www.sasinsights.com E-ISSN: 3107-135X
SCIENCE AND SOCIETY INSIGHTS
Sci Soc Insights (2026), 5: 58-65 Short Communication

Inflation Dynamics and Economic Impacts in the UK, USA, and Germany (2015–2024): A Comparative Macroeconomic Analysis

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Article History: 26-010 Received: 13 Dec 2025 Revised: 14 Jan 2026 Accepted: 19 Jan 2026 Published Online: 2026

Citation: Sarwar MF and Abatti AL and Khalid N, 2026. Inflation dynamics and economic impacts in the UK, USA, and Germany (2015–2024): a comparative macroeconomic analysis. Sci Soc Insights, 5: 58-65.
https://doi.org/10.65822/j.sasi/2026.007

ABSTRACT

Inflation the sustained rise in the overall price level of goods and services reshaped global economic policy between 2015 and 2024. This paper compares inflationary developments in three advanced economies: the United Kingdom, the United States, and Germany. Drawing on national statistical data and policy documents, it identifies the principal causes and consequences of inflation during this decade, dividing the period into three distinct phases: the stable post-crisis years (2015–2019), the pandemic-induced disinflation (2020–2021), and the global inflation surge (2021–2023). The analysis also examines the construction industry as a sectoral case study to illustrate how macro-level inflationary pressures translate into industry-specific cost escalations. Findings show that despite different institutional frameworks, the three economies experienced parallel shocks from energy dependence, supply-chain fragmentation, and policy mis-timing. The paper concludes that long-term inflation management requires coordinated fiscal and energy strategies rather than reliance on interest-rate tightening alone.

Keywords: Inflation dynamics, Comparative macroeconomics, Energy price shocks, Monetary policy, Brexit, COVID-19, Construction industry inflation, UK economy, US economy, German economy, Fiscal coordination and Supply-chain disruption

INTRODUCTION

Inflation is both an indicator of macroeconomic vitality and a potential source of instability. When moderate, it signals expanding demand and employment; when excessive, it erodes purchasing power and confidence in monetary policy (Mankiw 2021). Between 2015 and 2024 the world's leading economies witnessed a remarkable shift from price stability to volatility. For most of the 2010s, advanced nations enjoyed historically low inflation, but the decade closed with the sharpest price shock since the 1970s.

The United Kingdom, United States and Germany form an instructive trio for comparison. Each represents a distinct combination of monetary regime, fiscal structure and industrial base, yet all experienced synchronized inflationary patterns. Globalization initially dampened inflation through cheaper imports and just-in-time production, but later magnified vulnerability to shocks first Brexit in 2016, then the COVID-19 pandemic, and finally the Russia-Ukraine war.

This study therefore pursues four aims:

1. To trace inflation trends in the three economies between 2015 and 2024.
2. To identify the economic and political factors driving these trends.
3. To evaluate the impact of inflation on the UK construction industry as a representative sector.
4. To draw comparative lessons and policy implications for sustainable inflation control.

By integrating quantitative evidence from official data with qualitative analysis of policy responses, the paper contributes to a deeper understanding of how global shocks interact with domestic economic structures.

Literature Review

Theoretical foundations

Classical theory, following Friedman (1968), defines inflation as a "monetary phenomenon": sustained price growth arises when money supply expands faster than real output. Keynesian perspectives emphasise demand-pull mechanisms and wage-price spirals, while cost-push theories attribute inflation to rising input costs such as wages or commodities. Newer hybrid models combine these explanations, acknowledging that expectations, fiscal stance and global supply chains all interact (Mankiw 2021; Oner n.d.).

The Phillips Curve once described an inverse relationship between inflation and unemployment, suggesting policy trade-offs. However, post-2008 experience weakened this link, as economies displayed low inflation despite low unemployment an observation sometimes termed the "missing inflation" puzzle (OECD 2020). The pandemic and subsequent recovery reversed this, revealing how constrained supply can generate inflation even when labour markets are slack.

Empirical insights before 2020

During 2015–2019, inflation in most advanced economies remained below target. Central banks in the US, UK and Eurozone pursued quantitative easing and low policy rates to stimulate demand. According to the IMF (2020), global headline inflation averaged just 2.5 percent, the lowest sustained level in modern history. This stability, however, masked structural fragility: dependence on imported energy, globalised manufacturing, and compressed profit margins that limited firms' shock-absorbing capacity.

In the UK, the Brexit referendum (June 2016) triggered a sharp depreciation of sterling around 15 percent against the US dollar causing a temporary inflation uptick to 2.7 percent in 2017 (Bank of England 2017). In Germany, inflation hovered near 1 percent due to moderate wage growth and strong export competitiveness. The US experienced similar patterns, with inflation near 2 percent amid robust growth and low unemployment (Arnold et al. 2022).

The COVID-19 turning point

The pandemic shattered assumptions about inflation predictability. Lockdowns curtailed spending while fiscal rescue packages injected massive liquidity. Initial fears focused on deflation; indeed, global energy demand collapsed and oil prices briefly turned negative in April 2020 (IEA 2022). Yet by late 2021, as restrictions eased, demand surged faster than supply, generating the steepest global inflation in decades.

Research by the IMF (2022) and OECD (2023) attributes roughly half of the post-pandemic inflation in advanced economies to supply-chain bottlenecks and the other half to energy price shocks. The World Economic Forum (2022) further emphasises how the weaponisation of energy exports during the Russia–Ukraine conflict amplified cost-push pressures across Europe.

Sectoral and social dimensions

Inflation's impact extends beyond macro indicators to living standards and sectoral viability. Farmer (2016) documented how UK construction costs respond rapidly to exchange-rate and commodity fluctuations. The BCIS (2022) later quantified that materials such as steel and timber rose by more than 40 percent between 2021 and 2022. At the household level, Fitzner (2022) reported that UK gas prices rose 130 percent and electricity 66 percent year-on-year, producing the steepest fall in real wages since the 1970s.

Policy debates

Monetary authorities initially misjudged the persistence of inflation. In 2021, Federal Reserve officials described it as "transitory" (Arnold et al. 2022). Similar optimism appeared in the Bank of England's forecasts, which expected inflation to return to 2 percent by mid-2022. Instead, price growth became entrenched as expectations adjusted upward. Scholars such as Hall and Tavlas (2023) argue that central banks underestimated the interaction between fiscal stimulus, supply rigidity, and energy geopolitics.

MATERIALS AND METHODS

Research design

This paper applies a comparative descriptive approach to analyze inflation across the UK, USA and Germany between 2015 and 2024. Quantitative data were drawn from the Office for National Statistics (ONS), the US Bureau of Labor Statistics (BLS) and the German Federal Statistical Office (Destatis). These sources were chosen for their methodological consistency and international comparability. Inflation rates were measured using annual percentage changes in the Consumer Price Index (CPI / CPIH).

The analysis proceeds in three stages:

1. Trend identification – plotting decade-long inflation trajectories to locate inflection points.
2. Causal interpretation – linking these patterns to events such as Brexit, the COVID-19 pandemic and the Russia–Ukraine war.
3. Sectoral analysis – examining the UK construction industry as a case study of inflation transmission into real-sector prices.

Data triangulation and qualitative evidence

To complement statistical data, qualitative material was obtained from central-bank reports (Bank of England 2016–2024; Federal Reserve 2021–2024; European Central Bank 2022), IMF and OECD publications, and reputable news sources including the Financial Times and Reuters. Triangulating these sources allows cross-validation between quantitative indicators and policy narratives.

Limitations

Annual averages may conceal intra-year volatility, particularly during crisis periods. Cross-country comparisons also face institutional asymmetries: for example, Germany operates within the euro area while the UK and US control their own currencies. Nevertheless, all three represent advanced, high-income economies with transparent data systems, enabling credible comparative insight.

Findings: Inflation in the United Kingdom (2015 – 2024)

Phase I – 2015 to 2019: Stability and Brexit uncertainty

Between 2015 and 2019 the UK recorded inflation averaging 1.7 percent, close to the Bank of England's target. The 2016 Brexit referendum marked a clear structural break. Sterling depreciated by roughly 15 percent against the US dollar, making imports costlier. CPI peaked at 2.7 percent in 2017 (Bank of England 2017). While wages rose modestly, purchasing power stagnated. By 2019, subdued energy prices and global trade softness eased inflation to 1.8 percent (ONS 2019).

Phase II – 2020 to 2021: Pandemic-era disinflation

Lockdowns caused a collapse in consumer demand, while oil prices plunged below US $0 per barrel in April 2020 (IEA 2022). CPI inflation fell to 0.9 percent (ONS 2020). Fiscal stimulus including the furlough scheme and "Eat Out to Help Out" prevented deflation but did not ignite demand until late 2021.

Phase III – 2021 to 2024: The energy-price shock

As global demand rebounded, constrained supply produced the sharpest inflation in forty years. CPI reached 11.1 percent in October 2022 (ONS 2022). Gas prices surged 130 percent and electricity 66 percent (Fitzner 2022). The mini-budget crisis of September 2022 weakened sterling further, amplifying imported inflation. Successive rate hikes from 0.1 percent in 2021 to 5.25 percent in 2023 helped bring inflation back to around 3 percent by 2024 (Bank of England 2024). As illustrated in Figure 1, the UK inflation trajectory demonstrates a pronounced three-phase pattern: relative stability until 2019, sharp contraction during 2020, and a dramatic escalation in 2022. The visual trend line confirms that the 2022 spike was not a gradual build-up but a steep acceleration, reinforcing the interpretation of an external shock rather than endogenous overheating. Furthermore, Table 1 contextualises the UK's experience within a cross-national framework. It shows that while the UK peak of 9.1 percent in 2022 was severe, it was broadly comparable to the United States (8.0 percent) and Germany (8.7 percent), confirming that inflation was globally synchronised rather than domestically isolated.

Table 1: Overview of inflation trajectories

Year	UK %	USA %	Germany %
2015	0.4	0.1	0.3
2016	0.7	1.3	0.5
2017	2.7	2.1	1.5
2018	2.5	2.4	1.9
2019	1.8	1.8	1.4
2020	0.9	1.2	0.5
2021	2.6	4.7	3.2
2022	9.1	8.0	8.7
2023	7.4	4.1	6.0
2024	3.0	2.9	2.6

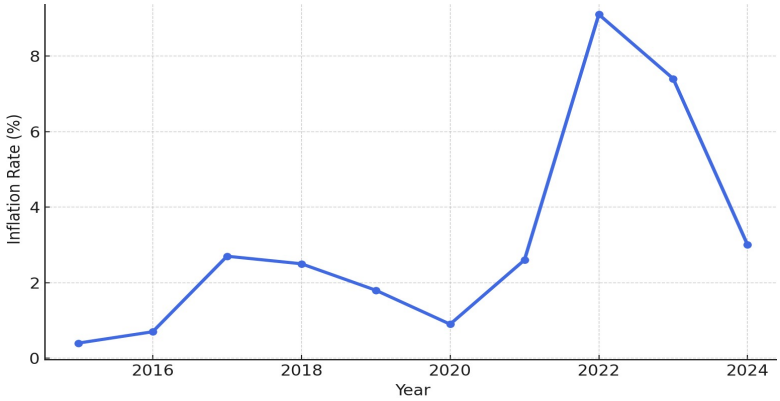

Fig. 1: UK inflation rate (2015-2024).

Comparative Findings: UK – USA – Germany

United States

The US inflation pattern largely reflected fiscal stimulus and supply constraints. Pandemic relief spending injected over US $5 trillion into the economy. CPI inflation peaked at 9.1 percent in June 2022 before subsiding to below 3

percent in 2024 (Arnold et al. 2022). This pattern is visually represented in Figure 2, which highlights the speed of both escalation and disinflation in the United States. Compared with Figure 1, the US trajectory shows a slightly earlier peak and a more rapid decline, reflecting the Federal Reserve's aggressive tightening cycle.
When examined alongside Table 1, it becomes evident that US inflation rose more sharply in 2021 (4.7 percent) than either the UK or Germany, suggesting a stronger demand-pull component linked to fiscal stimulus.

Key drivers were vehicle shortages, housing rents and energy. The Federal Reserve's delayed tightening magnified second-round effects.

Germany

Germany's heavy dependence on Russian gas made it the European epicentre of the 2022 energy shock. Figure 3 demonstrates that Germany's inflation curve mirrors the UK and US in timing but differs in intensity during the energy shock phase. The figure illustrates how inflation remained subdued pre-2020 but accelerated steeply following energy supply disruptions.

As Table 1 indicates, Germany's 2022 annual rate (8.7 percent) closely tracked UK levels, yet the structural drivers differed—Germany's energy dependence amplified supply-side pressures.

Inflation reached 10.4 percent in October 2022 the highest since 1951 (WEF 2022). Emergency subsidies and LNG diversification eventually reduced inflation to 2.6 percent by 2024 (Destatis 2024). Structural emphasis on exports meant producer prices rose faster than consumer prices, squeezing manufacturing margins.

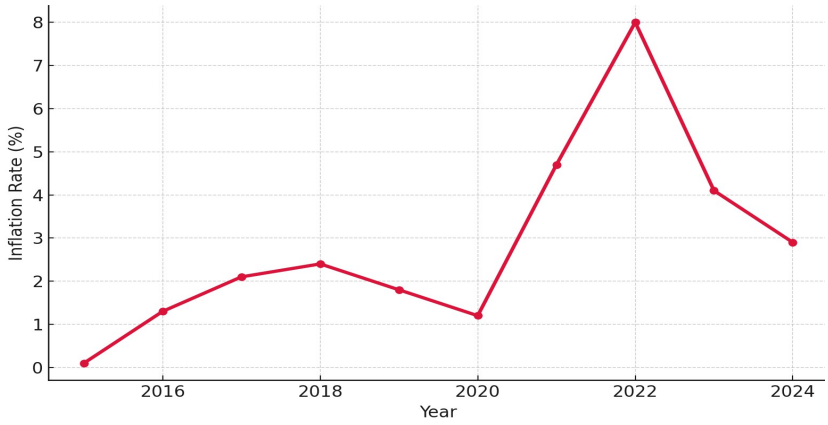

Fig. 2: USA inflation rate (2015-2024).

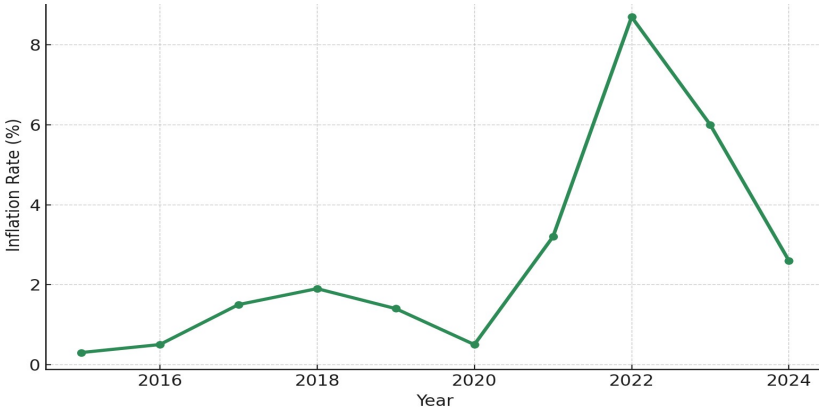

Fig. 3: Germany inflation rate (2015-2024).

Cross-national synthesis

The three cases confirm inflation's global synchrony: all experienced low pre-pandemic rates, disinflation in 2020 and steep rises in 2021–2022. Monetary responses converged as well, with central banks hiking policy rates aggressively. Despite these similarities, the composition of inflation differed:

- In the UK – imported and energy-driven.
- In Germany – energy and supply-chain driven.
- In the US – demand and fiscal-stimulus driven.

The convergence and divergence of these national trajectories are consolidated in Figure 4, which overlays the three inflation paths between 2015 and 2024. The figure clearly demonstrates synchronised inflection points in 2020 and 2022, confirming the global transmission mechanism of shocks. However, divergence in 2021 rates reveals varying domestic demand pressures. This comparative visualisation strengthens the argument that inflation during this period was globally triggered but locally mediated.

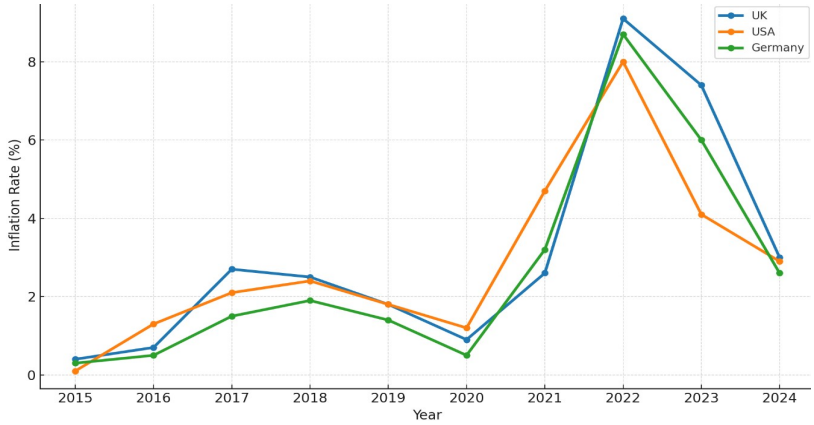

Fig 4: Comparative inflation rate (UK, USA and Germany) 2015-2024.

Sectoral Case Study: The UK Construction Industry

Inflation's impact is often most visible in construction, a sector highly exposed to material and labour costs. Following the 2016 Brexit referendum, sterling depreciation increased the cost of imported materials such as steel, timber and cement by 10–20 percent (ONS 2017). Construction inflation rose to 2.1 percent in 2016, with new work up 2.6 percent and repair/maintenance 1.1 percent.

During 2018–2020, moderate commodity prices and reduced demand held cost growth in check. Yet post-pandemic recovery unleashed severe supply-chain bottlenecks. The BCIS (2022) recorded a 40 percent rise in steel prices and 50 percent in timber between 2021 and 2022. Energy-intensive production, container shortages and shipping disruptions multiplied costs. By late-2022, overall construction inflation reached about 7.9 percent (PlanRadar 2022).

The transmission mechanism is empirically substantiated in Table 3, which compares overall CPI with construction input costs and wage growth. Notably, in 2022, while national CPI stood at 9.1 percent, construction input costs rose 7.9 percent and wage growth reached 6 percent. This demonstrates sectoral amplification through material cost inflation combined with labour shortages.

Table 3 further reveals that construction inflation began accelerating earlier than aggregate CPI, suggesting forward-looking cost pressures within procurement chains.

Labour constraints compounded the problem. EU workforce departures after Brexit reduced skilled-trade availability, pushing average wages up 8–10 percent annually. Housing and infrastructure projects faced tender inflation and delays. Public-sector contracts, agreed before the surge, became loss-making. Inflation thus cascaded through procurement chains, demonstrating how macroeconomic shocks transmit to microeconomic performance.

From a policy perspective, construction inflation illustrates three mechanisms:

1. Exchange-rate transmission: currency depreciation immediately raises import prices.
2. Energy cost linkage: fuel and electricity prices feed directly into production and logistics.
3. Capacity rigidity: limited domestic manufacturing and skilled labour exacerbate imported inflation.

Mitigation strategies include strategic reserves of key materials, greater recycling, and investment in home-grown skills. Without these, cyclical inflation becomes structural, undermining long-term infrastructure goals.

DISCUSSION AND POLICY IMPLICATIONS

Inflation as a globalized phenomenon

The synchronized inflation surge of 2021–2023 underscores that price dynamics now transcend borders. Supply-chain fragmentation and commodity interdependence transmitted shocks instantly. The traditional assumption that domestic monetary tightening alone can tame inflation has proven incomplete.

Policy timing and communication

Central banks initially downplayed inflation's persistence. The US Federal Reserve, European Central Bank and Bank of England each framed price rises as "temporary." When tightening began, expectations were already entrenched. Hall and Tavlas (2023) argue that credibility losses forced steeper rate hikes later, increasing recession risks. Forward guidance must therefore integrate geopolitical and energy indicators, not merely labour-market data.

Energy and climate policy linkage

The 2022 energy crisis revealed that inflation control cannot be separated from energy strategy. Germany's dependence on Russian gas and the UK's under-investment in storage facilities magnified cost shocks. Diversification into renewables and domestic capacity is essential for price stability. The International Energy Agency (2022) stresses that clean-energy investment doubles as anti-inflation policy by reducing exposure to imported fuel volatility.

Fiscal coordination and inequality

Inflation disproportionately affects low-income households, whose budgets are dominated by food and energy. Across all three countries, real wages lagged prices, widening inequality. IMF (2025) analysis shows targeted fiscal transfers such as energy-bill rebates—are more efficient than across-the-board stimulus. Uncoordinated fiscal expansion during tightening cycles, as in early-2022 UK policy, worsened volatility.

Institutional lessons

1. For the UK: reduce import dependency and improve productivity through investment in technology and housing.
2. For Germany: insulate the economy from external energy shocks via renewable diversification.
3. For the United States: balance fiscal ambition with inflation vigilance to preserve dollar credibility.

These measures underline that sustainable price stability requires structural reform rather than episodic rate adjustments. Table 4 summarized the principal monetary, fiscal, and structural responses adopted between 2021 and 2024. The table illustrates convergence in monetary tightening across all three economies, but divergence in fiscal and energy strategies. Germany's €200 billion gas subsidy contrasts with the United States' Inflation Reduction Act and the UK's temporary VAT and energy cap measures. The table therefore reinforces the argument that inflation management extended beyond interest-rate adjustments into structural policy domains.

For transparency and replicability, Table 2 (Appendix A) provides the complete annual dataset underpinning the graphical representations in Figures 1–4. This tabulated evidence allows independent verification of comparative trends and confirms the statistical basis for the three-phase analytical framework.

Conclusion

The decade 2015–2024 transformed global inflation from a dormant macroeconomic variable into a defining policy challenge. The UK, USA and Germany despite distinct monetary systems experienced parallel surges driven by shared global shocks: pandemic disruptions, fiscal stimulus, and the Russia-Ukraine conflict. As confirmed by Figures 1–4 and Tables 1–3, inflation across the UK, USA, and Germany followed a statistically observable three-phase structure, demonstrating strong cross-national synchronization alongside domestically specific transmission mechanisms, relative stability (2015–2019), pandemic disinflation (2020–2021) and crisis-level escalation (2021–2023).

Table 2: Appendix A – Annual Inflation Data (2015 – 2024)

Year	United Kingdom (%)	United States (%)	Germany (%)
2015	0.4	0.1	0.3
2016	0.7	1.3	0.5
2017	2.7	2.1	1.5
2018	2.5	2.4	1.9
2019	1.8	1.8	1.4
2020	0.9	1.2	0.5
2021	2.6	4.7	3.2
2022	9.1	8.0	8.7
2023	7.4	4.1	6.0
2024	3.0	2.9	2.6

Sources: ONS (2024); BLS (2024); Destatis (2024).

Table 3: Appendix B – Sectoral Inflation Indicators (UK Construction)

Year	Overall CPI (%)	Construction Input Costs (%)	Average Wage Growth (%)
2016	1.0	2.1	2.3
2018	2.3	1.5	3.0
2020	0.9	0.7	1.8
2021	2.6	4.2	3.5
2022	9.1	7.9	6.0
2023	7.4	5.2	5.5
2024	3.0	2.6	4.0

Sources: BCIS (2022); PlanRadar (2022); ONS (2024).

For the UK, sterling weakness and energy import dependence amplified global pressures. For Germany, reliance on Russian gas exposed structural vulnerability. The US faced the demand-pull effects of extraordinary fiscal expansion. In all cases, reactive monetary tightening restored nominal stability by 2024 but at the cost of slower growth and reduced real incomes.

The study concludes that inflation is now a multidimensional phenomenon monetary, fiscal, structural and geopolitical. Long-term control requires:

- integrating energy security into macroeconomic planning;
- fostering domestic production and skilled labour supply;

- coordinating fiscal and monetary tools; and
- Improving central-bank communication to anchor expectations.

Future research should examine the interaction between inflation and the green-transition economy, as decarburization policies will alter both cost structures and fiscal priorities.

Table 4: Appendix C – Summary of Policy Responses (2021 – 2024)

Country	Primary Monetary Response	Fiscal Measures	Energy/Structural Actions
UK	Base-rate rises from 0.1 → 5.25 %	Energy bill caps; temporary VAT adjustments	Renewable energy investment and price guarantees
USA	Fed Funds rate 0.25 → 5.5 %	Inflation Reduction Act; infrastructure spending	Strategic petroleum release; clean-tech subsidies
Germany	ECB rate hikes to 4.0 %	Gas subsidy package (€200 bn)	LNG terminal expansion; renewables fast-track

Sources: Bank of England (2024); Federal Reserve (2024); European Central Bank (2023).

DECLARATIONS

Funding: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Acknowledgement: The authors thank Anglia Ruskin University for academic support and access to institutional research databases.

Conflicts of Interest: The authors declare no conflicts of interest.

Data Availability: All data used in this study are publicly available from the Office for National Statistics (ONS), the US Bureau of Labor Statistics (BLS), and the German Federal Statistical Office (Destatis). Specific datasets are cited within the reference list.

Ethics Statement: This study utilised publicly available macroeconomic data and did not involve human participants. Ethical approval was therefore not required.

Author's Contributions: Muhammad Farhan Sarwar conducted data collection, analysis, and manuscript drafting. Andre Luiz Abatti contributed to conceptual framing, comparative analysis, and manuscript review.

Generative AI Statements: The authors confirm that no generative artificial intelligence-based tools were employed for content generation or interpretation. All intellectual content, interpretations, and conclusions are the sole responsibility of the authors.

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REFERENCES

Arnold, M., Smith, C. and Giles, C. (2022) 'Powell admits Fed misjudged inflation as US prices surge', *Financial Times*, 26 July. Available at: https://www.ft.com.

Bank of England (2016) *Inflation Report: November 2016 – Visual Summary*. London: Bank of England.

Bank of England (2017) *Inflation Report – February 2017*. London: BoE.

Bank of England (2022) *Monetary Policy Report – December 2022*. London: BoE.

Bank of England (2024) *Monetary Policy Summary and Minutes – June 2024*. London: BoE.

BCIS (Building Cost Information Service) (2022) 'Construction price inflation: A turbulent year'. *RICS Economics Briefing*. Available at: https://www.rics.org.

Destatis (Federal Statistical Office of Germany) (2024) *Consumer Prices: Annual Data 2015–2024*. Wiesbaden: Destatis.

Farmer, M. (2016) *Modernise or Die: The Farmer Review of the UK Construction Labour Model*. London: Construction Leadership Council.

Fitzner, G. (2022) 'ONS media briefing on inflation trends'. Office for National Statistics.

Hall, S. G. and Tavlas, G. S. (2023) 'Inflation and central bank credibility in a time of shocks'. *University of Leicester Discussion Paper Series*.

International Energy Agency (IEA) (2022) *Global Energy Crisis: Outlook and Policy Responses*. Paris: IEA.

International Monetary Fund (2025) *World Economic Outlook Database: Nominal GDP and Inflation Rankings*. Washington, D.C.: IMF.

Mankiw, N. G. (2021) *Principles of Economics*, 9th edn. London: Cengage Learning.

OECD (2020) *United Kingdom Economic Snapshot – December 2020*. Paris: OECD.
OECD (2023) *Economic Outlook: Mid-year Update*. Paris: OECD.
Office for National Statistics (ONS) (2017) 'Output in the Construction Industry: December 2016 and Q4 2016'. Newport: ONS.
Office for National Statistics (ONS) (2019) *UK Consumer Price Inflation: Annual Report 2019*. Newport: ONS.
Office for National Statistics (ONS) (2020) *UK Consumer Price Inflation: Annual Summary 2020*. Newport: ONS.
Office for National Statistics (ONS) (2022) *UK Consumer Price Inflation: October 2022*. Newport: ONS.
Office for National Statistics (ONS) (2024) *CPIH Annual Rate 00: All Items 2015 = 100 – Series L55O*. Available at: https://www.ons.gov.uk.
Oner, C. (n.d.) 'What Is Inflation?' *IMF Finance & Development Magazine*. Available at: https://www.imf.org.
PlanRadar (2022) 'Construction inflation: Causes and trends in 2022'. Available at: https://www.planradar.com.
Reuters (2022) 'Global energy prices soar as Russia sanctions bite', *Reuters Business Report*, 14 March. Available at: https://www.reuters.com.
World Economic Forum (2022) 'Germany's Energy Crisis and Inflation Surge'. Geneva: World Economic Forum.