
Household debt (% of GDP)	42.9	46.1	52.3	52.4	50.3	52.7	
Trade openness (% of GDP)	73.7	87.4	96.4	103.4	104.8	105.3	
Institutional indicators							
Trade unions							
Union density rate (%)	39.3	35.7	30.9	28.1	26.7		
Bargaining coverage rate (%)	98.0	98.0	98.0	98.0	98.0		
Strictness of employment protection (Index: 0–6)							
Collective dismissals	3.3	3.3	3.3	3.3	3.3		
Individual dismissals (regular contracts)	2.7	2.5	2.3	2.6	2.3		
Temporary contracts	1.3	1.3	1.3	1.3	1.3		
Unemployment benefits							
Net replacement rate in unemployment – short-term (excl. social assistance and housing benefits) (%)		55.0	55.0	55.0	55.0	55.0	55.5
Net replacement rate in unemployment – short-term (incl. social assistance and housing benefits) (%)		64.8	61.6	56.0	55.0	55.0	55.5
Net replacement rate in unemployment – long-term (incl. social assistance and housing benefits) (%)		62.8	59.6	53.0	51.0	51.0	51.5

Notes: Unemployment as a percentage of active population; trade openness: imports and exports as a share of GDP; union density rate: proportion of employees who are members of a trade union among all employees; bargaining (or union) coverage rate: proportion of employees who are covered by (collective) wage agreements (adjusted for sectors without bargaining rights); net replacement rate: as a percentage of previous average wage, short-term corresponds to two months of unemployment and long-term to 13 months of unemployment
Source: OECD (2024a, 2024b, 2024c), OECD and AIAS (2021), and European Commission (2024b), author's calculations

Overhead costs and rentiers' profit claims seem to have eased during and after the crisis, as net property income decreased while compensation of employees rose (Figure 4.10). Moreover, dividend and net interest income fell substantially during this period (Figure 4.11). Therefore, contributing to less severe income claims of firms. Bargaining power of workers exhibits a falling but mediated trend, enabling a rather constant workers' target wage share (Table 4.3).

Recent developments in Austria. Similar to Germany, it would be too soon to derive any meaningful changes in the wage share or the Kaleckian channels. Table 4.4 comprises the decomposition of GDP

price inflation. Until 2022, the overall price inflation remained roughly around or below the target of the ECB. While some increases in GDP price and unit imported material cost inflation could be observed in 2021, the dynamic escalated in the following year. Starting in 2022, GDP price inflation increased to 5.31%. It is evident that unit imported material cost inflation, with 5.81 percentage points, contributed disproportionally to this price increase. The contribution of unit labor costs was rather small and unit profit contributions were negative. The peak in price inflation was reached in 2023 with 7.57%, where unit profit inflation was the dominant driver of the dynamic by contributing 4.87 percentage points. The contribution of unit imported material costs turned negative while unit labor cost inflation contributed partly to the process with 2.87 percentage points. While it seems to be the case that overall price inflation (4.01% and 3.50% respectively) is settling down again in 2024 and 2025, it is still higher than in Germany (2.97% and 2.63% respectively).

Table 4.4: Decomposition of contributions to price inflation, Austria, 1995–2025

Year	GDP price inflation	Unit labor costs	Unit imported material costs	Unit profits	Real GDP growth	Wage share
1995	1.814	0.171	0.933	0.710	2.671	59.148
1996	0.987	−0.210	0.963	0.234	2.348	58.247
1997	1.262	−0.187	1.459	−0.010	2.097	57.226
1998	0.442	0.036	0.504	−0.098	3.585	57.030
1999	0.254	−0.032	0.271	0.014	3.557	56.839
2000	1.371	−0.036	2.098	−0.691	3.371	56.010
2001	1.943	0.322	0.896	0.725	1.272	55.461
2002	1.146	0.110	−0.458	1.494	1.651	55.016
2003	1.312	0.478	0.312	0.522	0.934	55.080
2004	1.735	−0.012	1.553	0.194	2.742	54.119
2005	2.545	0.322	1.522	0.701	2.238	53.305
2006	1.892	0.435	1.625	−0.169	3.451	53.037
2007	2.211	0.335	1.155	0.721	3.740	52.444
2008	1.967	1.140	1.145	−0.318	1.449	53.366
2009	1.883	1.564	−3.473	3.792	−3.760	55.027
2010	0.869	0.004	3.401	−2.536	1.844	54.560
2011	1.844	0.221	2.576	−0.954	2.912	53.949
2012	2.049	0.941	0.683	0.424	0.684	54.479
2013	1.625	0.790	0.106	0.730	0.025	54.966
2014	2.174	0.683	0.145	1.346	0.664	54.958
2015	2.302	0.487	−0.031	1.846	1.013	54.544
2016	1.850	0.538	−0.089	1.401	1.988	54.461
2017	1.001	0.324	1.542	−0.865	2.262	54.464
2018	1.837	0.692	1.329	−0.184	2.426	54.654
2019	1.613	0.763	0.239	0.612	1.447	55.088
2020	2.715	2.310	−1.371	1.776	−6.629	57.510
2021	2.067	0.231	4.093	−2.257	4.238	56.726
2022	5.305	0.818	5.811	−1.324	4.800	55.246
2023	7.573	2.867	−0.169	4.875	−0.540	56.302
2024	4.010	2.089	0.742	1.179	1.003	57.941
2025	3.506	1.048	0.880	1.578	1.322	57.750

Notes: The years 2024 and 2025 are forecasts by the European Commission. Unit labor costs, unit imported material costs and unit profits sum up to GDP price inflation and have to be interpreted as contributions to overall price inflation.
Source: European Commission (2024b), author's calculations

Similar to the German case, the growth rates of the indicators in Austria fluctuated around the 2% target of the ECB, exempting 2009/10, until 2020 (Figure 4.12). In 2020, the dynamic changed, and a falling growth rate of unit imported material cost can be observed. Interestingly, the growth rate of unit labor costs exceeded that of unit profits in 2020. The oil price shock is clearly visible in the increasing growth rates of unit imported material costs in 2021 and 2022. Similar to Germany, the growth rate of unit profits became negative in 2021 and 2022. The dynamic reversed in 2023, when unit imported material cost inflation fell drastically and the growth rate of unit profits skyrocketed. Interestingly, the growth rate of unit labor costs was higher than in the German case.

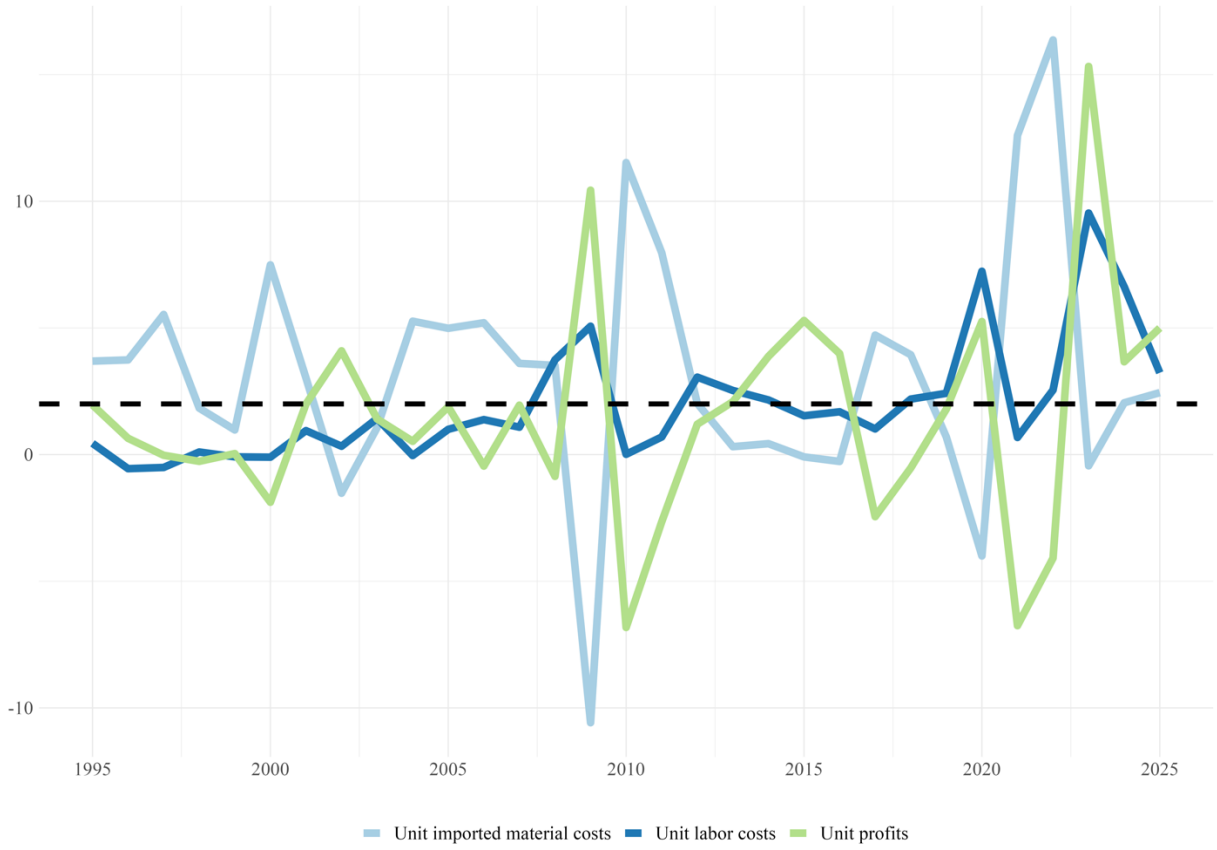


Figure 4.12: Growth rates of unit labor costs, unit imported material costs and unit profits, Austria, 2015–2025
Source: European Commission (2024b), author's calculations

4.5. Examining the financialization–distribution–inflation nexus

History matters and frequently affects current economic outcomes. The multiplicity of changes due to financialization in our economy and socio-economic life is one example. Therefore, analyses of current inflationary dynamics can benefit from taking a step back and considering structural transformations that took shape in the last five decades. By doing so, a greater understanding of transmission channels from financialization to present outcomes can be gained.

To comprehend the period of the *Great Moderation*, which was characterized by low and stable inflation accompanied by high employment rates (Perry & Cline, 2016), changes in income claims of social classes due to financialization is an important piece of the puzzle. Therefore, I hypothesized that financialization has impacted the income claims of workers and firms in an open macroeconomic model (Hein, 2023, chapter 5) through three Kaleckian channels (Hein, 2015), which resulted in redistribution at the expense of labor. Theoretically, I have argued that, based on stylized facts of financialization and neoliberalism, changes in sectoral composition and increased overhead labor costs/rentiers' profit claims would shift firms' target wage share downwards. Simultaneously, sectoral recomposition and diminishing workers' bargaining power would decrease their target wage share. I claim that the effect on the target wage share of workers has been dominating the dynamic. Incorporating this assertion into the model reveals an outcome where higher employment levels are reconcilable with stable inflation rates. However, the price for this period was paid by workers, since it was accompanied by a falling wage share.

I conducted an empirical analysis regarding the three Kaleckian channels for Germany and Austria. Table 4.5 comprises the empirical results regarding the long-term trends. Inflation was rather stable until the recent supply shock. The repeatedly established declining trend of the wage share (e.g., Guschanski & Onaran, 2022; Kohler et al., 2019) before the crisis can be observed in both countries. After the crisis, the adjusted wage share stabilized.

Table 4.5: Long-term trends before and after the Great Financial Crisis

			Germany	Austria
Inflationary trends	GDP deflator	Before	0	0
		After	0	0
Distributional trends	Adjusted wage share	Before	–	–
		After	0	0
Channels for the effects of financialization	Sectoral composition	Before	–	0
		After	0	0
	Financial overheads	Before	+	+
		After	–	–
	Bargaining power	Before	–	0/–
		After	–/+	0/–

Notes: + tendency to increase, – tendency to decrease, 0 no tendency, –/+ or 0/– or 0/+ ambiguous tendencies of different indicators, before: 1995 until the crisis of 2007–09, after: after the crisis of 2007–09
Source: Adapted from Hein et al. (2018)

In the German case, I find evidence for all three Kaleckian channels before the crisis. Interestingly, the effect of the sectoral composition channel was driven by a retreating government sector, which could further impact the bargaining power of workers. These findings are in line with previous studies attesting to a negative relationship between increasing gross profit targets of firms, primarily driven by rising dividend payments (Dünhaupt, 2012; Kohler et al., 2019), and severely declining bargaining power (Hein & Detzer, 2015; Hein et al., 2018) with the wage share. After the crisis, the sectoral composition channel lost its relevance, and pressure on the wage share from overhead costs eased. Furthermore, the macroeconomic situation for workers improved slightly, although other institutional factors worsened further. Taken together, these trends could have contributed to the stabilization of the wage share in Germany after 2007–09.

I find evidence for two Kaleckian channels exerting pressure on the wage share in the Austrian case before the crisis, namely diminishing workers' bargaining power and rising overhead costs. Strong bargaining coverage, initially relatively high levels of union density, and robust institutions align with the Austrian tradition of social partnership (Famira-Mühlberger & Leoni, 2013). Nonetheless, financialization has decreased the security of workers in the labor market. After the crisis, pressure on the wage share from the overhead cost channel declined. However, bargaining power continued to exhibit a decreasing but mediated tendency. These findings align with previous studies such as Dabrowski and Kuhls (2024).

I find evidence for all three Kaleckian channels through which financialization and neoliberalism influence functional income distribution. Interestingly, there are noticeable parallels between Germany and Austria, such as the direction of the channels. Furthermore, in both cases the crisis of 2007–09 poses a clear break in the time series: The second channel, which exhibited the clearest trend for both countries, changed tendency after the crisis. Nevertheless, it should be noted that Germany has experienced a significantly stronger diminishment of bargaining power. A retreating government sector has enhanced the overall decrease of this channel before the crisis. This finding resonates with

studies arguing for substantial deregulation and international competition policies in Germany (Giannelli et al., 2013; Dustmann et al., 2014).

Overall, since the empirical results regarding the Kaleckian channels suggest evidence for all three channels and redistribution dynamics due to financialization, I find descriptive support for changes in income targets by both firms and workers. Furthermore, the fall in bargaining power has been the most pronounced channel, which gives merit to the theoretical elaborations explaining the Great Moderation in the stylized model. Due to the dominating effect of the third channel, the case study offers an explanation of how high employment rates were reconcilable with low inflation during this period.

This period came to an abrupt end in the second half of 2021 when supply bottlenecks and hiking energy prices due to the pandemic and the war in Ukraine created supply-side inflationary impulses (Ferguson & Storm, 2023). The overall price level increased tremendously in almost all advanced capitalist economies. Multiple studies soon identified profits as the driving factor of the dynamic giving rise to terms such as "sellers' inflation" (Weber & Wasner, 2023) or "profit inflation" (Tölgyes & Picek, 2023; Dullien et al., 2023). Based on the empirical analysis, I find that, indeed, during the initial inflationary shock in 2021/2022, the adjusted wage share dropped in both countries, which implies an increase in the economy-wide profit share. However, authors such as Lavoie (2024) or Hein (2024) have pointed out that increases in imported raw material costs would increase the profit share inevitably even with constant mark-ups. Therefore, this paper aimed to account for that by developing two sequences in the theoretical model as well as providing an inflation decomposition accounting for increases in import costs.

In the stylized version of the theoretical model including changes due to financialization, it could be observed that a rise in oil prices would decrease the target wage share of firms, which resulted, ceteris paribus, in positive unexpected inflation and a lower wage share at constant employment levels. This result was obtained without any changes in the percentage mark-up of firms. In a second step, the effect of increased profit margins implied by Weber and Wasner (2023) was incorporated into the model, which resulted in a further downward shift in firms' target wage share, leading to accelerating inflation at stable employment levels. The corresponding profit share would be higher, implying a lower wage share. Both sequences result in a lower economy-wide wage share, although their dynamic differs.

The empirical analysis suggests that unit imported material cost inflation was the dominant driver in the inflationary process in 2021/2022 in both countries, while the growth rate of unit profits was even negative in those years. This result implies that in 2021/2022, the rise in imported oil prices increased the profit share, while mark-ups did not (at least on the economy-wide level) drive the process. However, when unit imported material cost inflation decreased starting in 2023, the overall price inflation did not. Controversially, 2023 marked the year with the highest GDP price inflation. While we can see some efforts of workers to regain real wage losses, the dynamic was driven by unit profit inflation in both countries. This result implies that while growth in unit imported material costs was the dominant driver at the beginning of the inflation period, firms did make use of the situation by increasing unit profits. Unfortunately, since economy-wide data was considered, it is impossible to distinguish between sectors or firms that tried to protect (propagation) or amplify (amplification) their profit margins as suggested by Weber and Wasner (2023). Nevertheless, due to the diminished power of workers and the absence of additional supply shocks, these findings lend additional explanatory power to the transitory nature of recent inflation. These findings are in line with arguments put forward Ferguson and Storm (2024) for the US. Furthermore, real GDP growth was negative in 2023, standing in contrast to recovery struggle dynamics proposed by Lavoie (2024).

Finally, I have postulated that neoliberal income policies of fear (Setterfield, 2007) may drive country heterogeneity. As expected, the Kaleckian channels seem to function quite similarly for Germany and Austria, based on the many shared commonalities between the countries (Stockhammer et al., 2016; Hein et al., 2021). While sectoral composition only played a minor role in the observed period, overhead costs seem to have contributed substantially to redistribution. However, the degree of pressure on the bargaining power of workers distinguishes the countries: The effect of the third channel is substantially more pronounced in the German case.

Theoretically, I have shown that neoliberal income policies would result in a flatter target wage share of workers since their ability to fight for higher wages is constrained by institutionalized fear. This also decreased the slope of the unexpected inflation curve (Phillips curve), contributing to less severe inflationary pressure. Furthermore, the corresponding SIRE was obtained at a higher employment level. Therefore, this calibration of the model would be in line with a country that has experienced severe labor market deregulation and high worker insecurity accompanied by low levels of unemployment and less inflationary pressure in the case of an initial impulse. I argue that Germany can be classified as such a case for the particular comparison conducted in this paper.

The decisive difference between Austria and Germany in the empirical analysis of the long-term trends is the diminishment in bargaining power. Although Austrian bargaining power did not endure the period of financialization and neoliberalism unscathed, the German labor market seems to have been even more substantially affected. Policies aimed at international competitiveness (Dustmann et al., 2014) contributed to the depletion of the power of trade unions, while reforms such as ”Hartz IV” created a low-wage sector, including temporary employment (Giannelli et al., 2013). The empirical analysis confirms these arguments, since the decrease in union density, bargaining coverage, strictness of employment protection of temporary contracts, and long-term unemployment benefits has been significantly more pronounced in Germany than in Austria. Based on these observations, I argue that Germany can indeed be classified as a country in which the fear of workers has been institutionalized. It would, therefore, be expected that pressure from workers to make up for real wage losses would be less apparent in Germany than in Austria after an inflationary shock.

An analysis of inflationary experiences and a subsequent decomposition gives merit to this argument. After 2022, Austrian inflation rates surpassed German ones and have remained higher ever since. Wages were, in neither case, the driver of the dynamic, implying that workers are constrained by the effects of financialization and neoliberalism. However, the decomposition of inflation reveals that in 2023 and 2024, the contribution of unit labor costs to inflation was higher in Austria than in Germany. This could imply a more dynamic class conflict in Austria and that workers are less afraid to fight for higher wages. These findings suggest that neoliberal income policies of fear may indeed further decrease workers’ ability to fight back real wage losses after an inflationary shock, constituting significant country heterogeneity.

Summarizing these results, I have shown that incorporating the effects of financialization into the income targets of firms and workers can lend great explanatory power in understanding the period of the Great Moderation. The diminishment of bargaining power was one of the decisive factors that reconciled low and stable inflation with high employment rates. Furthermore, unit imported material costs were the dominant driver at the beginning of the inflationary period. Afterwards, firms could exert their power shown by rising unit profit inflation. Finally, neoliberal income policies of fear can lend important explanatory power to different inflation dynamics: While unit labor costs have not been the driver of the dynamics, stronger increases in unit labor cost inflation in Austria indicate a more dynamic class conflict.

Since it is likely that inflationary impulses will reoccur in the future (Ferguson & Storm, 2023), it is crucial to develop strategies to mitigate their detrimental effects. While it would go beyond the scope of this paper to develop policy implications, certain potential directions of public policy should be mentioned. As a first step, governments should conduct expansive fiscal policies to assist income groups who have been most affected by the supply shock. Second, the burden of rising import prices should not fall only on workers and rather be shared between social classes (Hein, 2024). Effective wage bargaining coordination could contribute to creating a SIRE corridor. However, strong trade unions, employer associations, and progressive government involvement are needed for a coordination process that avoids constant real wage losses and further diminishes workers' bargaining power. Furthermore, governments should impose taxes on windfall profits and price caps on essential goods to ensure a more mediated price development (Weber, 2022).

5. Conclusions

Inflation is rooted in conflicting claims, which are affected by historic and structural changes. Financialization and neoliberalism have altered socio-economic life in numerous ways, including target income claims of workers and firms. Therefore, I set out to develop a more profound understanding of the financialization–distribution–inflation nexus. Building on post-Keynesian/ Kaleckian theory I have incorporated three Kaleckian channels into an open macroeconomic model with conflict inflation. After deriving three hypotheses based on the theorized nexus, I have conducted an empirical analysis into Germany and Austria between 1995 and 2025.

The investigation reveals, first, that financialization has indeed impacted income claims of social classes and that the observed dynamics during the *Great Moderation* can be explained by the dominance of the workers' bargaining power channel. While all Kaleckian channels lend some explanatory power to the discussion, they vary in their strength and the GFC poses a disruption in the time series. Second, I find evidence that firms were indeed to some extent able to exert their power by pushing rising import prices through to overall price inflation and by subsequently increasing unit profits. Third, neoliberal economic policies of fear allow us to distinguish between otherwise similar countries and provide insights into different inflationary developments. I argue that there is evidence for an active class conflict in both countries, although workers seem to be able to wield more force in the Austrian case.

The contribution of this paper is twofold. First, I provide important insights into the financialization–distribution–inflation nexus. As heterodox scholars have pointed out numerous times, history matters. Therefore, incorporating structural changes due to financialization into an open macroeconomic model is crucial to gain a better understanding of the current situation. Second, the empirical analysis sheds light on the specific experiences of Germany and Austria regarding redistributive effects, the strength of the Kaleckian channels, and recent macroeconomic and inflationary trends. In an uncertain world, such an investigation is particularly essential since it is probable that such inflationary supply-side shocks will occur again due to climate catastrophes and geopolitical tensions. Gaining a more profound knowledge of the underlying dynamics of the current process will hopefully add to policy discussions on how to mitigate the detrimental effects of such shocks on society and help to derive more just and progressive proposals.

My conclusions have to be viewed in the light of three limitations. First, the descriptive nature of the analysis does not allow for any causal claims about the effects of financialization on income targets or functional income distribution. The analysis can only show that these trends coincide in time. Second, due to the focus on the financialization–distribution–inflation nexus, demand regimes were not considered in the analysis. Third, I have assumed that workers only consume domestically

produced goods and that all imports enter the production process as raw materials or semi-finished products. This assumption may disguise additional factors in the inflationary process.

To gain a more granular understanding of the financialization–distribution–inflation nexus, further research could include empirical analysis utilizing quarterly or even monthly data. Disaggregating the data on a sectoral level could reveal important insights into inflationary drivers and propagation vs. amplification price setting behavior of firms. Furthermore, mixed methods approaches, including interviews with trade union representatives, would add to the picture. While this paper only poses a starting point in understanding the postulated nexus, it is an essential piece of the puzzle when tackling coinciding emergencies.

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6. Appendix

Appendix A: Following Hein (2015, pp. 922f.), the pricing equation of a vertically integrated domestic industrial or service sector *j*, which employs fixed capital, labor, and imports raw materials and semi-finished goods used as inputs, can be written as:

$$p_j = (1 + m_j)\left(\frac{w}{y} + p_f a \mu_j\right), \qquad m > 0 \qquad (13)$$

in which p_j denotes the output price in sector j, m_j corresponds to the mark-up in the sector, w the nominal wage rate, y labor productivity, p_f the unit price of imported raw materials and semi-finished products denoted in foreign currency, a denotes the exchange rate, and μ_j denotes unit raw material and semi-finished product inputs per unit of output imported. Assuming the relation between unit material costs and unit labor costs to be given as:

$$z_j = \frac{p_j a \mu_j}{\frac{w}{y}} \qquad (14)$$

The gross profit share (h_j) for sector j, including overhead costs, in gross value added of the corresponding sector can be written as:

$$h_j = \frac{\Pi_j}{(\Pi + W)_j} = \frac{1}{\frac{1}{(1+z_j)m_j+1}} = \frac{(1+z_j)m_j}{(1+z_j)m_j+1} \qquad (15)$$

where Π_j is gross profits and W_j wages for direct labor in sector j. The related wage share of direct labor in gross value added $(1-h)_j$ can be derived as:

$$(1-h)_j = \frac{W_j}{\Pi + W_j} = \frac{1}{(1+z_j)m_j + 1} \qquad (16)$$

The economy-wide gross profit share (h) and wage share ($\Omega = 1 - h$) are both weighted averages of the sector shares:

$$h = \frac{\Pi}{(\Pi + W)} = \frac{1}{\frac{1}{(1+z)m+1}} = \frac{(1+z)m}{(1+z)m+1} \qquad (17)$$

$$\Omega = (1-h) = \frac{W}{\Pi + W} = \frac{1}{(1+z)m+1} \qquad (18)$$

Therefore, functional income distribution is determined by the mark-up, the sectoral composition, and the relation of unit material costs to unit labor costs.

Appendix B: The following approach was used to calculate the contributions to price inflation based on national income accounting data. Following Hein (2023), the accounting decomposition of the value of production, assuming that raw materials and semi-finished products are imported, can be written as follows:

$$p_Y Y = W + M^n + \Pi = wL + ap_f M + \Pi = wL + p_I M + \Pi \tag{19}$$

with M^n as nominal material costs in domestic currency and unit price for imported materials as $ap_f = p_I$. Dividing by Y yields the domestic GDP price level:

$$p_Y = \frac{wL}{Y} + \frac{p_I M}{Y} + \frac{\Pi}{Y} = \frac{w}{y} + p_I \mu + \pi \tag{20}$$

It is evident that unit price is composed of unit labor costs (w/y), unit material cost ($p_I \mu$), and unit profit (π).

In this approach, y and μ are assumed to be variable. To obtain the growth rates, total differencing with respect to time is conducted. This yields:

$$\dot{p_Y} = \frac{\dot{w}y - w\dot{y}}{y^2} + \dot{p_I}\mu + p_i\dot{\mu} + \dot{\pi} \tag{21}$$

In the next step, equation (21) is divided by the GDP price level and each term of the right-hand side is extended:

$$\frac{\dot{p_Y}}{p_Y} = \left(\frac{\dot{w}}{w} - \frac{\dot{y}}{y}\right)\frac{w}{p_Y y} + \left(\frac{\dot{p_I}}{p_I} + \frac{\dot{\mu}}{\mu}\right)\frac{p_I \mu}{p_Y} + \frac{\dot{\pi}}{\pi}\frac{\pi}{p_Y} \tag{22}$$

$$\widehat{p_Y} = (\hat{w} - \hat{y})\frac{w}{p_Y y} + (\widehat{p_I} + \hat{\mu})\frac{p_I \mu}{p_Y} + \hat{\pi}\frac{\pi}{p_Y} \tag{23}$$

The rate of inflation of the GDP price index is thus determined by the weighted averages of unit labor cost inflation ($\hat{w} - \hat{y}$), unit imported material cost inflation ($\widehat{p_I} + \hat{\mu}$), and unit profit inflation ($\hat{\pi}$). The weights are determined by the respective shares in total price, or in the total value of production of the previous period each year, as in equation (19).

Put differently, equation (23) displays the growth rate of the domestic GDP price index on the left-hand side and the respective growth contribution on the right-hand side.

If $\widehat{p_Y}$, $(\hat{w} - \hat{y})$, $(\widehat{p_l} + \mu)$and the weights for each type of inflation can be obtained from national accounts statistics, unit profit inflation can be calculated as:

$$\hat{\pi} = \frac{\widehat{p_Y} - (\hat{w} - \hat{y})\frac{w}{p_Y y} - (\widehat{p_I} + \hat{\mu})\frac{p_I \mu}{p_Y}}{\frac{\pi}{p_Y}} \tag{24}$$

Having outlined the theoretical considerations, the following gives an overview of which variables were used as proxys:

$(\hat{w} - \hat{y})$: unit labor cost inflation

$(\hat{p_I} + \hat{\mu})$: import price inflation plus inflation of μ

μ: real imports divided by real GDP plus real imports

$\frac{w}{p_Y y}$: compensation of employees divided by GDP plus imports

$\frac{p_I \mu}{p_Y}$: imports divided by GDP plus imports

$\frac{\pi}{p_Y}$: GDP minus compensation of employees divided by GDP plus imports

It is assumed that all imports enter the production as raw materials and semi-finished products.

Figure 6.1: Summary of data sources used in the analysis

Name	Unit	Source
Inflation variables		
GDP deflator	%	European Commission (2024b)
Unit labor cost deflator	%	European Commission (2024b)
Unit material cost deflator	%	European Commission (2024b)
Unit profit deflator	%	European Commission (2024b)
Sectoral composition variables		
Sectoral shares in gross value added	%	OECD (2024a)
Sectoral gross operating surplus	%	OECD (2024a)
Overhead costs variables		
Income shares in net national income	%	OECD (2024a)
Rentiers' income in net national income	%	OECD (2024a)
Bargaining power variables		
Unemployment	% of active population	European Commission (2024a)
Household debt to GDP	%	European Commission (2024a)
Trade openness	%	European Commission (2024b)
Union density	%	OECD and AIAS (2021)
Bargaining or union coverage	%	OECD and AIAS (2021)
Strictness of employment protection	Score between 0-6	OECD (2024b)
Net replacement rate	% of last median income	OECD (2024c)

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