

**Inflation upsurge in the post-pandemic world: preliminary lessons from three economies of the Eurozone, adopting a typology of inflation regimes**

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VERY PRELIMINARY DRAFT

**Abstract**

This paper mobilizes a Post-Keynesian/Structuralist typology of inflation regimes to study the inflation upsurge observed in the period 2019-2023 in Belgium, France and Germany. Whilst Belgium is in a moderate inflation regime, Germany is in a low inflation regime and France is in an intermediate position. We argue that moving into a moderate inflation regime (by means of wage indexation) cannot be regarded as a source of macroeconomic troubles as Belgium has performed better than France and Germany since 2019. Our observations call support for a generalization of wage indexation in the current European inflation context to protect workers and to facilitate the ecological transition.

JEL Codes  
B52; E12; E31

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## **I – Introduction**

Inflation rates have been high almost everywhere in the world since 2021. In some countries, it reached the highest levels in decades, calling attention to the problem and leading to discussions whether the 1970s stagflation episode could happen again. Eurozone has been no exception: since 2021, the region's inflation rates have been well above the 2% target adopted by the European Central Bank (ECB). The region has been especially hit by the energy shock stemming from the 2022 Russian invasion of Ukraine. The ECB responded with a series of ten interest rate increases starting in July 2022 – when the interest rate for main refinancing operations was zero - resulting in a total 4.5% increase until September 2023. However, inflation rates' fall have so far been inferior to what was expected by the ECB, whereas economic growth rates have been negatively impacted.

In this paper, we examine the experience of three Eurozone countries: Germany, France, and Belgium. Whilst the first two are the most important economies of the region and have different productive structures, Belgium is also interesting because it adopts wage indexation mechanisms. Using the post-keynesian framework to analyse inflation by means of the distributive conflict (Dutt, 1987; Lavoie, 2022), we especially aim at identifying - in these three cases - similarities and differences in the price and macroeconomic dynamics, their causes, and their effects on distribution.

More specifically, we focus on two questions: 1) Based on these three cases, what are the lessons from the recent inflation upsurge and disinflation episode? 2) Would it be possible to suggest, based on the post-keynesian tradition, an alternative economic policy that doesn't hinder the ecological transition and simultaneously promotes disinflation without preventing full employment?

Mobilizing a recently developed typology of inflation regimes based on post-keynesian and structuralist literature (Bastian, Charles and Marie, 2021), we suggest that these economies, unless they already present the characteristics of a moderate inflation regime, should move from a low inflation regime into a moderate inflation regime, meaning the adoption of wage indexation mechanisms. We also draw attention on ways to protect them from moving further into a high inflation regime or hyperinflation. In this context, we highlight the importance of industrial policies as part of a mid-term inflation stabilization

strategy thanks to their role in reducing the region's exposure to foreign energy shocks. These industrial policies are specially aimed at promoting the ecological transition.

Hence, we call for changes in the current economic policy employed in the Eurozone. The policies resulting from the obsession of containing the progression of nominal wages and of preventing at all costs a move from a low inflation regime into a moderate inflation regime – notably the huge increase in interest rates and the prevention of accepting the developing of indexation of wages on prices - have had negative economic consequences so far: a) they are causing recession and real wage decrease; b) they have disappointing results in terms of disinflation; c) they increase the risks of a banking crisis within the region; d) they may block the ecological transition.

The article consists of three parts besides this Introduction (section I) and the conclusions (section V). Section II summarizes the typology developed by Bastian *et al.* (2021), which includes three distinct inflation regimes (low, moderate and high). Section III presents the most important characteristics of the current shocks and analyzes the macroeconomic record of Germany, France and Belgium plus the policies they adopted to tackle the crisis. Finally, Section IV discusses alternative policies to deal with the problem, notably wage indexation and industrial policies.

## **II – Inflation Regimes Typology**

Bastian *et al.* (2021) have proposed a post-keynesian/structuralist typology of inflation regimes that applies to any type of capitalist economy. As it is a PK/structuralist typology, it assumes endogenous money and cost-push inflation. It defines a regime by means of specific institutional characteristics and conventions, meaning that the inflation dynamics in each regime show specific patterns. Moreover, regime presupposes the idea of stability, meaning enduring institutions and conditions (Bastian *et al.*, 2021, p.6). Hence, any change of regime necessarily implies institutional change. The typology consists of three inflation regimes: low, moderate and high, each of them based on qualitative aspects. Hyperinflation is also defined, but as hyperinflation cases are transitory episodes, hyperinflation can't be regarded as a regime.

### II.i - The characteristics of the three inflation regimes

In a low inflation regime, inflation rates are most usually low and stable. In such a context, both capitalists and workers fully trust the unit of account for everyday transactions and for long-term contracts. Inflation rates are thus described by a basic conflicting claims framework between workers and capitalists, who fight to obtain a targeted share of the income – like in Dutt (1987) and Lavoie (2022). Inflation is then the consequence of the aspiration gap and the power of each group - but, “besides wage costs, there are other costs that can fuel inflation, including the increase in financial costs, the changes in exchange rates, or increases in the prices of imported inputs” (Bastian *et al.*, 2021, p.9). Inflation may change if there is a modification of the bargaining power of workers, of the market power of firms or of the wage share targeted by any of the two groups.

This can be modeled in the following way:

$$\frac{\dot{p}}{p} = \psi_1 (\omega - \omega_f) + \psi_2 Y \quad (1)$$

$\frac{\dot{p}}{p}$  is the inflation rate

$\omega_f$  is the real wage rate targeted by firms

$\omega$  is the current real wage rate

$\psi_1$  is firm’s market power

$\psi_2$  is the ability of firms to pass-through the exogenous increase in costs by an increase in domestic prices (with  $0 \leq \psi_2 \leq 1$ ) and  $Y$  is the exogenous shock, expressed as a growth rate of input costs.

And:

$$\frac{\dot{w}}{w} = \Omega_1 (\omega_w - \omega) + \Omega_2 (\psi_2 Y) \quad (2)$$

$\omega_w$  is the real wage rate targeted by workers

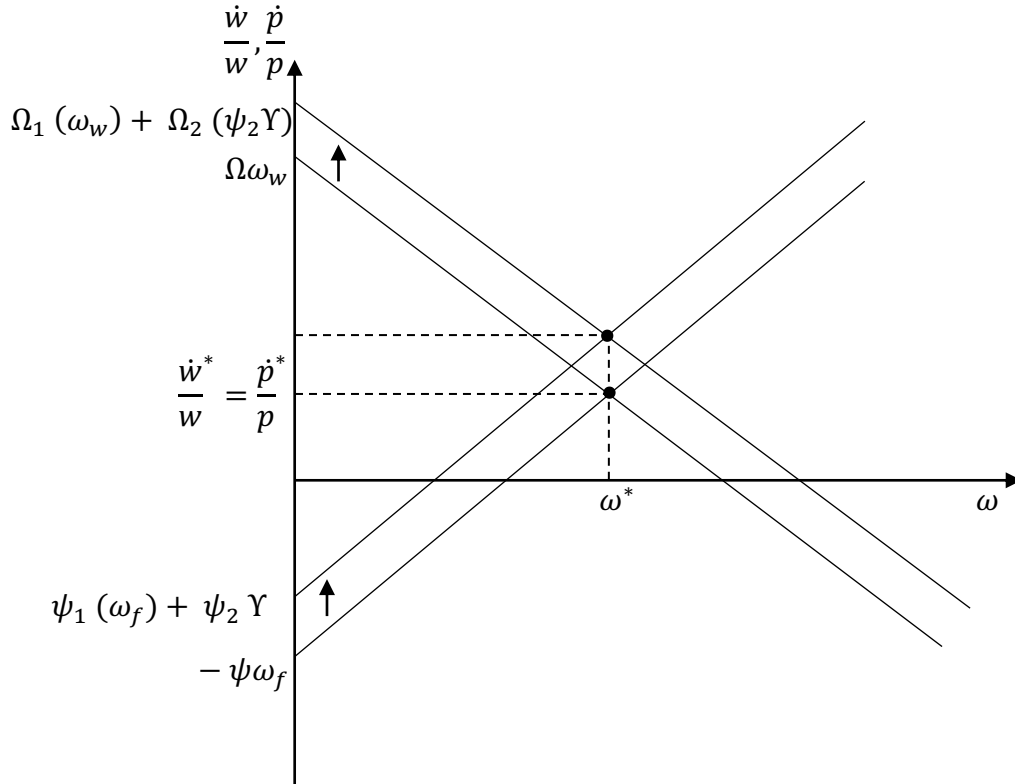
$\frac{\dot{w}}{w}$  is the rate of change of nominal wages

$\omega_w$  is the real wage rate targeted by workers

$\Omega_1$  is worker’s bargaining power

$\Omega_2$  is the capacity of workers to pass-through the increase in inflation in nominal wages.

In this context, inflation increases as depicted in the following figure:



In the steady-state (or “equilibrium”) situation, we have:

$$\frac{\dot{w}}{w} = \frac{\dot{p}}{p} \quad (3)$$

Most economies today are under a low inflation regime. Nowadays, the side-effect of this fact is that keeping the economies under low inflation usually involves conservative monetary and fiscal policies that keep economic growth rates low and unemployment rates high. Such policies are justified by the “fear of inflation” (see among others Atesoglu, 1997 or López Gallardo and Mansilla, 2007).

It is worth noting that sustaining a low inflation regime does not need to involve restrictive macroeconomic policies: during the period of the Golden Age, inflation rates were kept at low levels wherein policymakers targeted full employment and unemployment rates were also low, in a context of high productivity gains<sup>1</sup>. The turning point occurred in the

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<sup>1</sup> Kaldor (1976) calls the inflation of the period 1953 to 1967 as *creeping inflation*. According to him, the dynamics of creeping inflation rests on workers in the low productivity sectors obtaining the same wage increases as workers in the high productivity sectors. The reasons for inflation were due to wage-wage inflation stemming from an attempt from workers of the low productivity sector to sustain the constancy in relative earnings compared to the high productivity sectors. In other words, in his view, inflation was neither traditional demand-pull nor cost-push inflation.

late 1960s and early 1970s when the *monetarist counter-revolution* in economic theory weakened the prevailing consensus in favor of keynesian full employment policies: it discarded full employment as a target and implied that keeping inflation under control was the best that governments could do. As a result, monetary and fiscal policies became on average more conservative. From the 1980s on, a series of neoliberal governments moved a step further by fiercely attacking trade unions and deregulating labor markets, in a context of increased globalization. Accordingly, trade unions', and more generally workers', bargaining power shrank<sup>2</sup>. In the European Union context, the constitution of the Euro in the 1990s institutionalized this way of acting, as the ECB adopted as objective of its action an inflation target just below 2%. Hence, in the low inflation regime, real wages are likely to fall in the face of exogenous shocks.

A moderate inflation regime is characterized by the development of indexation of wages on inflation. Development of indexation does not mean that the distributive conflict does not still play a role in generating inflation and its changes; indexation is an additional characteristic. The moderate inflation regime can emerge if inflation is relatively high in the low inflation regime, due to the virulence of the distributive conflict or due to repetition of external shocks. In reality, workers and unions may be strong enough to obtain automatic indexation of their wages on prices.

The emergence of wage indexation mechanisms may induce an inertial component to inflation, meaning that higher rates of inflation might remain longer and the impacts of future exogenous shocks are more likely to have permanent effects on inflation. This was the case for instance in some European during the 1970s after the oil shocks. See for example Boyer (1979) for the French case. The inertial behavior of inflation in a moderate inflation regime depends on the ability of firms to increase prices after each automatic readjustment of nominal wages.

The key characteristic of a high inflation regime is based on the fact that indexation is generalized on all contracts, not only on wages contracts. In other words, a high inflation regime emerges when indexation mechanisms become widespread within the economy,

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<sup>2</sup> There is a caveat regarding comparisons of the inflation of the Golden Age with the current inflation: during the Golden Age, exchange rates were stable and financial capital mobility was low. This makes policy-making nowadays much harder than in the first decades following World War II.

including rents and financial contracts, requiring the possibility to have an index published weekly or even daily. When an economy under moderate inflation regime is hit by a huge exogenous shock or a sequence of exogenous shocks, it can move to the high inflation regime. This proposal follows Carvalho when he writes that (1993, p.67): “the main feature of a high inflation regime is the creation of a widespread system of contracts denominated in a unit of account other than the legal tender of the economy”.

There can be the case that generalized indexation is based on a domestic unit, as was the case in Brazil from the 1960s to the 1980s with the ORTN, an indexed public bond. However, what usually happens is that indexation is based on the exchange rate. The reference is thus given by the changes in the price of a foreign currency (the US dollar in most of the cases) expressed in units of domestic currency. In such a regime, the foreign currency had become the *store of value* within the economy (see for example Argentina’s experience under high inflation from the 1980s). In some cases, the dollar can even become the country’s official currency.

Then, hyperinflation can be defined: it arises from a high inflation regime and reveals the rejection of the domestic currency. In an open economy, agents substitute the domestic currency for a foreign currency.

## *II.ii - Theoretical lessons on the advantages/disadvantages of our 3 regimes*

Mobilizing the typology of inflation regimes previously presented, we propose that there are three main inflation regimes, each based on specific characteristics. Each of these regimes can produce distinct economic fragilities, whose causes and potential consequences may be attenuated by economic policy, meaning by the use of fiscal and/or monetary tools.

The low inflation regime is prone to generate a situation of low effective demand, with low investment and low productivity gains, with a functional distribution favorable to the profit share, with high unemployment and strong personal inequalities. Here, the economic policy should not be restrictive and an incomes policy that aims at defending wages, especially in case of prices shocks, should be put in place to attenuate the potential bad consequences of being in such a regime.

The moderate inflation regime is characterized by the indexation of wages on prices. By definition, the existence of indexation prevents real wages to collapse in case of an inflation upsurge due to a sudden increase in import prices for example. This can help the economy to avoid a sudden decrease in effective demand after an inflation upsurge initiated by a rapid decrease of consumption due to real wage fall. In a sense, in such a case, indexation plays the role of a safety net or of an automatic stabilizer if bargaining power is so low that workers can't defend themselves against strong decrease of their real wages when prices increase. Nevertheless, such a regime could be prone to generate inertial inflation, since, after the reevaluation of nominal wages with indexation, firms could try to increase prices in a second round. If firms manage to pass-on to prices the wages increase, indexation can generate inertial inflation or even it can produce an inflation spiral if the economy is hit by new external prices shocks. Inflation here has no reason to decrease since neither workers nor capitalists lose anything in terms of income distribution. Thus, it is easy to understand that the main fragility of this inflation regime is the fact that inflation inertia observed can affect the external equilibrium. As inflation increases, the economy can suffer from a balance of payments disequilibrium, as the external competitiveness is negatively affected by a relatively strong domestic inflation. So, the economic policy has to be devoted on the limitations of consequences of the external constraint. To put it in a nutshell, in a moderate inflation regime, the economy should be as possible isolated from the impacts of external shocks, meaning that an industrial policy should be developed to prevent the economy from the possibility that import prices increases could affect the domestic prices dynamics.

If such a policy is not adopted or if it is not efficient, the economy could move to the high inflation regime. Here, a foreign currency may challenge the domestic currency and all has to be done in terms of economic policy to avoid an exchange rate crisis that would increase mechanically domestic inflation, potentially until hyperinflation.

### **III – Inflation in Belgium, France and Germany (2019-2023)**

A general picture of the recent inflationary process of the selected European economies (Belgium, France and Germany) clearly shows the inflation surge of 2022 and the current



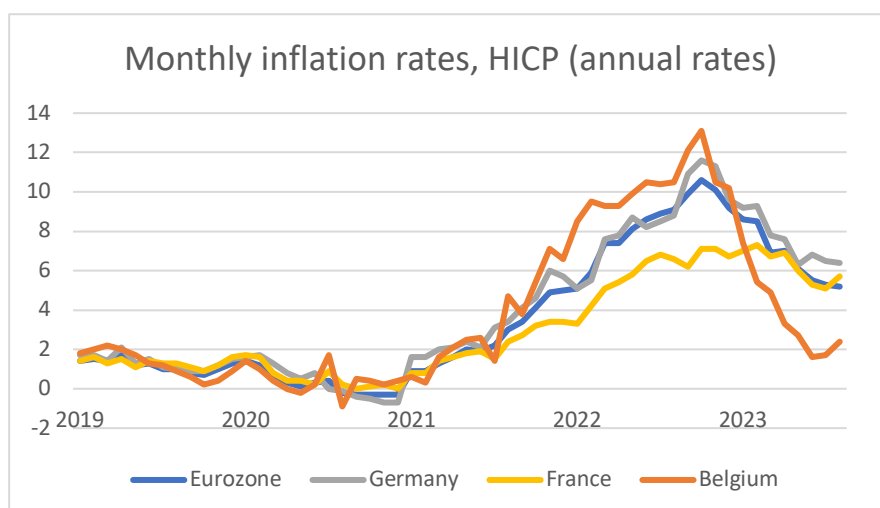
disinflation process that started in the end of 2022 (see Figure 1). However, there is much more to it.

When the Covid-19 pandemic hit in the second quarter of 2020, Europe was already experiencing a disinflation trend (Nickel *et al.*, 2022). During the second semester 2020, in the face of the pandemic consequences, deflation was observed in Germany as well (in a context of a temporary decrease of the VAT by 3 percentage points in this country) as in the Eurozone. In France and Belgium, inflation rates estimated by the HICP were positive but low, inferior to 2%.

Figure 1 also shows that the inflation surge - that gained momentum in 2022 - actually started in early 2021 when inflation rates began to increase in the three economies. In the second semester of 2021, they moved further up, surpassing ECB's 2% inflation target. The reopening of services after the Covid-19 restrictions and the supply bottlenecks stemming from the disorganization of the world economy during the pandemic are among the factors that explain such a movement. Nevertheless, even before the Russian invasion of Ukraine, energy inflation was one of the triggers that initiated the surge in inflation (see for example the ECB Annual Report, 2021).

Energy contributed for more than half of inflation observed in 2021 and 2022. The percentage of increase in prices of fuel was more than 10% from March 2021 onward, whereas gas and electricity prices increased later during this year (Nickel *et al.*, 2022). As France is less dependent of imports of gas than Belgium and Germany, inflation in France increased less in the second semester of 2021 than in the two other countries (based on data from Eurostat, natural gas represents 22,3% of gross available energy for UE27 in 2019; 24,2% for Germany; 23,7% for Belgium and 14,6% for France). The beginning of the War in Ukraine in February 2022 and the following decision (or attempt) of European leaders to withdraw from Russian energy, meant a big cost shock for these countries since they had to replace Russia's cheap energy with other sources that are both more expensive and can be even more polluting.

**Figure 1:**

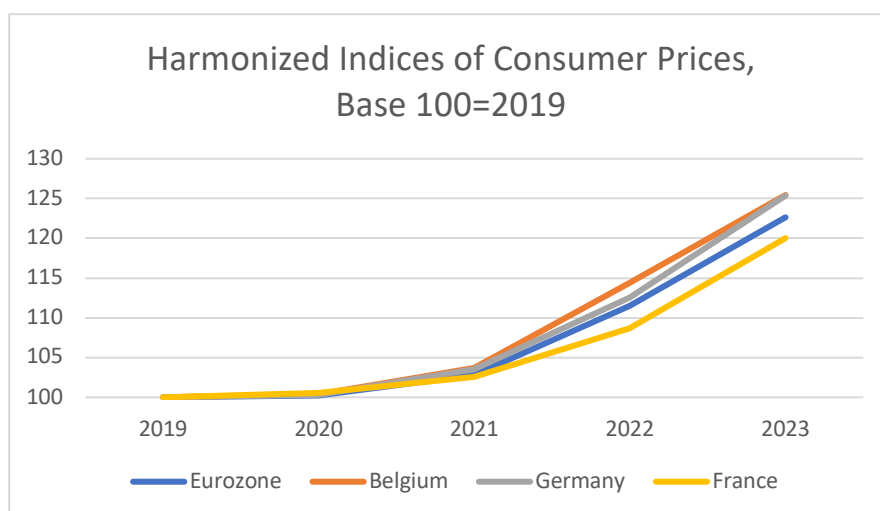


HICP series, Eurostat, extracted in September 2023

The events that induced the inflation surge observed since 2021 recall a lesson raised by structuralists and post-keynesian who worked on prices dynamics: other costs variations than wage changes borne by firms can lead to increases in inflation. When an economy is hit by a negative supply shock, firms try to pass-through the cost increase in domestic prices to maintain their profitability. This mechanism is regularly observed in reality: as for example, Bloch et al. (2004, p. 543) find “complete pass-through of inflation in input prices to inflation in finished goods” for the U.S. economy in the twentieth century. Thus, even if workers bargaining power, market power of firms or real wage targets do not change, inflation can suddenly change due to supply shocks. That lesson seems to have been observed since 2021.

We can compare the estimation of the cumulative inflation on domestic prices on our three countries (figure 2). This figure reveals that cumulative inflation was higher in Belgium and Germany than in the Eurozone. Inflation in France was lower.

**Figure 2:**



Source: Own estimation, on Eurostat HICP indices (August 2023 for 2023, December for the other years)

In the wake of these shocks and the sharp inflation rise, European governments started implementing measures to tame inflation (Sgaravatti *et al.*, 2023). In this regard, the three countries followed different strategies: whilst France and Belgium adopted several measures to directly impact some prices since 2021, in Germany, at least up to 2022, priority was given to subsidies directly paid by fiscal authorities to households and firms. In France, to avoid a more important increase in inflation due to the increases in prices of gas and electricity, the Government adopted in October 2021 a so-called « tariff shield » on prices of electricity and gas, which freezed (at the levels of October 2021) the prices paid for some households<sup>3</sup> and firms until December 2022. A similar measure was adopted in February 2022 to limit the increase in the electricity tariff on the regulated market to 4%. According to Bourgeois and Lafrogne-Joussier (2022) these measures divided by two the inflation observed in France from the second quarter 2021 to the second quarter 2022.

In Belgium, in October 2021, the federal government decided to extend the social energy tariff until March 2022. In February 2022, it decided to decrease the VAT from 21% to 6% on electricity. This reduction was extended on oil for oil-heated households. On 19 March 2022, taxes on diesel and petrol were reduced by 17,5 cents per litre. In June 2022, the extension of the social tariff on gas and electricity was decided until the end of 2022.

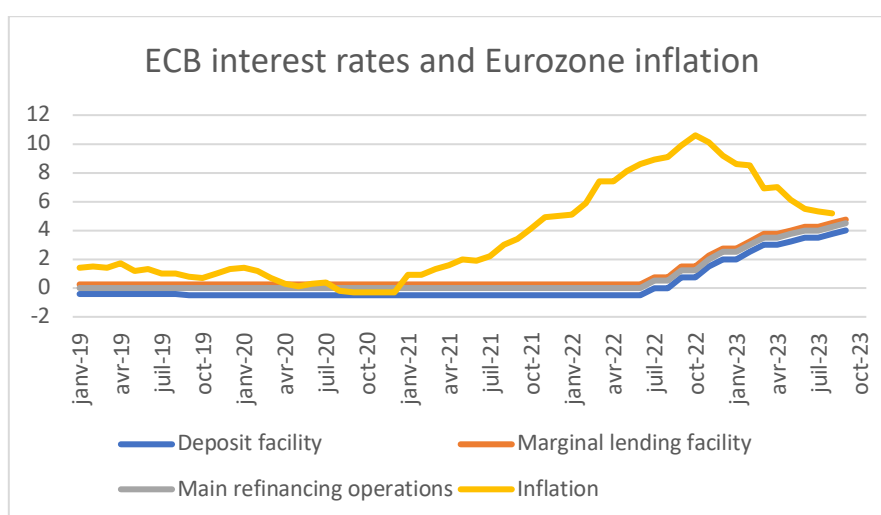
<sup>3</sup> 64% of the French households benefited of this measure on electricity prices, 26% on gas.

In September 2022, it was decided a permanent decrease of VAT from 21 to 6% on gas and electricity (Sgaravatti et al., 2023).

In Germany, on 24 March 2022, the Government agreed on measures that includes a temporary reduction in fuel prices for three months through a tax cut (by 30 cents for gasoline and 14 cents for diesel). On 22 November 2022, the German government finally launched a plan to constrain rising energy prices. The policy goes into effect on March 1st, 2023, and will count backwards for January and February's consumption. For private households, consumption of gas is capped at 12 cents per KWh for 80% of previous year's consumption. Industrial consumers, however, receive the same price cap for only 70% of last year's consumption. The price of power will be capped at 40 cents per KWh. All these caps remain through April 2024 (Sgaravatti et al., 2023).

Regarding monetary policy, the European Central Bank started a frankly restrictive policy in 2022, reversing its longtime strategy of zero nominal interest rates for main refinancing operations. As previously noted, the ECB increased the interest rate ten times starting in July 2022, resulting in a total 4.5% increase until September 2023. Figure 3 shows the increase of three different rates: deposit facility, marginal lending facility and main refinancing operations.

**Figure 3**

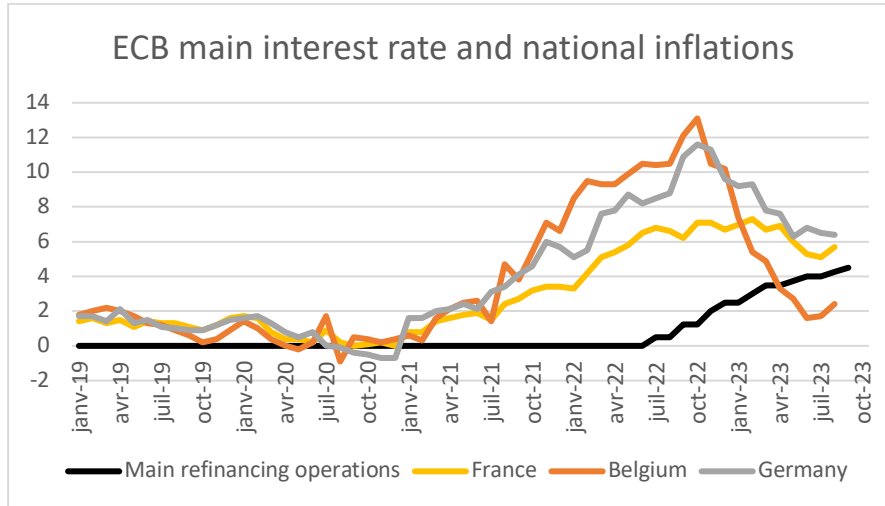


Sources: ECB for interest rates and Eurostat for HICP

Figure 3 also shows that inflation remains above the interest rates, meaning that real interest rates remain negative. However, this result is for the whole Eurozone. Figure 4

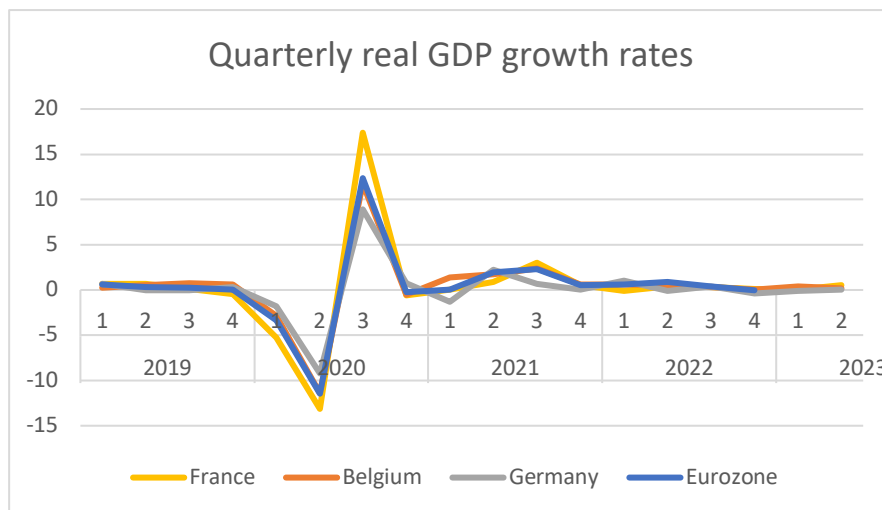
provides evidence for the three countries under study. It shows that in Belgium real interest rates have already become positive. This is due to the faster disinflation in this country compared to France and Germany.

**Figures 4**



A comparison of the three countries economic performance leads to interesting results. Since 2019, we can remark that quarterly real GDP follow similar trends rates (figure 5).

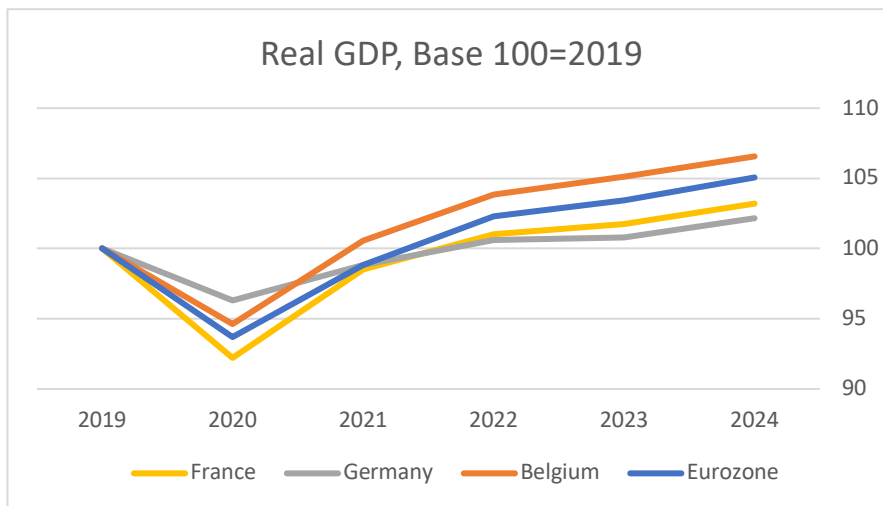
**Figure 5**



Source: OECD's quarterly national accounts (QNA) dataset

If the three countries were in recession in the first two quarters of 2020, this negative GDP growth rate was less pronounced in Germany than in Belgium or in France. But the comparison gets easier if we have a look at the real GDP for each country and for the eurozone on base 100=2019 (figure 6).

**Figure 6**

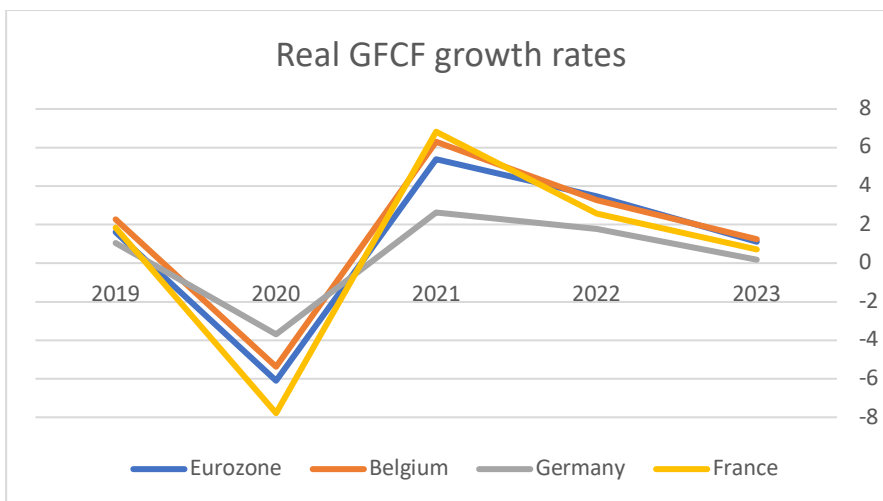


Source: own estimation, based on Ameco's serie OVG

Here, figure 5 gives a clear result: in terms of real GDP, the economic negative consequences of the pandemic and of the recent inflationist upsurge are less marked in Belgium than in France or even more than in Germany.

We can do a similar comparison with the rate of growth of investment, estimated with the gross fixed capital formation.

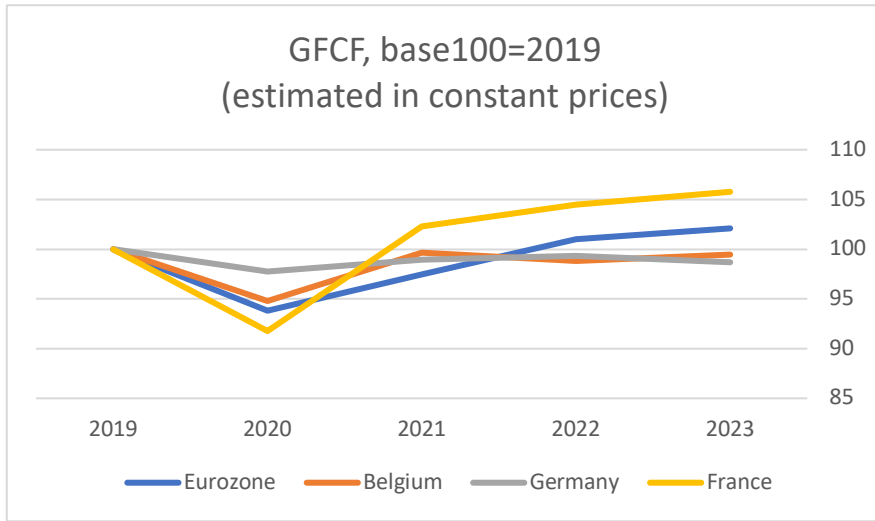
**Figure 7**



Source: Own estimation, based on Ameco serie, GFCF, at constant prices (OIGT)

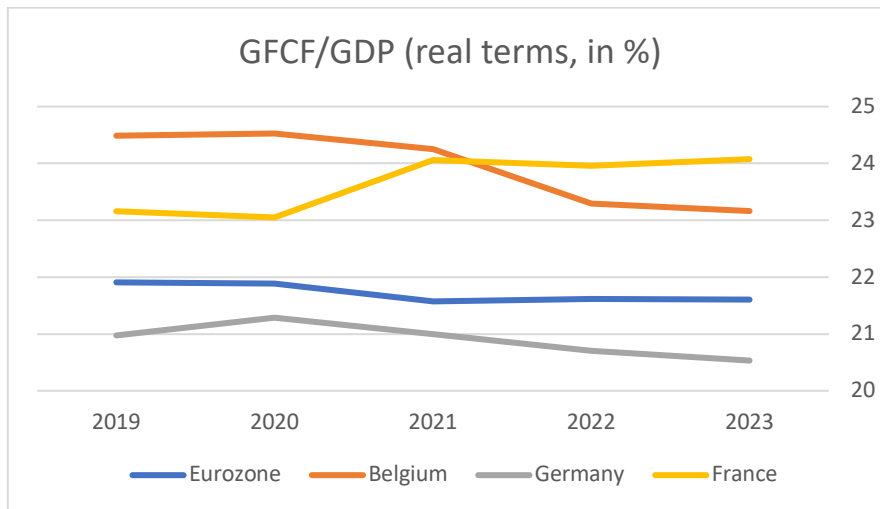
In line with the previous figures, we can see that the investment growth rate in Germany decreased less in 2020 than in Belgium or even more than on France, but the German growth rates since 2021 are comparably weak. Figure 8 reveals that GFCF in 2023 in constant terms is estimated for 2023 lower than in 2019 for Belgium and Germany when it is higher in France as in the whole eurozone.

**Figure 8**



In terms of GDP (figure 9), the relative weakness of the German GFCF is confirmed. France and Belgium maintain an investment share in terms of GDP higher than in the eurozone.

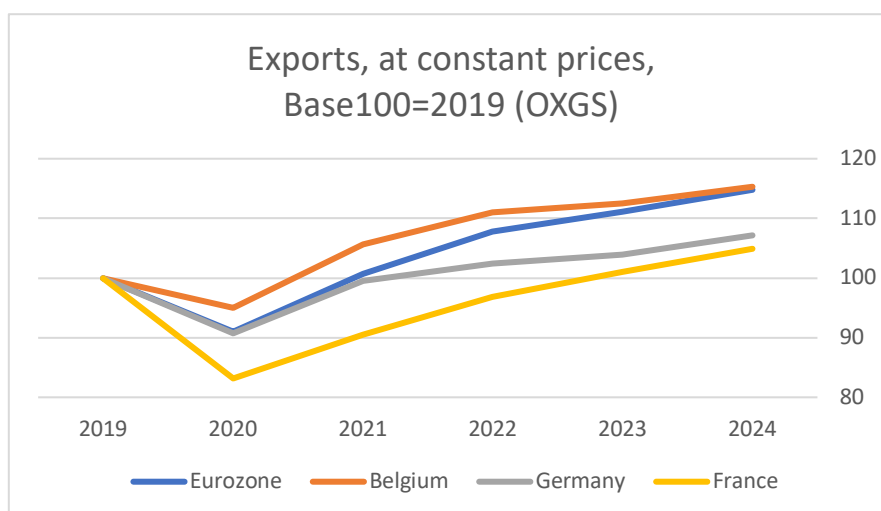
**Figure 9**



Source: own estimation, using Ameco series OIGT and OVG2

We can repeat this type of exercise in regards with the evolution of exports; changes in exports give information regarding the evolution of the competitiveness of the economy. Figure 10 reveals that Belgium exports suffered less than France and Germany of the global recession due to the pandemic in 2020/2021. Moreover, the increase in Belgium's exports since 2019 is much more marked than what it is observed for Germany and France.

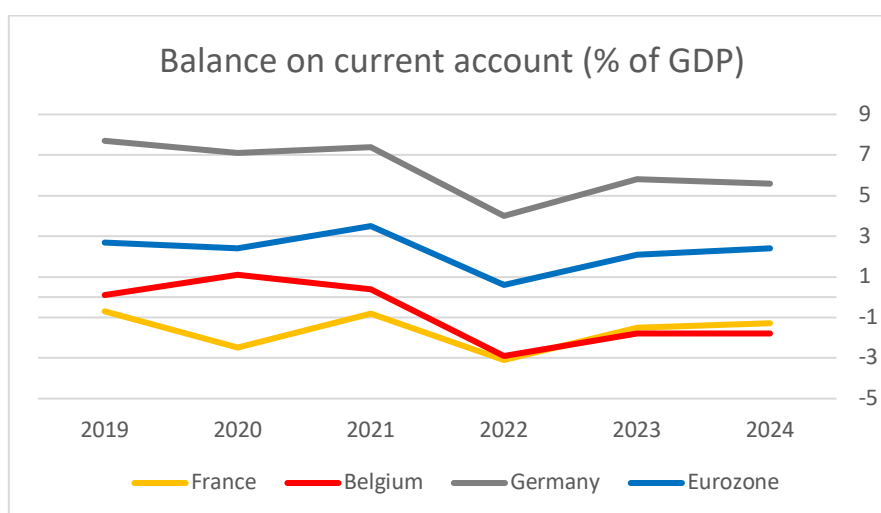
**Figure 10**



Source: AMECO Database

Since 2019, due to the import cost shocks, and despite of the increase in exports since 2021, we can observe a degradation of the current accounts. Thus, it is observed a degradation of the balances of current accounts for our three countries as well as for the eurozone. As represented on figure 11, the German surplus in terms of GDP decreased from 7,7% in 2019 to 5,8% in 2023. The degradation is less important for Belgium (from 0,1% to -1,8%) but Belgium has currently a deficit of its current account. France is still in deficit, from 0,7% to 1,5%. And eurozone as a whole is still in surplus, but this latter decreased from 2,7% to 2,1%.

**Figure 11**

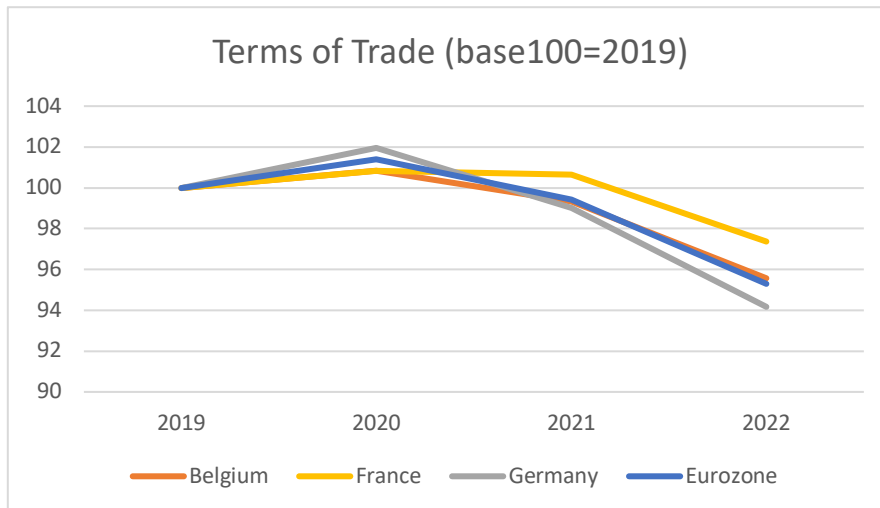


Source: Ameco, serie UBCA

The fact that we can observe a systematic degradation is not surprising if we have a look on the changes in the terms of trade since 2019 (figure 12 ).



**Figure 12**

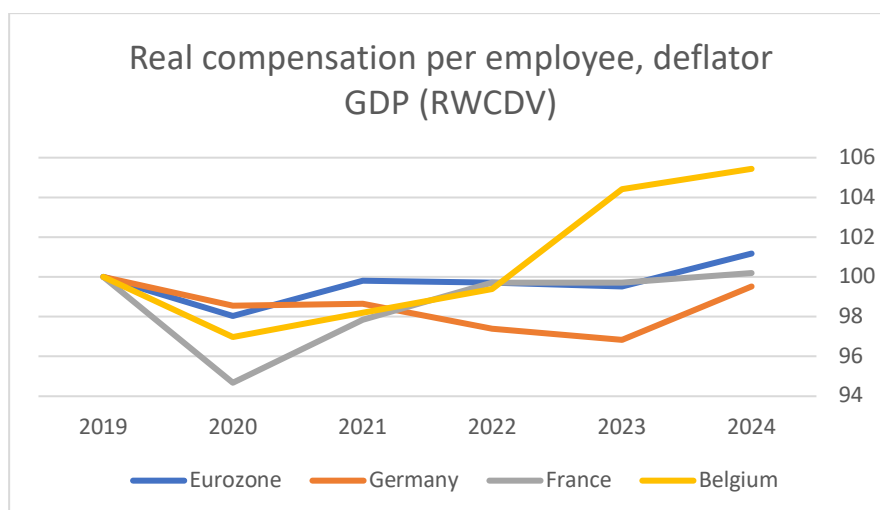


Source: own estimation, based on OECD database

Moreover, the fact that effective demand in Belgium proved to be more resilient (cf. figure 5), by sustaining the demand for imports, can explain the degradation of the current account for this economy.

Finally, it is important to take a look at income distribution data. Figure 13 presents real compensation per employee and shows that in all countries this variable fell during the pandemic. After that, Belgium's recovery stood out: the country started the recovery before France and Germany, its recovery was much more impressive than in the two other countries. Whilst in France real compensation per employee is expected to end 2023 around its 2019 level and in Germany it is expected to end below its 2019, in Belgium estimations are that it will end the end year around 5% above its 2019 level.

**Figure 13**



Source: AMECO Database

Regarding the adjusted wage share, calculations based on data from AMECO (ALCD0 serie) and for the period 2019-2023 (estimated) suggest an increase of 3.73% in Belgium (from 58,9% to 61,1%) and 2.45% in France (from 57% to 58,4%, in a context of decreases of the labor productivity). Although Belgium and France had the best performance, there is an important difference between them: the results in Belgium have come together with an increase in GDP per hour worked (OECD) comparing 2022 and 2019 and in France this indicator fell in both 2021 and 2022. For the Eurozone, the estimation of wage share's change is a 0.7% fall for the period 2019-23 (from 56% to 55,6%), whereas Germany underperforms both Belgium, France and the Eurozone with an expected fall of 2.72% (from 58,8% to 57,2%).

#### **IV – Some preliminary lessons from the Eurozone experience**

The European Central Bank, as most central banks all around the world, believes that inflation “is always and everywhere a demand phenomenon and requires contractionary monetary policy to be kept under control” (Perez Caldentey & Vernengo, 2023, p.129). Hence, in the face of the recent inflation upsurge, it increased its interest rates. After the initial fiscal measures that most European countries adopted in the first months of the upsurge, the European Commission now calls for the respect of the European rules on fiscal policy. The combination of economic austerity and tight monetary policy fails to address efficiently the current upsurge of inflation, paving the way to a forthcoming recession. Moreover, they are non-sense in a context wherein the ecological transition requires both public and private investment. Post-Keynesian economists have long been arguing that there are multiple causes of inflation, so that stabilization policies must act accordingly. The mainstream view of just adjusting interest rates is most of the times counter-productive.

Post-Keynesian economists have long been arguing that there are multiple causes of inflation. Davidson (2011) argued that there are four different types of inflation: 1) diminishing returns; 2) increasing profit margins; 3) increasing money wages (relative to productivity increments); 4) import inflation. More recently, Palumbo (2022) observed that situations of overfull employment are extremely rare, as Kalecki (1943) predicted, so that demand-pull aggregate (macroeconomic) inflation is a very seldom event. Alvarez *et al.* (2022) observed that wage-prices spirals are very rare in reality. In sum, cooling

demand to obtain a disinflation should not be considered as the unique or the best way to fight inflation. In fact, inflation is usually due to sectoral bottlenecks and anti-inflationary policies should be based on a combination of micro-macro measures (Palumbo, 2022).

The recent experience of Belgium, France and Germany showed that price brakes – adopted since early 2022 by the Belgian and French governments – worked better than subsidies, which were Germany’s first best. Germans finally conceded in the second semester of 2022. However, there are other differences in the macroeconomic trajectories that may be linked with differences between their inflation regimes based on the Post-Keynesian/structuralist inflation typology presented in section 2.

Belgium presents the characteristics of a moderate inflation regime in contrast to Germany where a low inflation regime can be tracked. France is in an intermediate position, as the minimum wage is indexed on prices. In 2022, as 14.5% of French wage earners are paid at the legal minimum wage called SMIC, they benefit automatically from indexation of their wages, at the difference of other wage earners.

Indexation is sometimes criticized. This is usually so because indexation is accused of making disinflation harder or to increase the impact on the price level of any shock (Fisher, 1983). None of these happened in the Belgian case during the current inflation upsurge. As previously noted in section 3, Belgian inflation rates fell rapidly after reaching a peak in October 2022, so that Belgium was the country of our sample that *disinflated* the most. Furthermore, the fact that inflation rates in Belgium reached the highest level among the three countries can’t be directly attributed to indexation. Accordingly, Bijmens et al. (2023) observe that price increases were largely attributable to rising intermediate input costs.

The differences in terms of wage rules probably played a major role regarding the redistribution consequences of the current inflation surge in the three countries. Arguments that inflation is bad for workers are common place. What they fail (or forget) to explain is that it all depends on the dynamics of wages regarding inflation increases. In case nominal wages grow faster than prices plus productivity gains, then the wage share can increase within an inflation upsurge.

As previously argued, indexation acts as a safety net or an automatic stabilizer. Therefore, it is not surprising that the country that presents a wage indexation system had the best results in terms of the wage share and real compensation per employee thus preserving local workers from the adverse redistribution effects from the current inflation surge. It is also not surprising that the country without any indexation (Germany) was the one wherein workers suffered the worst redistribution consequences (Figure 13). There is also a likely link between these results and the economic growth performance since income redistribution has at least a once and for all *level effect*<sup>4</sup>. Hence, Belgium again outperformed its neighbors.

Finally, the possible negative impacts of wage indexation were mostly absent in the Belgian case. Belgium's export competitiveness was not harmed by wage indexation (Figure 10). A common argument against indexation is that it causes cost and increases that inevitably hurt a country's competitiveness. There was indeed a worsening in current account results in recent years, but that was basically a general trend in the Eurozone and is probably related with the terms of trade fall experienced in the region (Figures 11 and 12). Investment was negatively affected, but it did not collapse as pessimists would argue (Figures 8 and 9). Furthermore, as noted above, the net impact of all the changes on Belgium's growth was positive.

In sum, Belgium performed better in terms of GDP growth compared to its neighbors. More importantly, the possible adverse social effects of inflation did not happen because the wage indexation system protected workers from real income losses. This was not the case in France and especially not in Germany. Moreover, the potential negative impacts had just a mild effect so far. Due to economic and social reasons, moving into a moderate inflation regime might be a more convenient option for European economies (at least in the short-term) compared to the conventional strategy followed by European institutions of *whatever it takes* to prevent Eurozone economies from shifting away from a low inflation regime.

This is, however, even more the case when one considers the challenges due to the ecological transition. As previously argued, the region is in dire need of investment in

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<sup>4</sup> See Freitas and Dweck (2013) for a discussion on level and rate effects of income redistribution.

clean energy, especially after the geopolitical decision to break with Russia's cheap energy. Austerity measures may reduce the space for public investment, whereas high interest rates may hinder private investment. Accepting that economies should move into a moderate inflation regime would liberate monetary and fiscal policies.

In any case, it is worth stressing that the ecological transition calls not only for a few investments<sup>5</sup>: it requires a coordinated effort of structural transformation, demanding thus a true industrial policy by the European authorities. The contemporary need of industrial policies was triggered during the pandemic. At the time of the pandemic, the dependence of European countries from imports from the Global South – especially from China – showed how vulnerable these countries were in the face of potential disruptions in Global Value Chains. As a result, it became clear that they should re-industrialize, meaning producing again internally components and goods that are currently almost entirely imported. This need became even more important now that geopolitical tensions became worse and a trade war between US and China has unfolded, meaning that trade and investment disruptions might be more likely in the future. As a first hour ally of the Western bloc lead by the United States, Europe may perhaps face increasing difficulties to import from China, Russia and other countries. Regarding energy, as previously observed in this article, Europe decided to withdraw from Russia's energy. As Russian energy was cheap, Europeans needed to adjust very fast, resulting in its replacement by other energy sources that can be environmentally deleterious. This can't be an everlasting situation, so that the energy transition towards clean energy – which was already mandatory due the risks the planet face – became even more urgent in the European case.

In sum, the agenda we propose combines industrial policies and wage indexation. Interestingly, it reminds the structuralist inflation targeting agenda proposed by Bastian and Setterfield (2020) for developing countries. Accordingly, these authors observed that inflation upsurge episodes in developing economies were due to a combination of

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<sup>5</sup> The IPCC's 6th Synthesis Report, published in March 2023, provides an indication of certain orders of magnitude: it indicates that modeled global trajectories that limit global warming to 1.5°C imply annual investment requirements in the energy system of around \$2,400 billion in 2010 dollars, or 2.5% of global GDP for 20 years. This finding is included in the report coordinated by Pisani-Ferry and Mahfouz (2023) for the French Prime Ministry on the economic impact of climate action: simply to meet the 2030 target of a 35% reduction in CO2 emissions, France, Great Britain and the European Union would have to devote more than 2% of their GDP to specific additional investments. According to the International Energy Agency, global energy investment needs to rise from 2% to 4% of GDP in order to achieve carbon neutrality by 2030.

exposure to external shocks and conflicting claims dynamics that tended to propagate these shocks into wage-price spirals. They thus recommended industrial policies - as part of a package to reduce the exposure of these countries to external shocks - plus the introduction of coordinated policies, by means of social pacts, as a form to prevent acute conflicting claims and wage-price spirals.

The agenda also resembles Nicholas Kaldor's propositions to fight inflation during the Seventies after the oil shocks, though Kaldor was concerned with wage inflation. As King (1995) summarizes, "anti-inflationary policy – and here Kaldor drew directly on Keynes – must therefore focus on reducing the growth of wages through an incomes policy, and stabilising commodity prices by a system of internationally controlled buffer stocks of major primary products" (King, 1995, pp.8-9). This is a way of combining wages policy with a reduction in the exposure to external shocks.

## **V Concluding remarks**

The recent inflation upsurge has been offering several lessons . However, this is still an ongoing process, so that this paper has no intention of drawing definitive nor systematic findings. Nevertheless, the national inflation trajectories studied in this paper can help to question some preconceived ideas and maybe to propose some institutional amendments in order to sustain the possibility to implement the ecological transition.

The existence of wage indexation in Belgium does not appear to have produced major economic troubles. Prices evolution in Belgium since 2019 is similar to what it has been observed in Germany. The real wages as well as the wage share did not decrease, and despite of this, exports or investments were not negatively affected in comparison of the other economies.

The preliminary results encourage us to produce the idea that indexing wages on prices might be an interesting element in the evolution of our macroeconomic institutions and policies if we want to truly promote the ecological transition without giving up a full employment objective. In that sense, a moderate inflation regime appears to us more compatible with the transition than a low inflation regime, generally sustained (nowadays) by restrictive macroeconomic policies generating unemployment.

The macroeconomic events observed since 2019, and the recent geopolitical turnarounds, recall us that economies can be suddenly affected by supply shocks, leading to increases

in costs and inflation. The adoption of indexation is a tool to prevent workers from sudden decrease of their real wages, thus stabilizing the economy.

In a context of historically low bargaining power of workers and in countries (like the European economies) without a recent history of very high inflation rates, the introduction of wage indexation as a safety net could be useful. Moreover, the mandatory changes in the productive structure required by the ecological transition increases uncertainty on the future path of prices. Thus, if central banks consider abandoning or revising their inflation targets, indexation should be put on the table as a possible consistent tool to reach ecological objectives. The Belgian example give arguments to say that bad consequences of indexation in the context of the European economies are perhaps overestimated.

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