International Entrepreneurship Review

2025, Vol. 11, No. 4

10.15678/IER.2025.1104.04

Greedflation in post-pandemic Europe: Analysing profit share dynamics

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ABSTRACT

Objective: The study aims to examine how the profit share indicator (gross operating surplus as a share of value added in non-financial corporations) responded to macroeconomic shocks by comparing its dynamics during the post-pandemic crisis and the global financial crisis (GFC). By identifying deviations from expected trajectories, the study explores whether we can partially attribute corporate profit behaviour in the post-COVID period to mechanisms associated with greedflation.

Research Design & Methods: We studied the impact by examining the difference between the observed values of the profit share indicator during the crisis period and the values forecast using an autoregressive neural network model in a panel data framework. We utilised quarterly data from 16 countries covering the period from 1999 to 2023.

Findings: In many countries, particularly during the post-pandemic inflationary phase, the profit share indicator exceeded forecast values, often significantly. In contrast, deviations during the GFC were generally weaker or absent. The results reveal heterogeneous patterns of profit dynamics and suggest that in some cases, corporate profits may have contributed to inflationary persistence.

Implications & Recommendations: The findings suggest that inflation control strategies should consider not only supply and demand factors, but also profit-side mechanisms. Regulatory frameworks should monitor sectors where post-crisis profit margins increase disproportionately. Future policy design may benefit from incorporating profit-based indicators into inflation diagnostics, especially in periods of macroeconomic shock.

Contribution & Value Added: This study introduces a novel methodology for identifying potential greedflation effects by applying neural network forecasting to macro-level data. It avoids reliance on firm-level markup data while enabling empirical detection of abnormal profit behaviour. By comparing two major crisis episodes, the article provides a new perspective on the structural role of profits in shaping inflationary outcomes.

Article type: research article

Keywords: greedflation; profit share; inflation; profit margin; GFC; post-pandemic crisis

JEL codes: E31, E32, M20

Received: 24 June 2024 Revised: 11 April 2025 Accepted: 15 July 2025

Suggested citation:

Drzewiej, A., & Mierzejewski, M. (2025). Greedflation in post-pandemic Europe: Analysing profit share dynamics. *International Entrepreneurship Review,* 11(4), 57-72. https://doi.org/10.15678/IER.2025.1104.04

INTRODUCTION

In recent years, the global economy has faced a series of unprecedented challenges, exacerbated by the COVID-19 pandemic and the subsequent energy crisis (Ciotti *et al.*, 2020; Firlej *et al.*, 2024; Głodowska *et al.*, 2023; Zakeri *et al.*, 2022). Consequently, key financial institutions, including central banks, were caught off guard by a sudden surge in inflation (Cavallo, 2021), which significantly diverged from previous deflationary trends (Brown & Simonnot, 2020). In 2021 and 2022, especially in the Eurozone, we observed dynamic changes in price levels, attributed to three main channels. The first was the energy shock and disruptions in international transport (Munteanu & David, 2023). The second factor was the pent-up demand resulting from the pandemic (Born *et al.*, 2022), which, combined with the persistence of high operating costs after the lifting of restrictions, led to increased inflation. The third factor was the

unex-pected rise in government spending (Reis, 2020), which significantly boosted consumption and had a heterogeneous impact on the economy depending on each country's fiscal situation.

However, alongside traditional inflationary factors associated with the supply and demand model, economists during the post-pandemic crisis also pointed to 'greedflation.' This concept describes the tendency of businesses to exploit periods of rising prices to generate disproportionately high profits (Vinod, 2022), thereby sustaining elevated inflation levels. According to this theory, amidst global price increases driven by supply and demand fluctuations, companies not only adjust their prices to cover rising raw material and wage costs but also raise them beyond those levels, leading to record revenues and further fuelling inflation.

Consequently, we aimed to explore the extent to which 'greedflation' may influence the profit share in non-financial enterprises and whether, in certain countries, it may surpass levels recorded before the crisis. This focus is particularly salient considering research that traditionally links inflation predominantly to demand- and supply-side factors; identifying novel mechanisms driving inflation offers deeper insight into the distinctive features of contemporary economic crises. The significance of the present analysis lies in integrating the concept of greedflation into conventional explanations of price dynamics, thereby providing a more comprehensive understanding of inflationary processes and facilitating the development of more effective stabilisation tools in the future. Furthermore, pinpointing instances in which profit shares exceed pre-pandemic benchmarks furnishes valuable guidance for policymakers and financial institutions seeking to mitigate excessive burdens on consumers and curb persistently high inflation over the longer term.

In this context, the article addresses two main research questions: (1) To what extent did the profit share indicator in non-financial enterprises deviate from expected levels based on pre-crisis dynamics? (2) Can we interpret these deviations as a manifestation of greedflation, *i.e.*, profit-maximising behaviour under crisis conditions? The novelty of the study stems from the use of an autoregressive neural network model trained on stable periods (excluding crisis shocks) to forecast expected values and detect abnormal profit share patterns. This approach enables a unique macro-level assessment of greedflation, contributing to a deeper empirical understanding of inflationary mechanisms in post-crisis economies.

The article is structured as follows. Literature Review discusses the existing research on inflation dynamics and the concept of greedflation. The following section, Research Methodology, outlines the dataset, country selection, and the autoregressive neural network approach applied to forecast profit share indicators. This is followed by Results and Discussion, which presents empirical findings and cross-country comparisons. Finally, the Conclusions section summarises the main insights, highlights policy implications, and points to directions for future research.

LITERATURE REVIEW

Following the COVID-19 pandemic, inflation in Europe surged due to several global disruptions. Widespread lockdowns and restrictions disrupted production and supply chains (Andre *et al.*, 2023). Factory closures, logistical bottlenecks, and higher sanitary costs further strained supply (Chen *et al.*, 2023; Clarida, 2023; Ozili & Ozen, 2023). Combined with a surge in demand following the lifting of pandemic restrictions, these disruptions contributed to rising inflation (Carstens, 2022; Santacreu & LaBelle, 2022). Another critical factor was the disruption of global supply chains (Carstens, 2022; Chen *et al.*, 2023). Interruptions in the supply of semiconductors, raw materials, and essential components affected various sectors, including automotive (Mohammed & Khan, 2022), electronics (Beibit *et al.*, 2023), agriculture (Tougeron & Hance, 2021), and logistics (Juergensen *et al.*, 2020). These disruptions led to increased production costs (Firlej *et al.*, 2024; Hilmola *et al.*, 2020; Klimecka-Tatar & Ulewicz, 2021; Tougeron & Hance, 2021) and ultimately higher prices for consumers. Labour shortages, caused by employees having to stay home due to illness or pandemic-related restrictions, further exacerbated these problems (Chen *et al.*, 2023). The war in Ukraine, which began in February 2022, was another significant factor affecting inflation (Caldara *et al.*, 2022; Canuto, 2022). This conflict caused sharp increases in energy prices, particularly for gas and oil (Canuto, 2022; Chen *et al.*, 2023; Mierzejewski & Tomala, 2024; Mohammed & Khan, 2022). Sanctions imposed on Russia and Moscow's retaliatory restrictions on gas supplies to Eu-

rope further intensified inflationary pressures (Caldara *et al.*, 2022). Moreover, as one of the largest global producers of grain (Lagodiienko *et al.*, 2019), Ukraine experienced significant production and export challenges, which led to increased food prices worldwide (Semenenko *et al.*, 2023).

In response to the crisis triggered by the COVID-19 pandemic, during the early stages of the resulting economic turmoil, the member countries of the European Union undertook a broad range of measures to stabilise the economy. The European Central Bank (ECB) and national central banks utilised several unconventional monetary policy tools, including asset purchase programmes (Kedward *et al.*, 2024) and the provision of low-cost loans to commercial banks (Claeys, 2020). These actions intended to ensure financial liquidity and support the banking sector under difficult economic conditions. Concurrently, national governments implemented comprehensive fiscal packages that included employment support (Lowe, 2022; Su *et al.*, 2021), businesses assistance (Craven *et al.*, 2020; Oche, 2021), and investments in the healthcare sector (Bello *et al.*, 2024; Garcia-Murillo *et al.*, 2018) to mitigate the pandemic's impact and ensure the provision of essential medical services.

The effectiveness of measures taken to combat inflation has varied. Interest rate increases by the ECB and other central banks had a limited short-term impact on inflation (Cavallo, 2021; Lowe, 2022). Higher borrowing costs slowed economic growth but also created additional difficulties for businesses and consumers already facing significant financial obligations (Gachunga & Kuso, 2018; Scott & Pressman, 2015). Consequently, economists and analysts began investigating other causes of persistent high inflation. One concept that gained prominence during this period was 'greedflation,' *i.e.*, the phenomenon where companies take advantage of economic conditions, such as supply chain disruptions or increased raw material costs, to significantly raise prices of their products and services to maximise profits, regardless of actual production costs. This results in higher corporate profit margins, contributing to inflation (Bilbiie & Känzig, 2023; Nariswari & Nugraha, 2020; Vinod, 2022).

However, the literature on greedflation is far from unanimous. While some empirical findings support the view that rising corporate mark-ups have become a significant driver of post-pandemic inflation (Ari *et al.*, 2023; Bivens, 2022), there are also opposing viewpoints suggesting that other factors such as lingering supply bottlenecks, energy market volatility, and pent-up consumer demand exert a more dominant influence on price dynamics (Colonna *et al.*, 2023). Furthermore, some commentators argue that the concept of greedflation oversimplifies complex macroeconomic processes, noting that past episodes of inflationary spikes often involved multiple interacting drivers rather than solely relying on corporate behaviour (Bilbiie & Känzig, 2023; Capelle & Liu, 2023). Research on greedflation spans various sectors and methods. J. Bivens of the Economic Policy Institute estimates that in 2022, prices rose by 6% annually (vs. 1.8% in 2007-2019), with 53.9% of the increase driven by corporate profit margins. According to the IMF (Ari *et al.*, 2023), since 2022, eurozone inflation has been driven by import prices (40%), profits (45%), and wages (25%), while taxes had a disinflationary effect. The market saw the largest profit gains in sectors such as mining, utilities, and services with direct customer contact, where firms passed on more than the nominal import price increase. However, this does not necessarily indicate increased profitability. Economists from the Bank of Italy (Colonna *et al.*, 2023) show the relationship between profit shares and corporate profitability, which in Italy remained at pre-pandemic levels in 2022. In Germany, profitability in industry and manufacturing remained stable in 2022, while it rose in construction, retail, accommodation, and transport. Firms raised prices in anticipation of recovery and cost increases, suggesting that in more competitive sectors, greedflation may have been less pronounced. Temporary profit growth can result from reduced recession costs and preemptive price hikes, which typically decline as recovery and input prices rise, a cyclical pattern also noted by Fed economists (Glover *et al.*, 2023). To emphasise this, noting that during previous economic recoveries (as in the post-pandemic period), corporate profits became the main driver of inflation in the first year but were subsequently overshadowed by business costs.

This study uses profit share as a percentage of GDP rather than firm-level margins to assess the overall profitability of the non-financial sector. This macro-level approach helps capture broad economic and inflationary trends, including the effects of monetary and fiscal policy, and is widely applied in existing literature (Colonna *et al.*, 2023; Glover *et al.*, 2023; Lavoie, 2023). Macro-level analysis allows for the capture

of the effects of general economic changes, such as monetary and fiscal policy (Nikiforov *et al.*, 2023), on corporate profits, which is difficult to achieve when focusing on individual profit margins.

Secondly, using the profit share as a share of GDP avoids distortions caused by differences in industry structure and firm size, which complicate comparisons based on profit margins. While some studies use disaggregated data (Colonna *et al.*, 2023; Hasenzagl & Pérez, 2023), they also acknowledge this problem. By using the profit share at the macroeconomic level, these differences are minimised, providing a more uniform view of the economic situation. Leading research institutions use this method (Benigno *et al.*, 2021; Hasenzagl & Pérez, 2023; OECD, 2021). However, it does not consider the structural diversity of individual economies, which is a limitation of this approach.

Thirdly, as a share of GDP, profit share is less affected by short-term firm-level fluctuations, offering more stable and reliable results crucial for analysing long-term inflation trends (Hasenzagl & Pérez, 2023).

RESEARCH METHODOLOGY

WE aimed to assess changes in the profit share indicator (gross profit share of non-financial enterprises, unadjusted data) in response to the post-pandemic shock and inflation in selected European countries. The sample included 15 countries (Austria, Belgium, the Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Italy, the Netherlands, Poland, Portugal, Spain, and Sweden), chosen for data continuity and comparability across pre- and post-crisis periods. The selection ensured diversity in economic structures and institutional contexts, enhancing both generalisability and data reliability.

To examine the impact, WE used the difference between the observed values of the profit share indicator during the crisis period and the forecast values obtained using an autoregressive neural network model in a panel data framework. Neural network methods are successfully applied in autoregressive contexts (Aydin & Cavdar, 2015; Chen, 2020; Falat *et al.*, 2015), and neural network models are increasingly used in economic sciences. The procedure for building the forecasting model began with identifying time series data whose dynamics were not disrupted by global economic shocks. Based on the literature, WE identified two crisis periods: 2007-2010 (OECD, 2021) and post-2020 (Bhuiyan *et al.*, 2021; Goldthau & Tagliapietra, 2022; Munteanu & David, 2023; Ozili & Ozen, 2023). Accordingly, WE selected time series data (quarterly data from 1999 to the end of 2006 and from 2011 to the end of 2019) to represent the dynamics of the profit share indicator in each country under globally stable conditions. WE used these data to train the neural networks (100 networks were generated, with the learning epochs limited by the minimisation of the mean error of the test set) and chose the network architecture with the highest level of fit. WE set the number of lags used in the autoregressive neural network model to 12, corresponding to a three-year quarterly lag structure. This choice reflects a typical business cycle horizon and allows the model to capture both seasonal and medium-term fluctuations in the profit share indicator. This approach is widely used in economic forecasting, where neural networks are applied to time series data with predefined lag windows, relying on the model's architecture to adjust for the significance and non-linearity of historical observations (Agustí *et al.*, 2022; Almosova & Andresen, 2019).

To connect the profit share indicator to the concept of greedflation, the core assumption was that if the observed profit share consistently and significantly exceeded the forecast (expected) values under stable conditions, this divergence may reflect corporate behaviour aimed at maximising profit margins beyond what can be attributed purely to increased costs. Thus, a sustained higher-than-expected profit share would serve as a potential indicator of greedflation.

WE took several steps to address potential threats to internal validity. To prevent the problem of overfitting during the training stage, WE divided the data into a training set (70% of the observations), a test set where the minimisation of the mean error difference also occurred (15%), and a validation set (15%). Figure 1 depicts the model architecture, incorporating lagged values of the profit share indicator up to 12 lags (3 years), categorisation by country and a series describing temporal changes (date). Ultimately, the model consisted of nine hidden neurons, excluding the input and output neurons. The model fit values for each subset were: training set fit at 0.99, test set fit at 0.98, and validation set fit at 0.98.

During forecasting, WE projected each period's profit share using lagged values from previous forecasts (*e.g.*, Q1 2020 used to predict Q2 2020). For non-crisis periods, WE retained actual values. The

model assumed that stable-period dynamics would have continued post-2020, allowing for the identification of shock impact as the gap between observed and forecast values. As model accuracy declines with each step ahead, the results indicated the likely direction of change, rather than precise magnitudes.

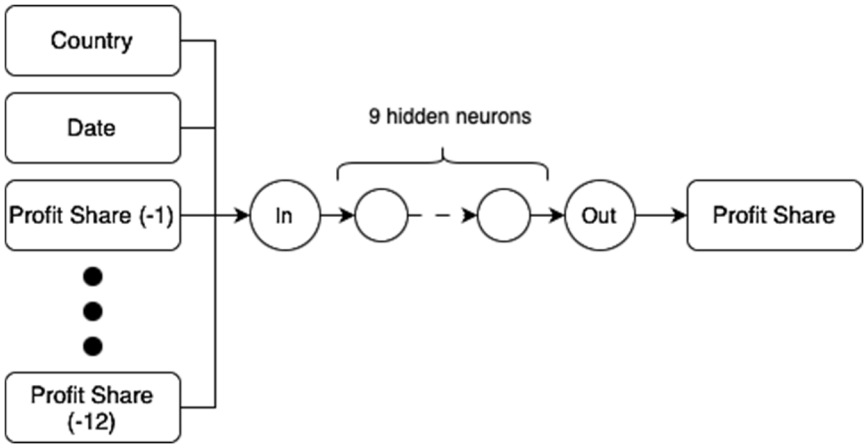

Figure 1. The architecture of the predictive neural network
Source: own elaboration.

RESULTS AND DISCUSSION

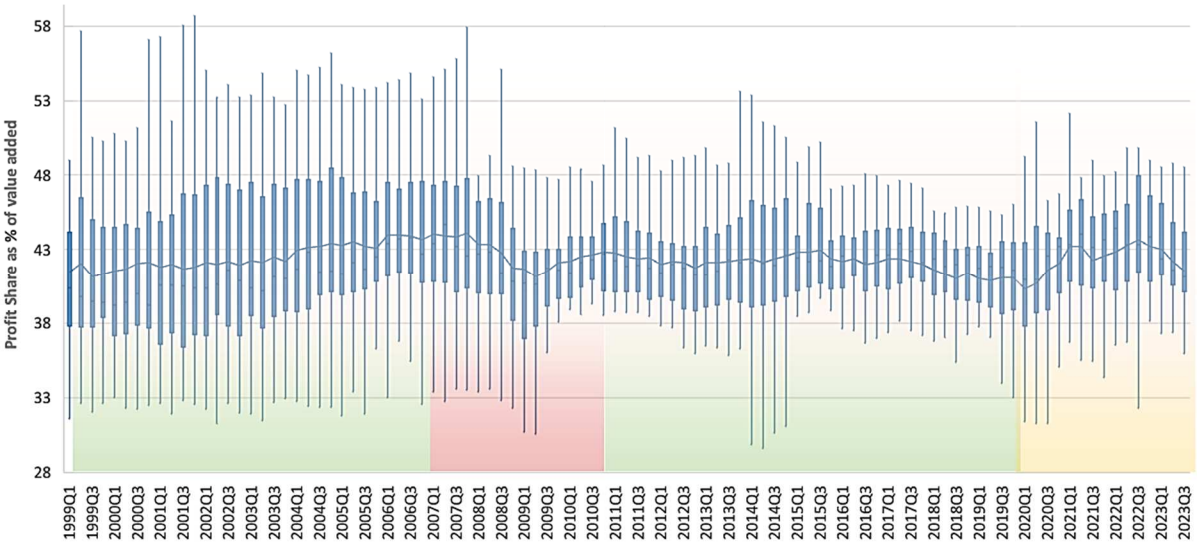

Figure 2. Gross profit share of non-financial corporations as % of value added
Source: own elaboration based on Eurostat, Key indicators – quarterly data, 10.2908/nasq_10_ki, https://ec.europa.eu/eurostat/databrowser/view/NASQ_10_KI__custom_437550/bookmark/table?lang=en&bookmarkId=ea6dc89e-a154-41a1-9ae2-1a2f90aa02fe [09/04/2024].

Throughout the study period, from 1999 to 2023, the profit share indicator for European countries averaged 40.7% of value added. Greece had the highest average profit share during the analysed period, at 55.87% of value added, while France had the lowest, at 32.08%. Before 2007, the indicator values varied significantly between countries. Greece and the Czech Republic had the highest profit share values, ranging from approximately 50% to 61% of value added before the Global Financial Crisis (GFC). On the other hand, France, the Netherlands, Portugal, and Belgium had the lowest values, ranging from about 25% to around 45%. During the 2007-2010 period, the discrepancies between countries decreased, with differences up to 30 percentage points (the lowest observed value being 28% in France and the highest 58% in Greece). In the period after the GFC and before the COVID-19 pandemic, the average profit share was 44.09%. Greece again had the highest average value at 67.1%, while France

had the lowest at 31.34%. Following the COVID-19 pandemic, the average profit share was 42.33%. Greece still had the highest value at 54.34%, and France had the lowest at 31.34%.

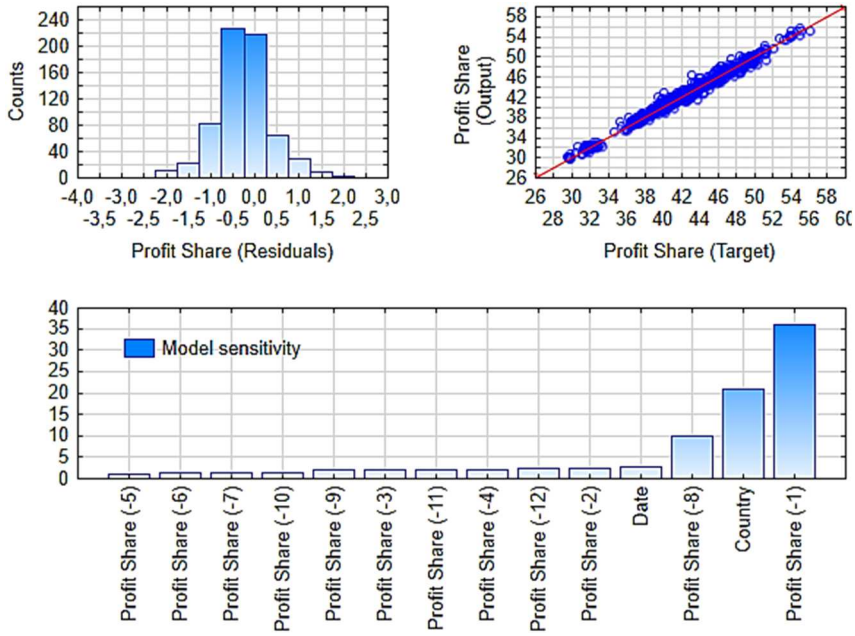

Figure 3. Selected statistics of the predictive model: distribution of model residuals, fit of observed and forecasted values, and model sensitivity to individual variables included in the model

Source: own elaboration based on Eurostat, Key indicators – quarterly data, 10.2908/nasq_10_ki, https://ec.europa.eu/eurostat/databrowser/view/NASQ_10_KI__custom_437550/bookmark/table?lang=en&bookmarkId=ea6dc89e-a154-41a1-9ae2-1a2f90aa02fe [09/04/2024].

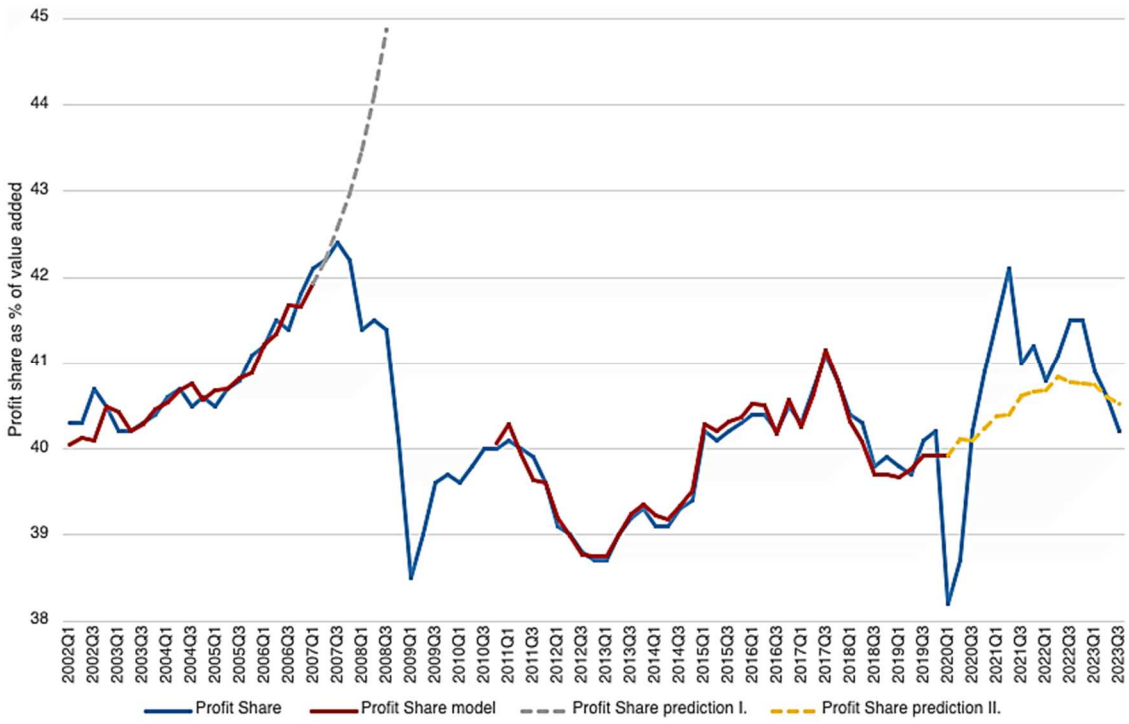

Figure 4. Profit share as % of value added for the Euro area and model fit and forecast for the Post-2020 period

Source: own elaboration based on Eurostat, Key indicators – quarterly data, 10.2908/nasq_10_ki, https://ec.europa.eu/eurostat/databrowser/view/NASQ_10_KI__custom_437550/bookmark/table?lang=en&bookmarkId=ea6dc89e-a154-41a1-9ae2-1a2f90aa02fe [09/04/2024].

As Figures 2-4 show, the predictive model was particularly sensitive to lags, especially around 8 quarters. Before the Global Financial Crisis, the model indicated a sharp increase in the profit share indicator, which then corrected during 2007-2010. This rapid forecast increase resulted from disruptions in the dynamics of the global economy and cyclically described indicators even before the downturn (Claessens *et al.*, 2011). These disruptions affected not only the profit share but also other cyclical indicators such as unemployment (Su *et al.*, 2021), interest rates (An *et al.*, 2020), and GDP (Altig *et al.*, 2020). However, the post-pandemic crisis was an external shock not caused by systemic financial problems. Therefore, the dynamics of the profit share indicator followed widely described cyclical patterns (Kiefer & Rada, 2015; Macallan *et al.*, 2008; Salas *et al.*, 2018) until the crisis occurred. Based on the maintained dynamics of the indicator in the Euro Area, the forecast trend for 2020-2023 shows that the initial shock led to a sharp decline (to nearly 38% in the first quarter of 2020), followed by a peak in 2021 (reaching over 42%). By 2023, the indicator appears to be returning to its predicted values in the Euro Area.

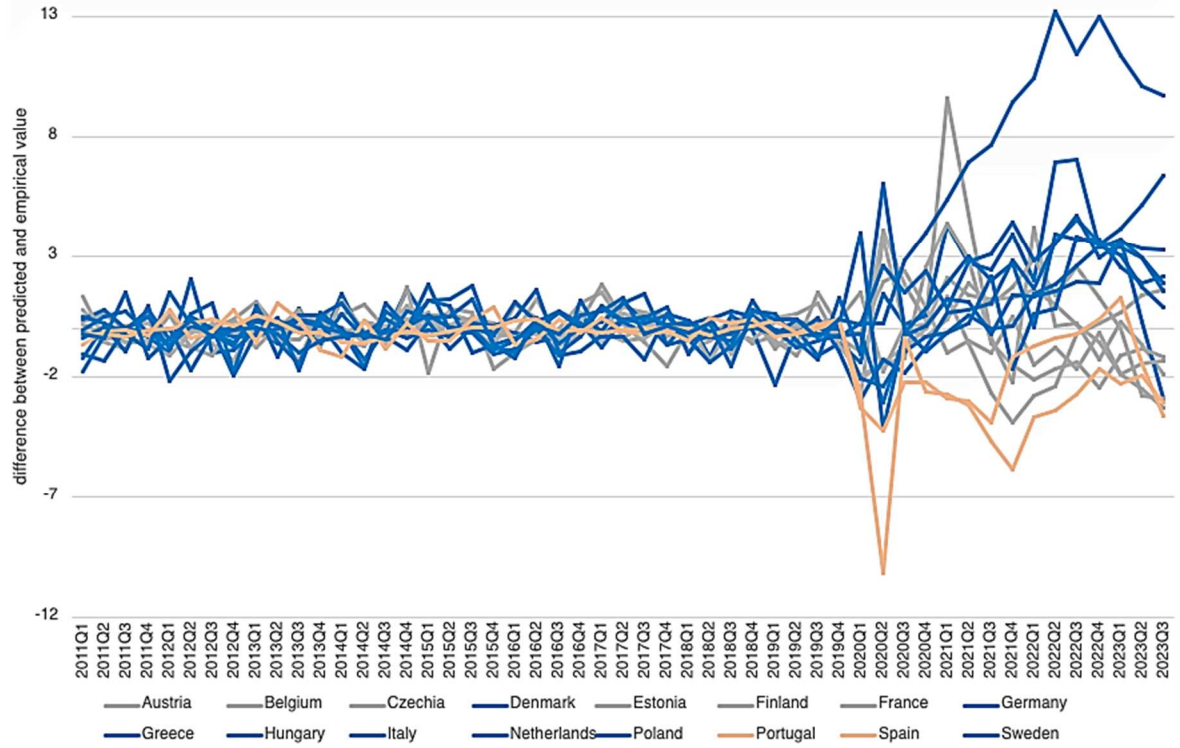

Figure 5. Differences between observed and forecasted values of the profit share indicator across countries

Notes: The Figure captures the aggregated deviations during the crisis period to illustrate divergence from modelled expectations rather than detailed national trends

Source: own elaboration based on Eurostat, Key indicators – quarterly data, 10.2908/nasq_10_ki, https://ec.europa.eu/eurostat/databrowser/view/NASQ_10_KI__custom_437550/bookmark/table?lang=en&bookmarkId=ea6dc89e-a154-41a1-9ae2-1a2f90aa02fe [09/04/2024].

The difference between the observed values of the profit share indicator and the model results (shown in Figure 5) indicated changes in the indicator's dynamics in individual countries after 2020. From 2011 to 2019, the fit error ranged between -2 and 2 percentage points. However, during the crisis period, these differences increased due to changes in historical dynamics in response to the economic shock. This change was not uniform across all countries. Consequently, WE grouped countries based on this difference using Ward's classification. Figure 6 shows these groups in monochrome, and the division into groups is detailed in Figures 7-9. This classification revealed three groups of countries with similar characteristics.

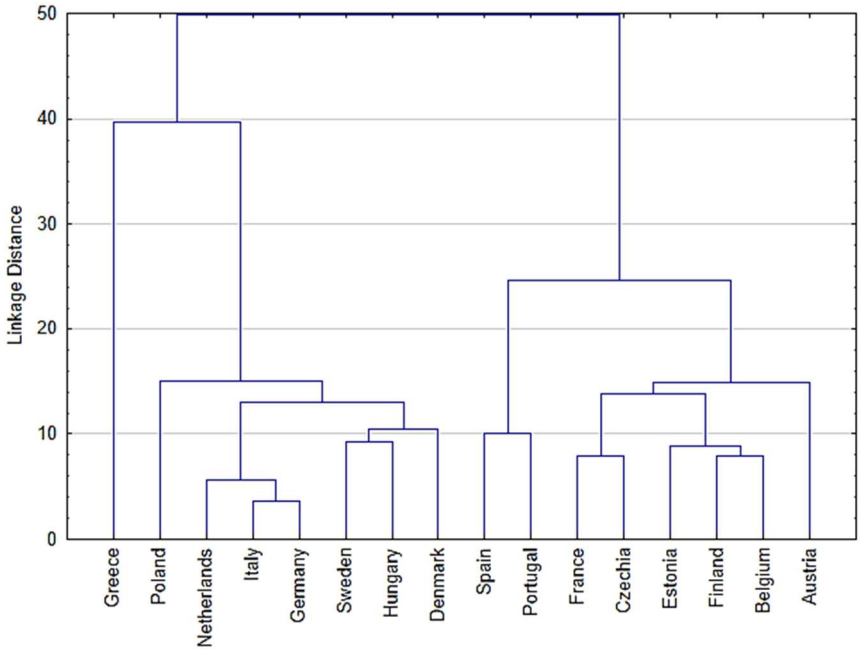

Figure 6. Classification of countries based on similar dynamics in the profit share indicator

Source: own elaboration based on Eurostat, Key indicators – quarterly data, 10.2908/nasq_10_ki, https://ec.europa.eu/eurostat/databrowser/view/NASQ_10_KI__custom_437550/bookmark/table?lang=en&bookmarkId=ea6dc89e-a154-41a1-9ae2-1a2f90aa02fe [09/04/2024].

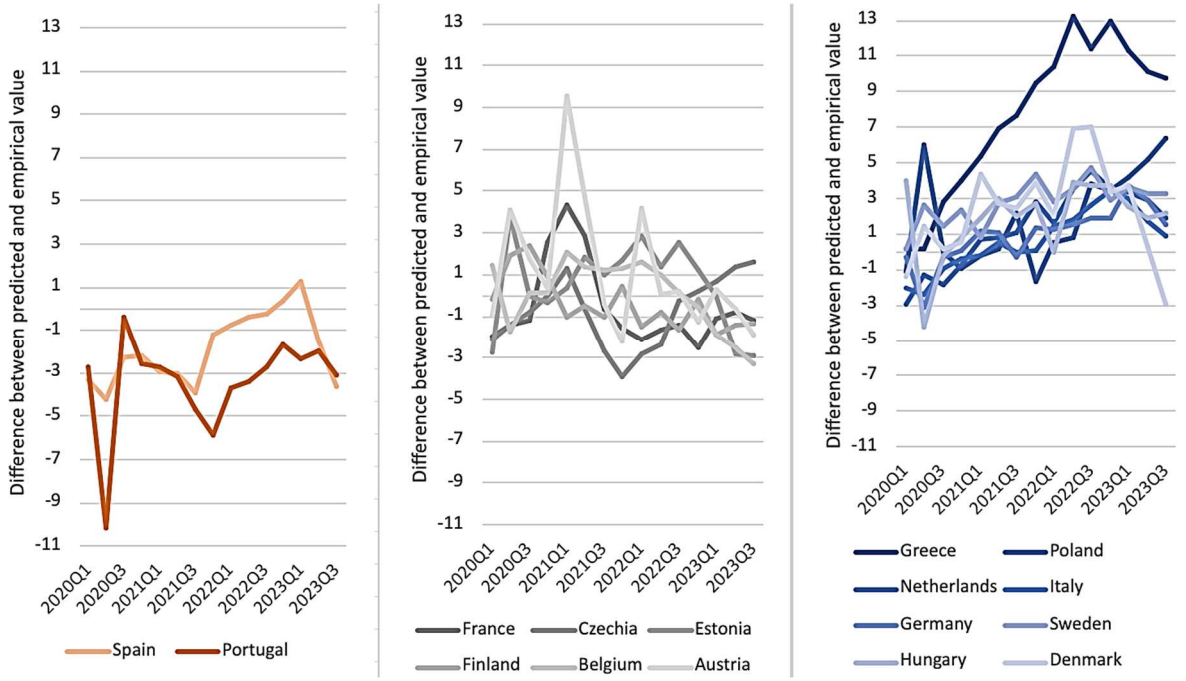

Figure 7-9. Classification of countries into clusters with similar responses in the profit share indicator after 2020, based on hierarchical clustering

Notes: The purpose of this figure is to visualise group-level behavioural patterns rather than individual country-specific trajectories.

Source: own elaboration based on Eurostat, Key indicators – quarterly data, 10.2908/nasq_10_ki, https://ec.europa.eu/eurostat/databrowser/view/NASQ_10_KI__custom_437550/bookmark/table?lang=en&bookmarkId=ea6dc89e-a154-41a1-9ae2-1a2f90aa02fe [09/04/2024].

Figures 7-9 present the three distinguished groups of countries, which highlight the following:

1. Spain and Portugal: These countries experienced a decline in the profit share indicator, particularly in the initial phase of the post-pandemic crisis.
2. France, Czechia, Estonia, Finland, Belgium, and Austria: In these countries, there was a sharp increase in the profit share indicator in the early phase of the crisis, followed by a return to the forecast pre-crisis dynamics.
3. Greece, Poland, the Netherlands, Italy, Germany, Sweden, Hungary, and Denmark: This largest group maintained elevated profit share values for the longest period compared to the forecast-values based on pre-crisis dynamics.

Thus, we may observe that the post-pandemic crisis led to changes in the dynamics of the profit share indicator across individual countries, resulting in an increase for most of them. Importantly, this increase brought the indicator to levels seen in 2000-2007, around 43%. The predictive model indicates that, by the end of 2023, the profit share values were expected to return to or fall below the forecast levels based on pre-crisis dynamics in most countries. This supports the view that the profit surge was a temporary feature of crisis adjustment rather than a structural realignment, although its magnitude raises questions about the underlying pricing behaviour in the recovery phase.

The method employed is based on autoregression, and as such, it carries inherent assumptions. It is recommended that future research expand on this by comparing the current model with alternative models that incorporate different indicators, to demonstrate that the findings regarding greedflation reflect a significant shift in corporate behaviour within selected groups. Within the scope of the profit share indicator used, the phenomenon under discussion appears to be present in certain countries, while the limitations of the chosen method have been outlined in the conclusion.

Various factors such as changes in labour costs (Bils *et al.*, 2018), variations in the quantity of goods produced (Collard-Wexler & De Loecker, 2015), additional advertising expenditures (Hall, 2012), or changes in material costs (Bils & Kahn, 2000) can influence changes in the profit share indicator, due to its cyclical nature. For instance, we may attribute the increase in the profit share observed during the COVID-19 pandemic and the war in Ukraine to the element of unit production costs, specifically the unit costs of materials, which include semi-finished goods and raw materials. If the unit cost of materials rises faster than the unit cost of labour, the ratio of unit price to unit labour cost increases, as does the profit share, while the profit margins imposed by companies remain constant. Another reason cited in analysing the profit share indicator is the increase in production due to the post-pandemic economic recovery, which saw a rise in production volumes. This increase in production volume spread the overall production costs over a larger number of units, thereby reducing unit costs and increasing the profit share of enterprises (Lavoie, 2023).

Although the introduction and literature review discussed the potential for 'greedflation,' the present empirical analysis did not incorporate direct inflation indicators or attempt to measure whether rising profit shares in these countries were correlated with inflated price mark-ups. Profit shares temporarily increased beyond their typical cyclical path in many nations, possibly reflecting both higher unit material costs and short-run pricing opportunities. Moreover, the patterns reported here support earlier studies emphasising the rebound in corporate profits following economic contractions (Colonna *et al.*, 2023; Glover *et al.*, 2023).

Overall, while the results confirm a cyclical return of the profit share indicator to near pre-crisis levels, the lack of direct inflation metrics in our empirical framework means that the question of whether certain companies exploited the crisis to 'overprice' goods remains open. Considering these findings, it is reasonable to interpret the sustained elevation in the profit share indicator in certain countries, particularly between 2021 and 2022, as consistent with macro-level manifestations of greedflation. This interpretation aligns with empirical evidence from Bivens (Bivens, 2022) and the IMF (Ari *et al.*, 2023), who attributed a significant share of post-pandemic inflation to rising corporate profits. Conversely, the more moderate or short-lived deviations observed in countries such as Spain and Portugal suggest that other factors, such as energy costs or labour market dynamics, may have played a more dominant role. These country-level differences underscore the importance of institutional settings, market structures, and sec-

toral concentration in shaping pricing behaviour during economic shocks. Overall, the observed patterns lend partial support to the hypothesis that profit-led inflation occurred in some cases, though a definitive attribution requires further sector-specific or price-based analysis.

CONCLUSIONS

The most frequently cited factors of inflation in the literature are government spending, supply chain disruptions, and government policies. The COVID-19 pandemic and the war in Ukraine created conditions in which companies could exploit the market by raising prices, leading to the phenomenon known as 'greedflation.' Greedflation describes a situation where companies increase the prices of goods and services to maximise profits, regardless of actual production costs.

WE analysed the potential occurrence of greedflation using the profit share indicator, which represents the gross profit share of non-financial enterprises in GDP. This indicator allows for the assessment of the non-financial sector's profitability within the entire economy, mitigating issues related to the diversity of industries and business scales. The study identified differences between the observed values of the profit share indicator during the crisis period and the forecast values, using an autoregressive neural network model. The analysis included data from 15 European countries. The results highlighted two main phenomena affecting the indicator:

1. Global Financial Crisis (GFC): The GFC imposed a correction on the rapidly increasing profit share indicator, reflecting disruptions in the indicator itself as well as other cyclical indicators such as unemployment, interest rates, and GDP.
2. Post-Pandemic Crisis: The dynamics of the Profit Share indicator before the post-pandemic crisis followed cyclical patterns. During the crisis period, there was a change in the observed dynamics, though this change was not consistent across all analysed countries.

The post-pandemic crisis altered the dynamics of the profit share indicator at the individual country level, resulting in an increase for most countries. This increase reached levels observed in the 2000-2007 period. The study identified three groups of countries with similar responses to the post-pandemic crisis:

1. Spain and Portugal: Experienced a decline in the profit share indicator in the initial phase of the crisis.
2. France, Czechia, Estonia, Finland, Belgium, and Austria: Saw a sharp increase in the indicator, followed by a return to pre-crisis values.
3. Greece, Poland, Italy, Germany, Sweden, Hungary, and Denmark: Maintained elevated profit share values for the longest period compared to the forecast values based on pre-crisis dynamics.

The predictive model indicates that by 2024, the profit share indicator will stabilise near or below the values originally forecasted based on pre-crisis trends, indicating that any post-pandemic surge may be temporary rather than a sustained pattern of greedflation. These observations are broadly consistent with prior research on cyclical profit behaviour following economic shocks, but they do not definitively link elevated profit share levels to corporate practices of inflating prices for higher margins.

Our contribution lies in introducing a macro-level, machine-learning-based approach to detect abnormal profit patterns across countries without relying on firm-level data. This offers a replicable method to monitor profit behaviour during crises. Limitations of this method include the absence of direct inflation or price mark-up data and sectoral variation.

Future studies could integrate inflation indicators and firm-level pricing to assess the link between profit growth and consumer prices. Policymakers should consider profit dynamics when diagnosing inflation and act where excessive price-setting persists. In turn, we encourage firms to align prices with costs to retain trust and competitiveness. Though indirect, the findings contribute to the ongoing debate on profit-led inflation in the post-pandemic global economy.

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Acknowledgements and Financial Disclosure

The authors would like to thank the anonymous referees for their useful comments, which allowed to increase the value of this article. The publication was co-financed/financed from the subsidy granted to the Krakow University of Economics – Project no. 031/EER/2025/POT.

Use of Artificial Intelligence

AI-based tools were used solely for language editing and stylistic proofreading, as well as for minor translation support. No AI/GAI tools were used for content creation, data analysis, or interpretation of research results. Responsibility for the content remains with the authors.

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