

Distributive conflict and Inflation in Neoliberal Capitalism

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Abstract: This article has a twofold goal. Firstly, we develop a theoretical argument, drawing on post-Keynesian and original institutionalist insights, that the distributive conflict between workers and capitalists is a historical phenomenon shaped by institutions, which, in turn, influence the balance of power between social classes and their ability to generate real income. Secondly, we empirically estimate regressions using a dataset on structural reforms implemented by OECD countries to investigate how the rise of neoliberalism and its institutions shaped the struggle between workers and capitalists over national income by disciplining the working class, leading to low inflation rates since the 1980s. Our empirical findings confirmed the theoretical argument developed in the study. The decline in inflation rates in OECD economies was achieved through the establishment of rules of the neoliberal institutions that disciplined workers, thereby reducing their power in the distributive conflict with capitalists.

Keywords: Distributive conflict; Forms of Capitalism; Inflation.

1- Introduction

In post-Keynesian approach, inflation arises from the distributive conflict between workers and capitalists over national income (Rowthorn,1977, Blecker, 2011, Ribeiro et al. 2021, Setterfield, 2021, Lavoie, 2022, Weber and Wasner, 2023, Nikofofos et al., 2024). When workers strive for higher real wages to secure their desired share of national income, raising the wage share in the national income. However, as firms' labor costs increase, capitalists resist any reduction in their profit share and then respond by raising prices to restore their desired functional income distribution (Rowthorn,1977). Inflation, therefore, is seen as a social phenomenon driven by the struggle between workers and capitalists, and the ability of each class to defend its respective share of national income. A low inflation rate can only be achieved if one class accepts a smaller share of national income, or if its ability to defend its real income diminishes. For that, one class has to accept a lower share of national income.

On the other hand, the distributive conflict between workers and capitalists is a social and historically determined process as institutions that broker it evolve and change accordingly to the different forms of capitalism, leading to diverse labor relations and balances of power between social classes. Such social conflict is encompassed by an institutional regime with specific working rules to each time that conditions the struggle between workers and capitalists and then the functional income distribution (see Setterfield and Cornwall, 2002). In this sense, institutions influence what social classes can achieve on their own, given that the ability of workers to obtain real wages and of capitalists to generate profits varies significantly (Commons, 1924). Ergo, the institutional working rules are connected to the generating mechanism of inflation, the distributive conflict between workers and capitalists, in such a way that a controlled inflation rate, or even higher prices, can result from that, depending on the setting of institutional regime is devoted to control struggle between classes, or not.

In light of these arguments, a notable historical trend has emerged in OECD economies since the 1970s: a combination of increasing income inequality between workers and capitalists alongside declining inflation rates. Between 1970 and 2022, the wage share in national income declined by more than 5% of GDP, while annual core inflation dropped from nearly 10% to approximately 1% and the unemployment rate has increased considerably in most OECD countries. Simultaneously, this period was marked by a transition in the form of capitalism from institutions built up during the Golden Age of capitalism (1940s-1970s), notably distinguished by the pursuit of full employment and strong state interventions in these economies, towards

neoliberal capitalism (1990 onward), characterized by the adoption of fiscal austerity, liberal reforms and less state interventions. In fact, labor markets were made more flexible, that lead to weakened unions, and the adoptions of structural reforms devoted to liberalized markets and reduce interventions of state in economy were taken. This manner, contemporary capitalism is undeniably rooted in neoliberalism, and in its institutions. For decades, neoliberalism has been shaping Western economies (Wrenn 2015). As Harvey (2005) explains, neoliberalism represents the ultimate market-driven economy, where the distribution of goods and employment is determined by market forces.

In this context, we argue that the neoliberal institutions' working rules introduced through structural reforms in OECD economies since the 1980s have been specifically designed to weaken workers' bargaining power – that is, weakened labor unions, thereby their ability to defend their share of national income became smaller. As a result of the emergence of neoliberal institutions, workers were incapable to claim for higher wage-share of national income. Consequently, a low inflation rate was achieved in OECD countries with the designing of an institutional regime devoted to discipline workers and imposed them the functional income distribution desired by capitalists. Workers are forced a lower share of national income.

In view of these developments, the objective of this article is twofold. First, we aim to develop a theoretical model to argue that distributive conflict is a historical phenomenon shaped by institutions that influence workers' bargaining power and their ability to defend their share of national income. To address the impact of neoliberal institutions' working rules on workers' bargaining power, we integrate post-Keynesian theory with original institutional economics in the tradition of John R. Commons. Secondly, we performed econometric regressions using a dataset on structural reforms implemented by OECD countries to examine: (1) whether the influence of changes in the wage share of national income on the inflation rate has diminished over time as a result of the liberal reforms implemented since the 1980s, which have disciplined the working class; and (2) whether these liberal institutions' working rules have disciplined workers by reducing their bargaining power, thus leading to low inflation rates since the 1980s. Our estimates provide evidence suggesting that the rise of neoliberal capitalism has exacerbated functional income distribution and supports our argument that low inflation was achieved through the establishment of institutions that disciplined workers.

This paper is organized into five additional sections. Section 2 introduces the theoretical approach that guided our analysis. Section 3 discusses OECD's historical experience concerning

the evolution of neoliberal institutions' working rules in the light of reforms adopted in these countries since the 1970s. Section four present data and methodology used in our empirical exercise, while section five presents the econometric findings. Lastly, conclusions end the article.

2- Theoretical Framework: distributive conflict and inflation

In post-Keynesian theory, inflation is a real phenomenon that arises from the distributive conflict between workers and capitalists. In this approach, workers strive for higher wages in the negotiation with capitalists to obtain a desired wage share of national income. In turn, capitalists increase prices to reach the desired profit share of national income by reducing real wages. The mechanism generating inflation is the struggle between workers and capitalists and the each of the classes' ability to defend their respective share of national income. This section discusses Rowthorn's (1977) model as representative of post-Keynesian approach, which is constructed upon the following assumptions:

- i- Inflation has redistributive effects only if it is unanticipated. When individuals anticipate that prices will change, they will readjust their prices in accordance with their expectations, so there is no transfer of real income from workers to capitalists;
- ii- Economy is compounded by a private sector (divided into capitalists and workers) and state (financed by taxes and money creation);
- iii- Private sector uses imported goods as inputs, although the share of imports is taken as constant and invariant in relation to terms of trade. Further, consumers are supposed unable of importing goods. Lastly, it is also assumed that labor productivity is constant over time.

Also, Rowthorn's (1977) assumes that national income Y_t is represented as follows:

$$Y_t = T_t + M_t + W_t + E_t \quad (1)$$

where the variables T_t , M_t , W_t and E_t stand for total taxes, imports, salaries and profits, respectively. Dividing equation (1) by Y_t , it is obtained that the sum of share of all components presented in equation (1) equals one:

$$1 = t_t + m_t + \mu_t + \pi_t \quad (1.1)$$

where the variables t_t , m_t , μ_t and π_t represent the share of taxes, imports, salaries and profits in national income. Equation (1.1) states that the share of national income available to workers and capitalists ($\mu_t + \pi_t$) equals $(1 - t_t - m_t)$. Rowthorn (1977) argues that there is no automatic mechanism that assures that this available income may be enough to satisfy the aspirations of capitalists and workers. Put differently, the sum of desired shares of national income by both

classes may be greater than $(1 - t_i - m_i)$. Inflation results directly from this distributive incompatibility concerning national real income (Rowthorn, 1977).

Assuming that the wage-share in national income is represented as:

$$\mu_t = a_0(w_t/p_t) \quad (1.2)$$

where a_0 is the inverse of labor productivity and m_i/p_i the real wage. Workers set certain target of money salary w_t^n negotiating with capitalists in labor market. This results in setting a level of real wage (everything else constant), that is compatible with a certain share of salaries in national income – which is called the negotiated level of wage-share in national income (μ_t^w):

$$\mu_t^w = a_0(w_t^w/p_t) \quad (1.3)$$

Consequently, capitalists obtain the negotiated profit share of national income π_t^n :

$$\pi_t^w = 1 - t_t - m_t - \mu_t^w \quad (2)$$

It turns out that the negotiated profit share may not be compatible with the profit share that capitalists have targeted to obtain, represented by π_t^d . In this case, there is an ‘aspiration gap’ between the functional income distribution settled in labor market and the one desired by capitalists, which is denoted as follows:

$$C_t = \pi_t^d - \pi_t^w \quad (3)$$

C represents the conflict distributive between capitalists and workers. In the case that $\pi_t^d > \pi_t^w$, there is a conflict distributive around national income. Capitalists are not satisfied with negotiated profit share of national income and will not accept it. This would be inconsistent because $\pi_t^d + t_t + m_t + \mu_t^w$ would be greater than one, which is impossible. The mechanism that makes it consistent is the smaller real wages induced by a higher inflation rate (represented by \dot{p}) generated by capitalists.

More specifically, capitalists will seek to reduce wage share in income in order to obtain μ_t^d by increasing prices. This is captured by the following expression:

$$\dot{p} = \psi \alpha_\pi (\pi_t^d - \pi_t) \quad (4)$$

The parameter ψ represents the number of wage bargains over a year, while α_π is the magnitude of the influence of aspirational gap exerts on inflation rate. Both parameters are positive. The magnitude of these parameters indicates the bargaining power of each social class. A strong working class is capable of requiring salary readjustments more often to defend real wages. This is captured in equation (4) by the parameter ψ ; as stronger the working class, higher this parameter. In its turn, the parameter α_π reflects the capacity of capitalists change functional

income distribution in their favor (i.e., profit share) by rising inflation. As stronger this capacity, higher the parameter α_π . Equation (4) suggests that as larger is the difference between the variables π_t^d and π_t higher is the inflation rate. Inflation rises as the resolution of class struggle for higher shares around national income.

On the other hand, it is assumed that workers negotiate money salaries looking for obtaining a desired level of wage share in national income μ_t^w , which corresponds to π_t^w in terms of profit share in national income, as presented as follows:

$$\dot{w} = \alpha_w(\pi_t - \pi_t^w) \quad (5)$$

the parameter α_w reflects the capacity of workers to change money salaries in their favor. As stronger their capacity, higher the parameter α_w . If the effective profit share in income is higher than the profit share compatible with working class's aspirations, workers will struggle for higher salaries in order to obtain an increased wage share in income.

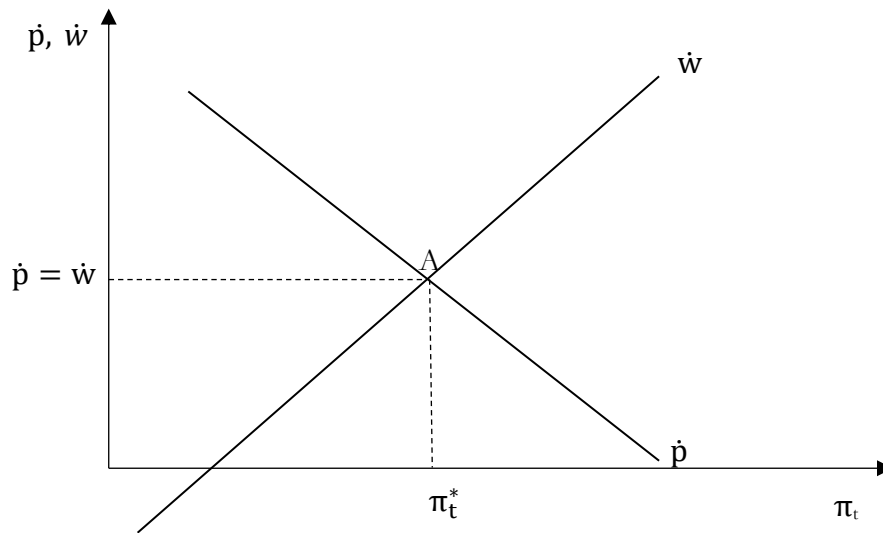
The steady state solution requires that prices change at same pace than salaries (i.e., real wage is constant, such as functional income distribution also remains unchanged). This solution is obtained by equating equations (4) and (5):

$$\pi_t^* = \frac{\psi\alpha_\pi\pi_t^d + \alpha_w\pi_t^w}{(\alpha_w + \omega\alpha_\pi)} \quad (6)$$

Equation (6) indicates the effective profit share, in steady state, is positively associated with the desired level of profit share of capitalists, as well as with the capacity of capitalists change functional income distribution in their favor. In turn, the effective profit share in income is negatively associated with the desired level of wage share of workers¹ and with the capacity of workers change salaries in their favor. Figure 1 illustrates the association between functional income distribution and inflation.

¹ It should be stressed that π_t^w equals $1 - \mu_t^w$.

Figure 1- Aspirational gap and inflation



A simple visual inspection of Figure 1 indicates that point A represents the steady state solution represented by equation (6). In this point, real wage is constant as \dot{p} equals \dot{w} ; there is no distributive conflict, and prices are constant. Consequently, desired profit share in income equals the negotiated profit share ($\pi_t^d = \pi_t^n$). Figure 1 suggests that, everything else constant, inflation may change as a result from shifts of \dot{w} curve caused by exogenous changes in the profit share compatible with working class's aspirations μ_t^W , or from change in the inclination of \dot{w} curve associated with the capacity of workers change salaries in their favor α_w .

3- The emergence of neoliberal working rules and the weakening of the working class

For institutionalists, capitalism is expressed through its institutions, and the various forms of capitalism are closely linked to the evolution of these institutions. For the purpose of this study, we draw upon John R. Commons's institutionalist tradition. Within this framework, Commons's primary areas of interest included “[...] trade union history, labor legislation, public utility regulation, and an analytical approach emphasizing the evolution of legal institutions and processes of dispute resolution” (Rutherford 2011: 4). In summary, Commons's interests primarily revolved around labor relations and legal institutions. The focus of Commons's institutionalism is crucial for our paper, as labor relations and their impact on workers' bargaining power are central to our analysis.

In order to discuss Commons's perspective on labor relations and legal institutions, it is important to present Commons's institutionalism. It is introduced in this study by addressing three key issues: the Commonsian notion of (1) institutions, (2) transactions, and (3)

reasonableness. For Commons (1931: 648), “[a]n institution is defined as collective action in control, liberation, and expansion of individual action.” Collective action, i.e., an institution, leads unorganized custom to organized going concerns (Commons 1931).

Commons (1931) illustrates organized going concerns as the family, the corporation, the trade association, the trade union, the reserve system, and the State. According to Commons (1931), going concerns mean “[...] greater or less control, liberation and expansion of individual action by collective action.” By this definition, we can assume that going concerns put institutions into practice. A key point for Commonsian institutionalists is that the control promoted by going concerns results in gains or losses to different social classes, such as wages for the working class and profits for capitalists.

Institutions tend to disrupt the balance of what social classes can achieve on their own, given that the ability of workers to earn wages and of capitalists to generate profits varies significantly. This imbalance is rooted in the rights, duties, motivations, and prohibitions established by the working rules of going concerns. These working rules inform social classes of what they “can,” “cannot,” “must,” “must not,” “may,” or “may not” do, as they are supported by collective actions, or institutions. As Commons (1924: Ch.4) argues, working rules define the boundaries of action, and within these boundaries, social classes retain the freedom to choose. Working rules serve as a guide for behavior, sometimes referred to as collective will, collective mind, reason, natural law, or natural order.

Nevertheless, these rules originate from customs and habits, and in Anglo-American jurisprudence, they are recognized as common law (Commons 1924: Ch.4 and Nakahara 2018). Working rules relate to the application of ethics and law within society (Commons 1931). Working rules tend to be more dynamic than institutions, evolving progressively over the course of an institution’s history. For instance, labor legislation can be considered an institution; it remains largely unchanged in Western society, as it has typically been an integral part of its economies for a long time. Yet, the rules established by the institution of labor legislation change over time; they are much more flexible. These rules are what Commons called working rules.

Regarding transactions, Commons (1931: 651) introduced the concept as “trans-actions” to emphasize that it represents individual actions rather than merely the exchange of commodities. This analytical perspective is crucial for the institutionalist approach, as it concentrates on how the working rules of institutions support economic relations, specifically transactions. According to Commons (1931), an institutional approach to transactions suggests

that they can take on three distinct forms: bargaining transactions, managerial transactions, and rationing transactions. A bargaining transaction refers to market transactions that occur in line with traditional economic theories, while the rationing transaction shares some similarities with the managerial transaction. The managerial transaction, which was a primary focus for Commons, refers to transactions within the labor market, involving a relationship between two parties: one who gives orders—such as a master, manager, foreman, or executive—and one who follows orders—such as a servant, workman, or other subordinate (Commons 1931). In other words, a managerial transaction describes the relationship between the working class and capitalists. The rationing transaction also involves a hierarchical relationship; however, in this case, the commanding entity is a collective body, and the subordinates are individuals (Commons 1931). The rationing transaction represents the relationship between the State and its citizens.

To further explore the significance of transactions within Commonsian institutionalism, it is crucial to introduce the third and final Commonsian concept upon which this paper is based: reasonableness. Commons presented his view of reasonableness through multiple perspectives, each representing a different layer of a complex phenomenon. Typically, Commons's idea of reasonableness is introduced through his concept of reasonable value. As Whalen (2022a and 2022b) explain, Commonsian transactional theory is fundamentally a theory of reasonable value. Reasonableness in transactions implies a balance or equity in bargaining power among the parties involved. This principle underpinned much of Commons's work, particularly his focus on the labor market, labor legislation, and the role of labor unions. Commons strongly supported labor unions because he believed they could help balance bargaining power, thereby fostering a more reasonable relationship between capitalists and workers (Chasse, 2018). Furthermore, Commons championed labor laws that reduced capitalists' bargaining power while increasing that of workers (Broda, 2013, Chasse, 2018, and Takahashi, 2020).

For Commons, reasonableness in labor relations could be achieved through the actions of labor unions, the existence of labor legislation, and the recognition of these as tools for promoting equality in bargaining power. However, neoliberalism, as Commons might argue, has fostered unreasonableness. As Harvey (2005) explains, neoliberalism advocates for an economic system that relies predominantly on market forces as the primary organizer of the economy, relegating the State and other institutions to a minor, if any, role in economic governance. This neoliberal approach, therefore, promotes a form of capitalism that Commons would likely deem unreasonable. Our study provides evidence that such unreasonableness has manifested through

the withdrawal of institutions that once ensured equity in bargaining power in labor relations and through the alteration of their working rules. To further analyze this issue of unreasonableness, we support our argument by referencing the product market regulation index and some data on working rules across OECD economies in what follows.

Table 1 presents the Product Market Regulation (PMR). This index is a measure of changes in economies' working rules calculated by the OECD, that documents the national practices associated with the distinct varieties of capitalism (Hall and Gingerich, 2009)². PMR is compounded by a set of indicators devoted to document the evolution of economies' regulatory system in many areas – like market competition, capital flows and labor market, that can be aggregated in two groups (Vitale et al., 2020): (1) distortions induced by state participation in economy associated with public ownership, its involvement in business operations, regulatory practices; and (2) barriers to domestic and foreign entry that is associated with administration burden on start-ups, barriers caused by state in service and network sectors, and barriers to free trade openness and foreign direct investment (Vitale et al., 2020). The PMR is calculated by applying an extensive questionnaire to countries that appraise the form of state intervention in economy (Nicoletti et al., 1999).

The recommendations of structural reforms to convergence economies' institutional working rules towards OECD's doctrine are made based on countries' PMR (Vitale et al., 2020). The hundreds of questions that compound PMR are constructed assuming that state intervention harms economy and more liberal rules and regulation foster private sector (Vitale et al. 2020). As higher the values of PMR, less adequate economies' working rules are in relation to OECD's liberal doctrine; markets are less competitive (including labor market) and state is very interventive in economy. As result, structural reforms are required in order to liberalize/flexible markets and reduce interventions of state in economy. In the context of the labor market, this reflects the unreasonableness of stripping away tools that empower the working class in bargaining. In turn, low values of PMR indicators suggest that countries' economic institutions are suitable at OECD's liberal lens that means more unreasonableness economics' relations are.

² In this study, we apply Commons's terminology concerning institutions and working rules. As previously discussed, working rules indicate the actions that an institution controls, liberates, or expands. Thus, working rules operationalize institutions. In other studies, the distinction Commons made between institutions and working rules may not be as useful, as its applicability depends on the specific objectives of each study. Consequently, what we refer to as working rules here may be referred to as institutions in other studies.

Our argument is that this index may be used to document the transition of a kind of capitalism based on working rules built after the 1930s and second world war (i.e., the Golden Age, 1940's-1970's), in which state and full employment were the cornerstone of economic macroeconomic logic, towards a neoliberalism capitalism (1990 onward) plagued by fiscal austerity, liberal reforms and the use of unemployment to discipline labor force (Setterfield, 2023). Table 1 displays the PMR for 12 OECD's economies over 1975 and 2018.

Table 1- Liberalizing reforms in OECD economies: PMR over 1975-2018 (averaged by decade)

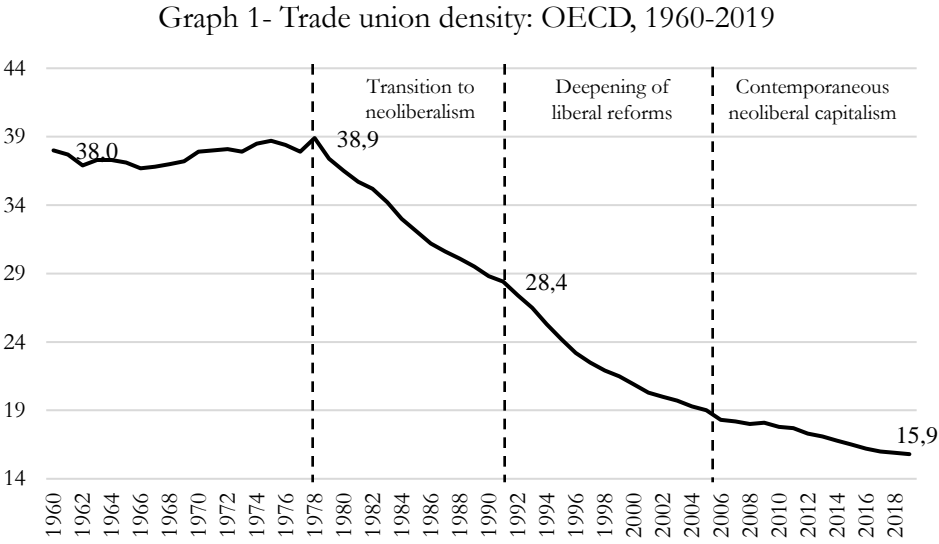
	1970's	1980's	1990's	2000's	2010's
United Kingdom	1,00	0,90	0,45	0,18	0,11
Sweden	1,00	0,95	0,67	0,37	0,30
Switzerland	1,00	1,00	0,95	0,68	0,55
Norway	1,00	0,93	0,68	0,42	0,37
Denmark	1,00	0,99	0,70	0,28	0,22
Finland	1,00	0,93	0,68	0,43	0,37
Japan	1,00	0,90	0,65	0,36	0,32
Australia	1,00	1,00	0,76	0,42	0,32
Austria	1,00	0,96	0,76	0,38	0,26
Netherlands	1,00	0,99	0,70	0,27	0,22
Canada	1,00	0,92	0,54	0,32	0,32
Spain	1,00	1,00	0,83	0,35	0,24

Source: Authors using data from OECD on the Product Market Regulation (PMR).

The data on the historic evolution of PMR (averaged by decade), displayed above, indicates that the decades after the 1980s were pronounced by the adoption of liberal reforms that shaped working rules of the institutions of these economies in accordance with OECD liberal view. The 1990s inaugurated an era of adopting liberal reforms in many countries. Even though it should be stressed that each country has its own institutional path and pace of convergence toward OECD guidance of a suitable set of institutional working rules. Put differently, many liberalizing reforms were implemented in these countries. The influence of state in economy has reduced over time insofar as public companies were privatized, labor markets were made more flexible and less reasonable, and economies have been more open to international trade and globalization.

This context of the emergence of neoliberal working rules is remarkable for the labor market flexibilization and the weakening of working class's bargaining power. This is illustrated in Graph 1, that presents the historical evolution of trade union density (i.e., the ratio number of net union members and the number of employees) for OECD countries over the years

between 1960 and 2019. The information reveals a strong decline in the share of unionized workers after the 1970s. It is quite clear that workers had a constant bargaining power until the end of 1970 as this variable remained at around 38% until 1978. However, the 1980s was marked by a sharp decline of trade union density in OECD countries, that reduced 58% until 2019, when only 15,9% of workers were unionized. Graph 1 is presented below.



Source: Graph made by the authors using the data from OECD.

The historical evolution presented in Graph 1 appears to be related, in some way, to the transition of capitalism described in Table 1. A simple visual inspection of Graph 1, in light of the information provided by Table 1, suggests that the share of unionized workers has diminished since the 1980s, coinciding with the transition from institutional working rules forged during the Golden Age of capitalism to neoliberal capitalism working rules. This historical process has been intensified during the 1990s, as many structural reforms were implemented in these countries, leading to weakened unions simultaneously. As a result of this historical development, contemporary capitalism is characterized by the coexistence of working rules aligned with liberal doctrine (after many years of structural reforms) and a weakened working class with less bargaining power in distributive conflicts with capitalists over national income.

The emergence of neoliberal capitalism has also been associated with a changing in the logic of OECD economies. The macroeconomic policies started being oriented not to the pursuit of full employment, but to discipline workers through the fear of unemployment in a manner that working class is more likely to accept lower wages to keep their jobs (Minsky, 1980), instead of bargaining for incorporating the gains of labor productivity in real wages (Setterfield,

2023). In fact, unemployment rate has increased steadily in all OECD countries overall since the 1970s, as shown in Table 2. Yet, it should be noted that neoliberal working rules made possible the coexistence of low unemployment and inflation as workers have been disciplined, as Setterfield (2005) argued for the U.S. economy.

Table 2- Unemployment rate in OECD economies: 1960-2022 (averaged by decade)

	1970's	1980's	1990's	2000's	2010's	2020's
United Kingdom	4,69	9,93	8,16	5,43	6,04	4,30
Sweden	2,53	3,26	8,25	6,52	7,62	8,17
Switzerland	0,23	0,68	3,22	3,61	4,69	4,82
Norway	1,78	2,80	4,87	3,50	4,07	4,20
Denmark	3,25	6,97	7,31	4,73	6,58	5,07
Finland	3,54	4,83	11,98	8,44	8,28	7,47
Japan	1,67	2,51	3,06	4,64	3,56	2,77
Australia	3,85	7,62	8,77	5,47	5,51	6,46
Austria	1,26	3,39	4,32	4,96	5,55	5,73
Netherlands	4,68	10,29	7,15	4,83	6,56	4,27
Canada	6,69	9,38	9,55	7,02	6,91	9,54
Spain	4,52	16,44	19,46	11,36	20,50	14,33

Source: Authors using data from Annual macro-economic database of the European Commission (AMECO)

The combination of weakened unions and higher unemployment, after the adoption of liberal reforms that shaped institutional working rules, led workers to face an income policy based on fear and insecurity (Cornwall, 1990, [Setterfield, 2023], Setterfield, 2005). These working rules imposed the capitalists targeted share in national income over workers, fear came to be created by the structure of labor market, not only by unemployment (Setterfield, 2005). Institutional working rules, in neoliberal capitalism, solved the conflict distributive by favoring capitalists (Setterfield, 2005). Working class has become unpowered in conflict distributive with capitalists, being compelled to accept lower real wages (Setterfield, 2023). The result was a worst functional income distribution that favors profits to the detriment of salaries. The wage share in income became smaller, as is shown in Table 3.

Table 3- Functional income distribution in OECD economies: 1960-2022 (averaged by decade)

	1970's	1980's	1990's	2000's	2010's	2020's
United Kingdom	60,9	55,6	53,8	56,6	57,1	58,7
Sweden	53,6	51,1	48,6	48,1	49,4	48,6
Switzerland	63,0	60,8	58,2	55,0	53,4	52,7
Norway	59,3	53,6	51,2	46,2	49,1	48,0
Denmark	61,1	58,8	55,9	55,4	55,1	55,0
Finland	64,4	62,4	58,3	53,1	54,5	52,2
Japan		67,6	63,3	59,3	57,0	59,7
Australia	63,0	60,8	58,2	55,0	53,4	52,7
Austria	63,1	61,2	58,8	54,3	54,6	56,2
Netherlands	68,0	64,9	61,5	57,8	58,1	59,5
Canada	59,5	58,0	58,3	55,2	55,4	57,1
Spain	64,1	62,8	57,3	56,2	57,9	57,9

Source: Authors using data from Annual macro-economic database of the European Commission (AMECO)

Table 3 indicates that wage share in national income has dropped over the period between the 1970s and 2020s in all countries. Wage share in national income has been reduced after the 1970s especially during the 1990s and 2000s during the deepening of liberal reforms in OECD countries. In countries like Sweden, Switzerland, Denmark, Finland, Japan, Australia, Austria and Spain wage share in income fell sharply (more than 5% as a share of GDP between the 1970s and 2000s), while United Kingdom, Norway and Canada had had less intense falls.

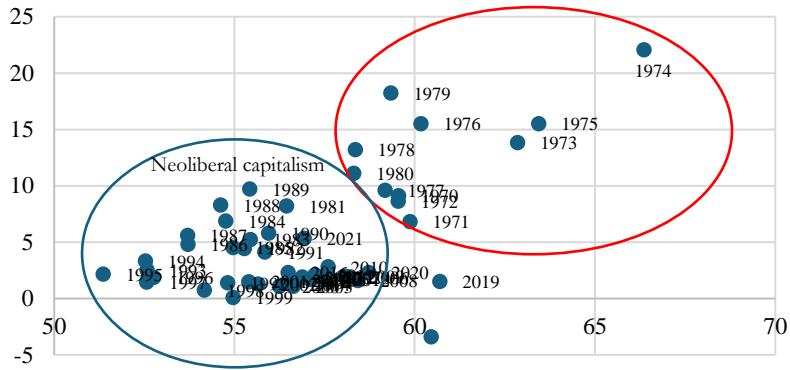
As inflation arises from the distributive conflict between workers and capitalists over national income and workers are unpowered to claim for higher wage-share of national income (after the implementation of neoliberal structure in labor market), there is no inflationary pressures caused by workers' claims. As a consequence of the "controlled" conflict distributive by means of working rules, inflation rates become lower. Workers are not capable of sparking an inflationary process by claiming for a higher wage-share of national income, nor are they capable of defending their real wages against rising inflation caused by shocks (Setterfield, 2023).

Graphs 2 – 13 display the graphical association between inflation rate and wage share in national income in OECD countries over the period 1970-2022. The variable wage share in income was collected from Annual macro-economic database of the European Commission (AMECO), while inflation rate – represented by a measure of core inflation³, comes from Ha et

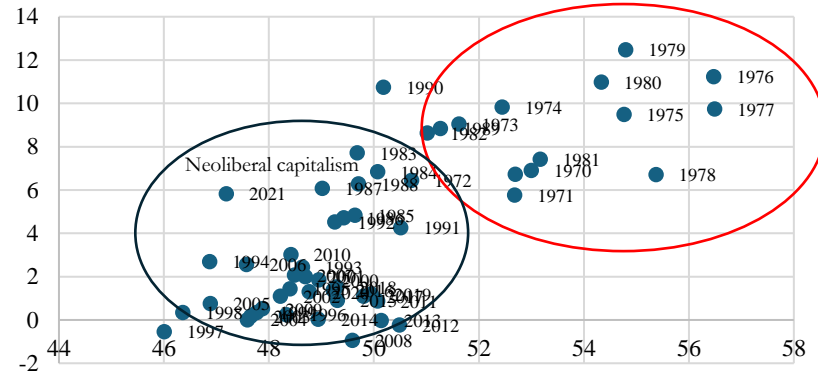
³ Usually, the measure of core inflation is computed by excluding the most volatile prices from inflation index, like prices of food and energy (Ha et al., 2023).

al. (2023). The Graphs indicate that the orbit of this relation has moved to the left as the functional income distribution structurally changed over these years. We argue that the emergence of neoliberal working rules has reduced wage share in income. This is clearly visible in Graphs 2 – 13. The red circle indicates, roughly, the period after neoliberal reforms, whilst the blue circle represents neoliberal capitalism. It is quite clear that the association between wage share in income and inflation has been floating around lower values of wage share in income and inflation since the mid-1980s, after the transition to neoliberalism.

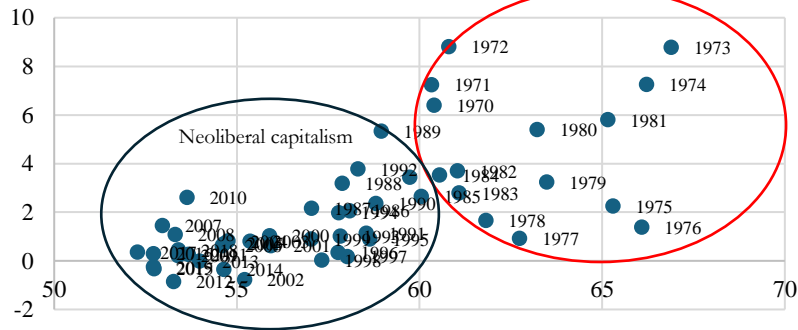
Graph 2 - Inflation rate and income distribution:
UK (1970-2022)



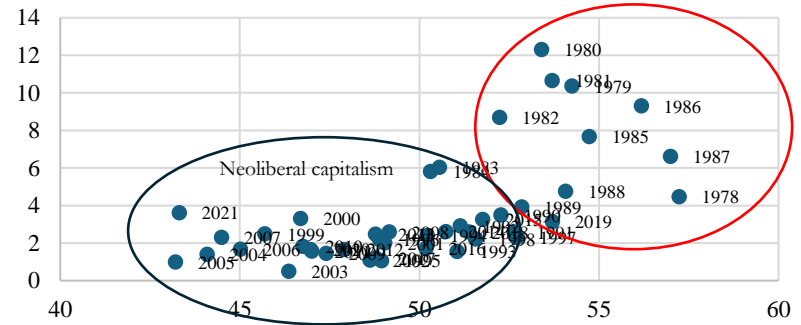
Graph 3 - Inflation rate and income distribution:
Sweden (1970-2022)



Graph 4 - Inflation rate and income distribution:
Switzerland (1970-2020)



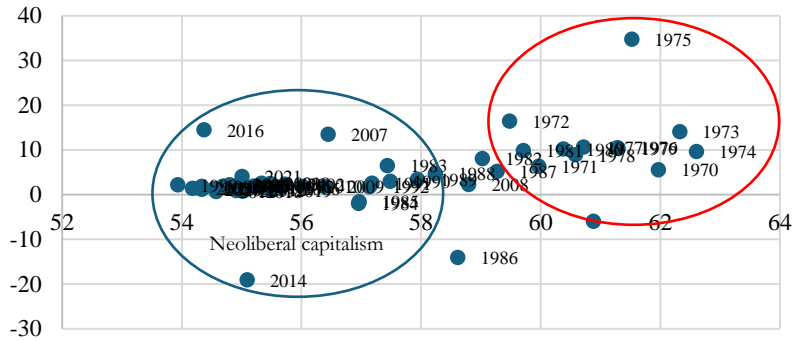
Graph 5 - Inflation rate and income distribution:
Norway (1979-2022)



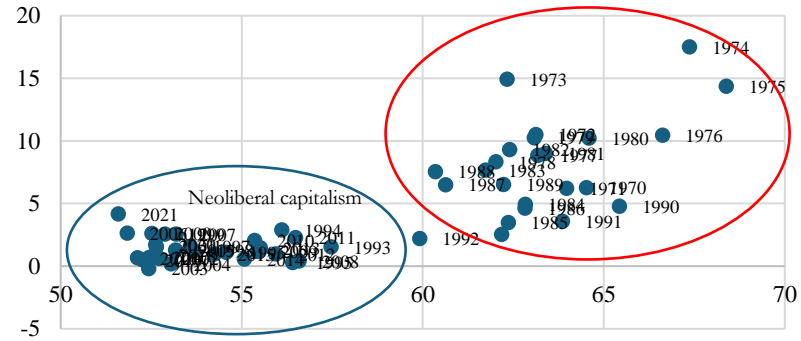
Source: Authors' elaboration

Notes: Inflation is presented in axis y, while the wage-share of income in axis x.

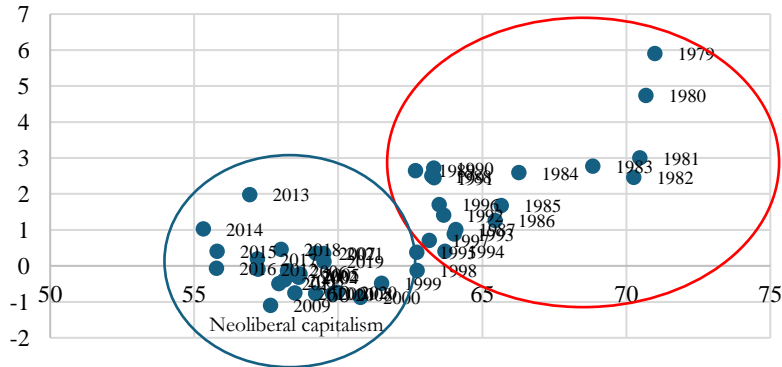
Graph 6 - Inflation rate and income distribution:
Denmark (1970-2022)



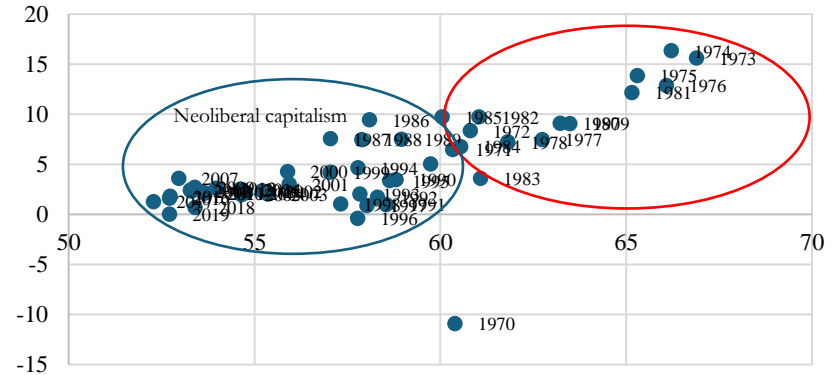
Graph 7 - Inflation rate and income distribution:
Finland (1970-2022)



Graph 8 - Inflation rate and income distribution:
Japan (1980-2022)



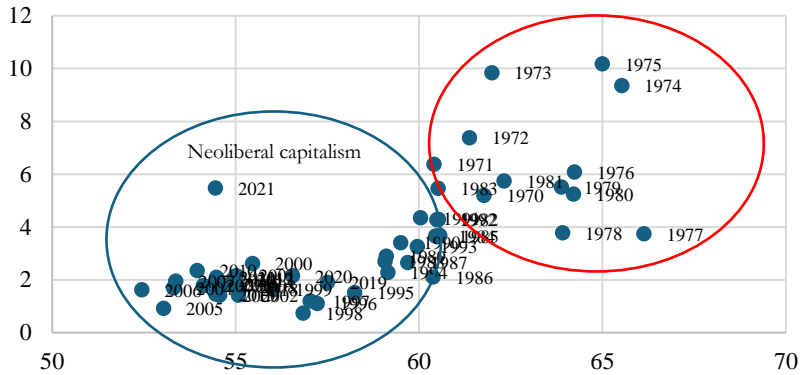
Graph 9 - Inflation rate and income distribution:
Australia (1970-2022)



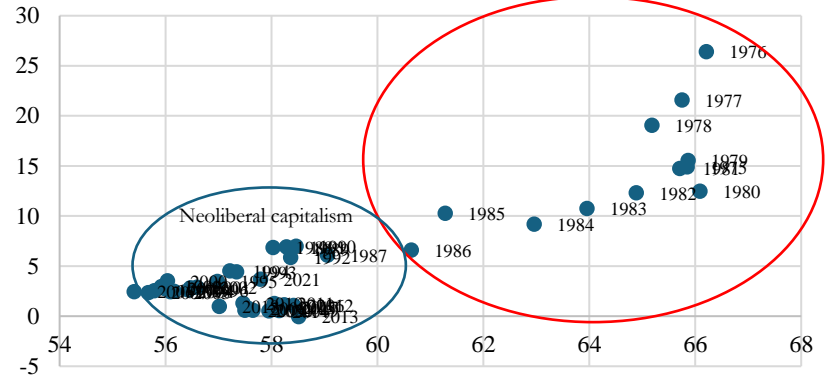
Source: Authors' elaboration

Notes: Inflation is presented in axis y, while the wage-share of income in axis x.

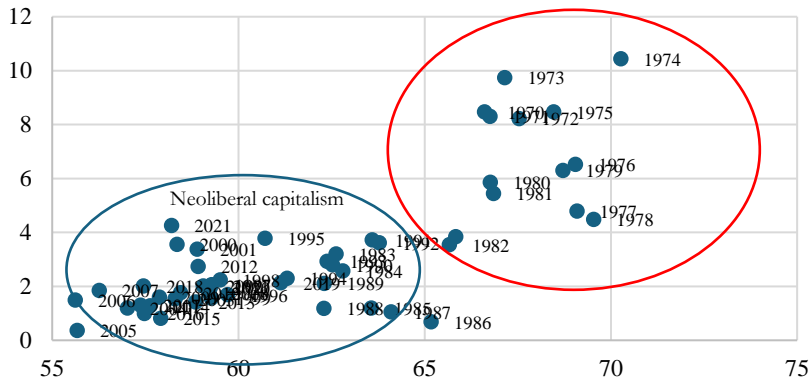
Graph 10 - Inflation rate and income distribution:
Austria (1970-2022)



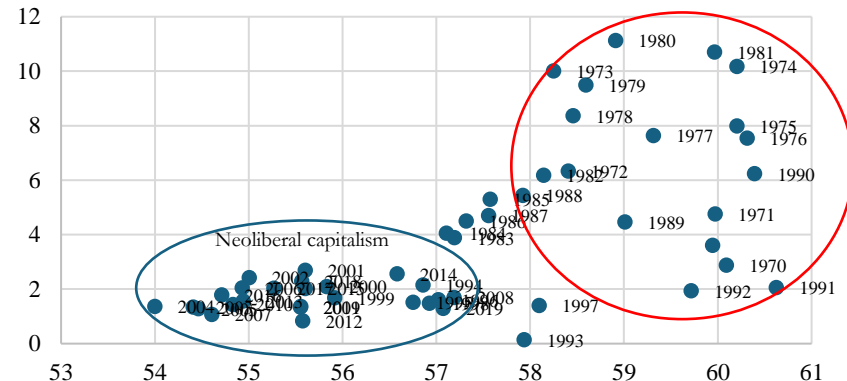
Graph 11 - Inflation rate and income distribution:
Spain (1976-2022)



Graph 12 - Inflation rate and income distribution:
Netherlands (1970-2022)



Graph 13 - Inflation rate and income distribution:
Canada (1970-2022)



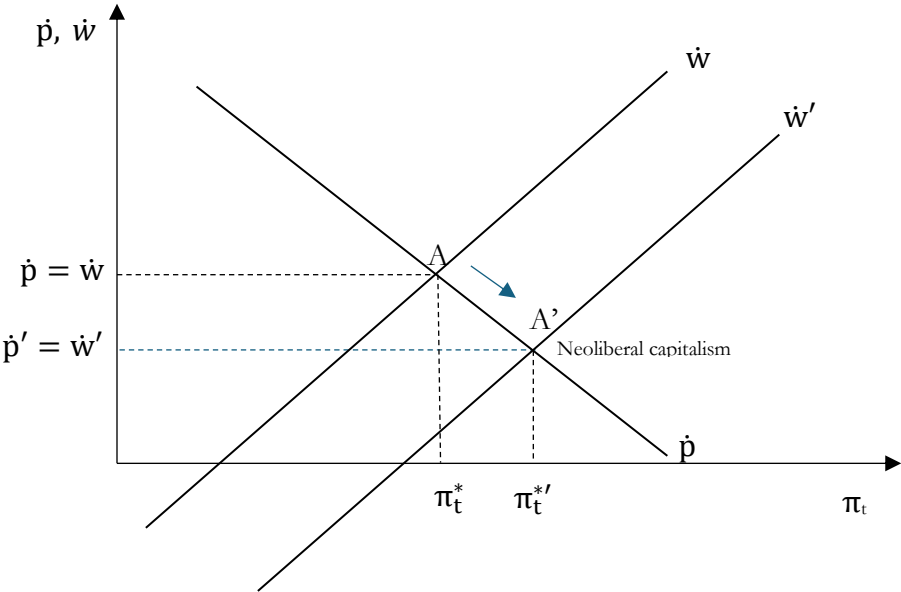
Source: Authors' elaboration

Notes: Inflation is presented in axis y, while the wage-share of income in axis x.

In the light of this discussion, we argue that the macroeconomic association between functional income distribution and inflation may have been changed due the emergence of neoliberal working rules since the mid-1980. Our argument is that the rise of neoliberalism has unreasonably affected the balance of power between workers and capitalists in conflict distributive around national income, which has influenced the inflationary dynamic since then. Put differently, this structural change is connected to a transformation in social logic from a form of capitalism based on the working rules built after the 1930s and second world war (red circles in above-presented Graphs) towards neoliberalism capitalism and its working rules designed to discipline workers (blue circles in above-presented Graphs).

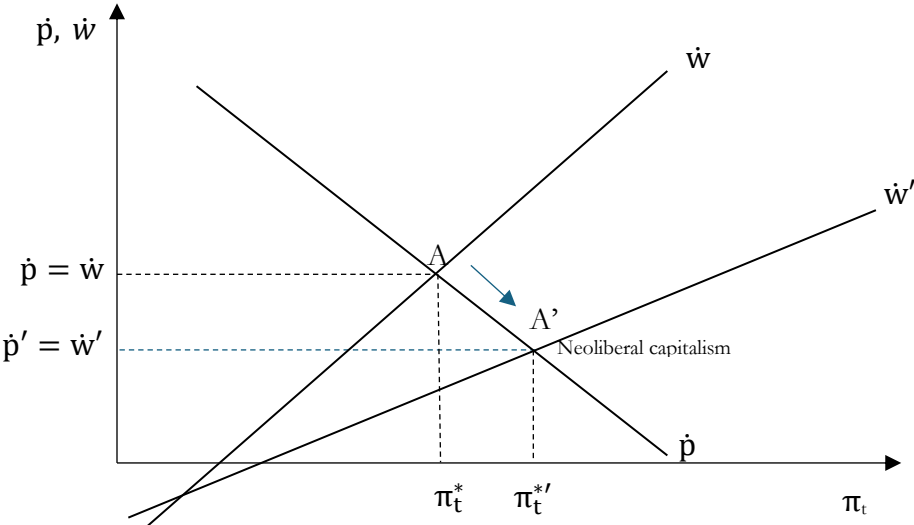
Accordingly, the outcome is a disciplined working class with a loss of bargaining power in conflict distributive with capitalists, as suggested by the downward trend in wage-share in national income of OECD economies in a historical context of reduced unionized workers, higher unemployment rate and adoption of liberalizing reforms. In accordance with the theoretical model discussed in section 2, there are two possible scenarios for that, illustrated in Figures 2 and 3. The first one suggests that the profit share compatible with working class's aspirations has increased as the weakened working class is more concerned in keep jobs than struggle for higher real wages. In other words, π_t^W becomes higher as μ_t^W is lower. In this scenario, wage curve is dislocated downward toward a new point with a lower inflation rate and a higher profit share in income, represented by point A' in Figure 2.

Figure 2- Income distribution and inflation after emergence of neoliberal working rules I



The second possibility is associated with a reduced capacity of workers to change money salaries in their favor – that is, the parameter α_w of equation (5) becomes smaller. In this scenario, workers are weakened in social conflict, so that they are not capable of readjust salaries to pursue their desired wage share in income. The outcome is a flatter wage curve. The new equilibrium point is represented by A' in Figure 3 with a lower inflation rate and a higher profit share in income. Figure 3 is presented below.

Figure 3- Income distribution and inflation after emergence of neoliberal working rules II



Either way, by dislocating the wage curve downward or by making it flatter, disciplined workers caused by neoliberal working rules result in a combination of lower wage-share in national income and a reduced inflation rate. Thus, a lower inflation rate is achieved imposing a social logic based on working rules that solved the conflict distributive by favoring capitalists.

The next section discusses the empirical strategy and database employed in our study to investigate the association between functional income distribution and inflation rate in OECD economies over the period between 1970s and the 2020s, and if such relation has been changed over time as a result of the rise of neoliberalism capitalism.

4- Database and empirical strategy

Our empirical strategy consists of empirically estimating equations using Auto Regressive Distributive Lag (ARDL, henceforth) method and an annual database in order to test our argument to OECD economies. The two estimated equations are represented as follow:

$$\text{Inflation}_t = c + b_1 \text{Wage share}_t + b_2 \text{Unemployment}_t + b_3 \text{Working rules}_t + b_4 \text{WBCPI}_t + \varepsilon_t \quad (7)$$

$$\text{Inflation}_t = c + b_1 \text{Wage share}_t + b_2 \text{Unemployment}_t + b_3 (\text{Working rules}_t \times \text{Wage share}_t) + b_4 \text{WBCPI}_t + \varepsilon_t \quad (8)$$

The dependent variable in equations (7) and (8) is inflation rate, measured as the core of consumer price inflation (i.e., excluding the more volatile prices, like food and energy), sourced from Ha et al. (2023). The variable wage share represents the share of salaries in national income, its source is the annual macro-economic database of the European Commission (AMECO). As we argued earlier, it is expected a positive signal for b_1 insofar as this variable is a measure of workers' bargaining power as is positively associated with inflation rate. Table 3 presents the database used in our estimates.

Table 3- Variables

Variable	Definition and sample	Source
Inflation rate	Official core consumer price inflation (excluding the more volatile prices, like food and energy)	Ha et al. (2023)
Wage share (W_t)	Wage share in national income (% of GDP). This variable was normalized, so its value is between 0 and 1.	Annual macro-economic database of the European Commission (AMECO).
Unemployment (U_t)	Unemployment rate is represented by one hundred minus the ratio employment to population. This variable was normalized, so its value is between 0 and 1.	Annual macro-economic database of the European Commission (AMECO).
Working rules (WR_t)	Product Market Regulation index (PMR). This variable was normalized, so its value is between 0 and 1. As closer to 0 is this index, more neoliberal reforms were implemented (in line with the OECD guidance of "good" institutions/working rules). Closer to 1 is this index, more distant are the working rules in relation to the OECD benchmark; a few neoliberal reforms were implemented.	OECD database.
World Bank commodity price index (WBCPI)	Index of commodity prices calculated considering more than 50 commodities (energy, agriculture, metal and minerals, fertilizers, precious metals)	Ha et al. (2023)

Source: authors

We also considered further variables in our estimates, like unemployment rate. This variable, calculated by the authors as one minus the employment rate using data from AMECO, was introduced in estimates to capture the effects of labor market conditions over functional income distribution, in line with Kalecki's (1943) argument. The unemployment rate influences the balance of power between workers and capitalists. A tight labor market increases workers' bargaining power, who will claim for higher salaries. Everything else constant, wage share in income becomes greater, squeezing profits and accelerating inflation rate as capitalists will not accept a reduced profit share. Therefore, it is expected a negative signal for b_2 .

Further, we introduced the variable Working rules, represented by the Product Market Regulation index, in our regressions in order to represent the liberalizing structural reforms of OECD countries. This variable was normalized between zero and one; as closer to zero, more neoliberal reforms were implemented, giving rise to neoliberal working rules. In line of our argument, it is expected that parameter b_3 may be positive in equation (7) in a manner that the neoliberal working rules are associated with lower inflation rates as workers have been disciplined. This corresponds to the mechanism described in Figure 2; wage curve is dislocated downward toward a new point with a lower inflation rate and a higher profit share in income.

The only modification of equation (8) in relation to (7) is the replacement of the variable Working rules_t by the interaction between Working rules_t and Wage share_t. This procedure was taken to investigate the mechanism described in Figure 3, according to which the rise of the neoliberal working rules is associated with workers incapable of readjusting salaries to pursue their desired wage share in income, resulting in a combination of lower inflation rate and a reduced wage share in income. This interaction captures the notion according to which neoliberal reforms have reduced the magnitude of the effect of wage share changes on inflation rate as a result of the loss of bargaining power of working class. Thus, it is expected that the parameter b_3 , in equation (8), may be positive; as closer to one is the variable Working rules_t (farther to the neoliberal institutional benchmark of OECD), the greater is the effect of changes in wage share in national income over inflation rate. On the contrary, as closer to zero is the variable Working rules_t (closer to the neoliberal institutional benchmark of OECD), the lower is the effect of changes in wage share over inflation rate. In other words, equation (8) captures our argument according to which the rise of neoliberal working rules has changed the bargaining power of working class and, ergo, the magnitude of the association between wage share in income and inflation over time as workers have been disciplined by neoliberal working rules.

At last, we controlled for supply shocks by introducing the World Bank commodity price index (WBCPI) in both equations. This variable is an index of commodity prices that considers more than 50 goods' prices (like energy sources, agriculture products, metal and minerals, fertilizers, precious metals, etc). This variable increases when commodities are more expensive. Thus, positive values for the parameter b_4 are expected in equations (7) and (8).

The equations (7) and (8) were performed employing the Autoregressive Distributed Lag cointegration analysis and the ARDL bounds testing approach developed by Pesaran and Shin (1999) and Pesaran et al. (2001). This method offers several advantages compared to cointegration methods such as Engle and Granger (1987) and Johansen (1988). The ARDL approach is suitable when variables are $I(0)$, $I(1)$, or a combination of $I(0)$ and $I(1)$ variables. ARDL estimates are well-suited for investigating long-term relationships, especially in small samples. The appropriate number of lags was determined based on the Akaike Information Criterion (AIC). We assessed the presence of a long-term relationship using the bounds-testing procedure, employing a Test-F with a null hypothesis of no cointegration ($H_0: \delta=0$) against the alternative of cointegration ($H_1: \delta \neq 0$). If we reject the null hypothesis (indicating a long-term relationship between our variables), the long-term multipliers are represented by the estimated coefficients for the dependent variables in levels. Short-term multipliers are the estimated coefficients for the dependent variables in the first difference. The estimated parameter for the speed of adjustment towards long-run equilibrium (error correction term) should be negative and statistically significant. The following section presents our empirical findings.

5- Empirical findings

Tables 4 and 5 present the estimates of equation (7) and (8), respectively. The bounds F-test has indicated the existence of a long-term relationship (cointegration) in all estimates. The error correction term (ECT) was negative, as expected, and statistically significant (at 1% of critical level), whilst the Breusch-Godfrey test (BG test) indicated that the errors are not correlated over time. Thus, these estimates are suitable from the econometric point of view.

In Table 4, the estimated parameter for the variable $Wage Share_t$ was statistically significant and positive only in regressions performed to four countries of our sample: United Kingdom, Denmark, Australia and Spain. The magnitude of this parameter is 1.19 (United Kingdom), 2.92 (Denmark), 0.40 (Australia) and 0.54 (Spain). An increasing (reducing) in wage share in national income in 10% expands (diminishes) inflation rate in 0.11%, 0.29%, 0.04 and 0.05%, respectively

in these countries. Our findings also suggest that the variable $Unemployment_t$ is statistically significant and negatively associated with inflation in all countries, except for United Kingdom and Denmark. The magnitude of this parameter is -0.42 (Sweden), -0.74 (Switzerland), -0.41 (Finland), -0.44 (Japan), -0.75 (Australia), -1.35 (Austria), -0.25 (Spain), -0.86 (Netherlands) and -0.97 (Canada). An expansion (reducing) in unemployment rate in 10% reduces (increases) inflation rate in 0.04%, 0.07%, 0.04%, 0.04%, 0.75%, 0.13%, 0.02%, 0.08% and -0.09%, respectively. These findings suggest that the higher unemployment rate after the 1980s – those result from the changing in the macroeconomic policies from the pursuit of full employment to the use of “fear of unemployment” to discipline workers - has reduced inflation considerably in these countries, in line with Kalecki’s (1943) argument.

The regressions presented in Table 4 indicate that the parameter estimated to the variable $Working\ rules_t$ is statistically significant in all estimates, except for those of Denmark, Finland, and Austria. As expected, this parameter was positive in all estimates, that is, 10.5 (United Kingdom), 9.26 (Sweden), 7.01 (Switzerland), 5.59 (Japan), 8.84 (Australia), 9.25 (Spain), 8.48 (Netherlands), 10.09 (Canada). Accordingly, this output is suggestive that the rise of neoliberal working rules, by unreasonably affecting the balance of power between workers and capitalists in conflict distributive (i.e., by disciplining working class), has reduced inflation in OECD countries. In fact, Table 4’s results point out that reducing the variable $Working\ rules_t$ in 10% (i.e., implementing liberal reforms over time) reduces inflation rate in 1.05% (United Kingdom), 0.92% (Sweden), 0.07% (Switzerland), 0.55% (Japan), 0.88% (Australia), 0.92% (Spain), 0.84% (Netherlands), and 1% (Canada). At last, the estimated parameter for the variable $WBCPI_t$ was statistically significant and positive for a few countries, like Sweden, Switzerland, Japan, Australia, Spain and Netherlands.

Table 5 presents the estimates of equation (8). Once again, the parameter of Wage Share_t was statistically significant and positive in a few estimates, and the magnitude of its parameter is 0.98 (United Kingdom), 3.09 (Denmark), 0.41 (Spain) and 0.43 (Netherlands). On the other hand, the variable $Unemployment_t$ kept statistically significant and negatively associated with inflation in most of the regressions, as in Table 4, which confirms the “fear of unemployment” as tool to discipline workers and control inflation. Tables 4 and 5 are reported below.

Table 4- Results I: Distributive conflict, Working rules and Inflation

	UK	Sweden ¹	Switzerland	Denmark ¹	Finland	Japan	Australia ¹	Austria ¹	Spain	Netherlands	Canada
Wage Share _t	1.19*** (0.33)	0.10 (0.18)	-0.21 (0.16)	2.92*** (0.95)	0.17 (0.40)	-0.10 (0.10)	0.40*** (0.14)	-0.11 (0.21)	0.54*** (0.11)	0.02 (0.26)	0.28 (0.31)
Unemployment _t	0.23 (0.37)	-0.42** (0.18)	-0.74* (0.37)	-0.64 (0.59)	-0.41* (0.24)	-0.44*** (0.15)	-0.75*** (0.23)	-1.35*** (0.36)	-0.25*** (0.03)	-0.86*** (0.25)	-0.97*** (0.27)
Working rules _t	10.5*** (1.88)	9.26*** (1.87)	7.01* (4.06)	-10.20 (8.06)	8.25 (8.46)	5.59** (2.10)	8.84*** (1.95)	0.50 (2.38)	9.25*** (1.22)	8.48** (3.91)	10.09*** (1.37)
WBCPI _t	-0.001 (0.02)	0.04** (0.01)	0.03* (0.01)	-0.04 (0.05)	0.01 (0.02)	0.008* (0.004)	0.02** (0.01)	0.006 (0.01)	0.02* (0.01)	0.06** (0.02)	0.02 (0.01)
BG test Bound	0.86	0.50	0.81	0.98	0.54	0.52	0.47	0.39	0.90	0.85	0.20
F-test	0.00	0.00	0.10	0.00	0.09	0.00	0.00	0.01	0.00	0.00	0.00
ECT	-0.69***	-0.75***	-0.68***	-0.99**	-0.40***	-0.85***	-0.76***	-0.72***	-0.70***	-0.34***	-0.59***

Notes: a) standard errors are in parentheses; b) regressions were performed with the introduction of a time trend; c) *, ** and *** mean, respectively, statically significant at 10%, 5% and 1%; d) all regressions were performed using the option max lag (3) according to the Akaike information criterion (Aic). ¹Regressions performed using lagged variables that produced an error correction term that ranges from 0 to -1.

Table 5- Results II: Distributive conflict, Working rules and Inflation

	UK	Sweden ¹	Switzerland	Denmark ¹	Finland	Japan ¹	Australia ¹	Austria ¹	Spain	Netherlands	Canada
Wage Share _t	0.98*** (0.31)	0.11 (0.19)	-0.35* (0.20)	3.09*** (1.07)	-0.01 (0.45)	-0.02 (0.12)	0.29 (0.17)	-0.02 (0.18)	0.41*** (0.12)	0.43** (0.21)	0.08 (0.29)
Working rules _t x Wage Share _t	0.19*** (0.02)	0.16*** (0.03)	0.13* (0.07)	-0.18 (0.14)	0.17 (0.13)	0.05 (0.03)	0.15*** (0.03)	0.02 (0.03)	0.15*** (0.02)	0.03 (0.04)	0.17*** (0.02)
Unemployment _t	0.21 (0.34)	-0.37** (0.16)	-0.71* (0.37)	-0.66 (0.59)	-0.34 (0.23)	-0.51*** (0.15)	-0.69*** (0.24)	-0.85*** (0.29)	-0.23*** (0.03)	-0.64*** (0.15)	-0.90** (0.25)
WBCPI _t	0.004 (0.02)	0.02 (0.01)	0.03** (0.01)	-0.04 (0.05)	0.01 (0.02)	0.001 (0.004)	0.02* (0.01)	0.006 (0.01)	0.01* (0.01)	0.03* (0.01)	0.02 (0.01)
BG test Bound	0.85	0.91	0.41	0.59	0.46	0.59	0.82	0.26	0.94	0.13	0.38
F-test	0.00	0.00	0.08	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00
ECT	-0.68***	-0.76***	-0.69***	-0.99***	-0.42***	-0.89***	-0.74***	-0.90***	-0.72***	-0.58***	-0.79***

Notes: a) standard errors are in parentheses; b) regressions were performed with the introduction of a time trend; c) *, ** and *** mean, respectively, statically significant at 10%, 5% and 1%; d) all regressions were performed using the option max lag (3) according to the Akaike information criterion (Aic). ¹Regressions performed using lagged variables that produced an error correction term that ranges from 0 to -1.

The main variable of estimates presented in Table 5 is the interaction term $Working\ rules_t \times Wage\ Share_t$. Our findings provided evidence that its parameter is statistically significant and positive only in regressions performed for the United Kingdom, Sweden, Switzerland (although the parameter estimated for the variable $Wage\ Share_t$ was negative in this case), Australia, Spain and Canada, while its magnitude is, respectively, 0.19, 0.16, 0.13, 0.15, 0.15 and 0.17. This result indicates that the intensity of the response of inflation rate to changes in wage share has diminished over time in these countries insofar as neoliberal working rules were implemented.

Our outcomes means that the emergence of neoliberal working rules has unreasonably affected the balance of power between workers and capitalists in conflict distributive around national income. Working class and labor unions have been weakened since then in a manner that their aspirations of wage share in income (represented by the parameter μ_t^W) has reduced, resulting in lower inflation rates as capitalists were able to impose their desired functional income distribution. This was represented by the downward shift in inflation sparked by the lower values of our measure of Working rules, in accordance with Table 4's results. The more noticeable the reduction in PMR index values over time (see Table 1), the stronger the decline in inflation in this regard in countries like the United Kingdom, Denmark, Australia and Spain.

Furthermore, the effect of changes in wage share in national income on inflation rate became smaller over time in some OECD countries (like the United Kingdom, Sweden, Australia, Spain and Canada), which indicates, in line of our theoretical argument developed earlier, that workers have been unable to defend their desired functional income distribution via distributive conflict around real income. Put differently, this is an indication that the parameter α_w of equation (5) became smaller. Therefore, the decline of inflation rate in OECD economies was reached with the establishment of neoliberalism working rules devoted to discipline workers and then reduce their power in conflict distributive with capitalists.

6- Concluding remarks

This paper draws on two cross-fertilization perspectives. The first is theoretical, combining the post-Keynesian approach to inflation and its consequences for distributive conflict between workers and capitalists with original institutional economics to explore the impact of working rules promoted by neoliberal institutions. This provides a comprehensive framework for understanding how neoliberal institutions mediate the capacity of different social classes to generate income. The second is methodological, as the study integrates theoretical,

mathematical modeling, and empirical analysis to examine the impact of inflation on distributive conflict. This results in a multilevel study of inflation's effect on income distribution.

This study introduces, both theoretically and mathematically, the idea that, from a post-Keynesian perspective, inflation arises from the distributive conflict between workers and capitalists over national income. Workers strive for higher wages, while capitalists counteract by raising prices to safeguard their profit share, effectively reducing real wages. Inflation is the outcome of this ongoing struggle, as each class competes to secure its share of income. Original institutionalism, rooted in John R. Commons' perspective, views transactions—particularly in the labor market, where capitalists and workers engage—as mediated by the working rules established by institutions. According to Commonsian institutionalism, institutions create working rules that balance transactions between actors with unequal power to influence these transactions. This balance fosters a more reasonable form of capitalism. However, this paper argues that under neoliberalism, institutions implement working rules that fail to achieve this balance, resulting in a less equitable and more unreasonable form of capitalism. This argument is supported by empirical evidence presented in this study.

This paper provides empirical illustrations introduced through a discussion of the rise of neoliberal working rules, focusing on OECD's Product Market Regulation and trade union density, both analyzed through their historical evolution. Additionally, data on unemployment and functional income distribution across OECD countries over time are presented. Analyzing inflation data is clearly crucial to this study, and thus, we provide graphical representations of the relationship between inflation rates and wage share in national income in OECD countries from 1970 to 2022. These data reinforce the argument that the rise of neoliberal working rules has diminished the wage share of income.

Finally, this study provides an estimation using the Auto-Regressive Distributed Lag (ARDL) method to test the previous findings regarding OECD economies. The results support our hypothesis: the rise of neoliberal working rules has disproportionately shifted the balance of power in distributive conflicts between workers and capitalists over national income. The weakening of workers' bargaining power has reduced their ability to claim a larger wage share, leading to lower inflation rates as capitalists have imposed their preferred income distribution. This is evident in the observed decline in inflation.

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