INFLATION MANAGEMENT TECHNIQUES IN THE POST-PANDEMIC ERA: AN EXAMINATION OF TOP 10 ECONOMIES

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ABSTRACT

Countries globally are fighting inflation after Governments have printed monies to meet their COVID-19 expenditure. However, slower economic growth rates, geopolitical tensions, sanctions, elevated prices of crude oil and other commodities, and supply chain bottlenecks are making this fight more difficult. This research article examines the inflationary control approaches followed by the governments and the authorities of the top 10 economies of the world according to their GDP in controlling the rising inflation. The study sample includes the United States of America, China, Japan, Germany, India, the United Kingdom, France, Brazil, Italy, and Canada. This study examines the question: Can developed countries, despite having most of the necessary resources with them, be able to manage rapidly rising inflation? A clear research gap arose because of the falling economic growth in the world post-pandemic. Therefore, this paper focuses on how countries have changed their monetary and fiscal policies to manage high inflation rates. Lessons from this inflationary study can help Governments and administrations handle saving their economies better.

Keywords	macro inflation, GDP, central banks, monetary policy, fiscal policy
JEL Classification	E42, E52, E58, E24, E63
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INTRODUCTION

The global outbreak of economic instability due to the abrupt increase in the post-pandemic inflation rate for various reasons has caused havoc in all countries. Some countries are facing the worst inflation rates to be ever recorded in the last 30-40 years. As a result, central banks are changing their former monetary and fiscal policies to achieve price stability to control the sudden rise in inflation. Achieve this, they believe, can be by structural analysis of inflation commodities to undermine the monetary policy coordination.

Inflation can be studied from a microeconomics perspective (such as individual price expectations and employment rate measured at a personal level) or from a macroeconomic perspective (such as price changes of goods and services as a basket). This research focuses on inflation from a macroeconomic perspective.

Many people misunderstand inflation as a bad sign for the country's growth, believing that it reduces the purchasing power of the individual. However, data finds that a moderate inflation rate is linked to the growth of the countries. Japan, for instance, has been facing deflation for several years or a low inflation rate standard of living of people has not quite improved and is predicted to get worse. However, every country has a different accepted inflation rate according to its economy. Therefore, a further increase in the inflation rate than the accepted rate of inflation or hyperinflation is proven bad for all countries.

LITERATURE SURVEY

Inflation has brought disruption in the capital market and labor market instability. As the problems started in the Eurozone with the supply side and having an effect of it on demand, it is stated that it could be cushioned with the changes in the fiscal policy. Many banks have forcefully responded to the inflation targeting and have increased the rates accordingly. The countries face continuous rate hikes, and it is said to possess an underlying threat that could have a domino effect on the developing country. Many countries use inflation targeting to control inflation rate hikes, but that could not be proven beneficial to all countries. All the countries have faced oil price shocks, and with the research, it has been found with the research of China that countries should focus on core inflation instead of headline inflation. The public's inflation expectations differ from the central bank targets, and it is a major challenge for policymakers.

Table 1: Coverage on "inflation" by various research databases

Research Database	Total Results	Publication in 2019	Publication in 2020	Publication in 2021
Google Scholar	47,20,000	132000	107000	90400
Science Direct	229244	11461	12654	15093
Springer Link	238693	11583	12348	15627
Proquest	9291387	456964	687765	1115796
Wiley Online Library	258262	9842	10921	11263
Emerald Insight	32949	2267	2357	3227
JSTOR	6712	15	15	13
BASE	106870	3727	3683	3770
Semantic Scholar	367000	8860	8475	7329
Taylor & Francis Online	2346	91	78	98

Data Source: Author compilation

Table 2: Inflation-related themes

Inflation Theme	Theme Description
Global Commodity	Analysis of the impact of global commodities on inflation.
Agriculture	The relation between inflation of agricultural goods and its prices on the economy.
Trade	The relationship between trade openness and inflation.
Inflation expectation	The expectation from the household toward inflation.
Determinants of Inflation	The factors affecting the inflation rates to rise or fall.
Supply Chain	Supply chain disruption due to constant inflation pressure.
Economic Growth	The effect of inflation on economic growth.
Monetary Policy	The effect of change in monetary policy to curb inflation.
Inflation Targeting	Control of inflation through a goal-based approach
Unemployment	The nexus between inflation and unemployment.

Data Source: Author compilation

INFLATION MANAGEMENT TOOLS

Sanctions imposed on the country can hinder the country's growth rate. They can bring the worst economic instability leading to an increase in the inflation rates causing poverty and social tensions.

Now the Global Commodity and exchange rates have a significant impact on determining inflation such as Crude oil itself is one of the crucial commodities in the global economy as a change alone in its prices of it can bring change in the cost of producing goods which will lead to inflation. Adhere to that, and some countries could face very high inflation rates compared to others; with the change in the prices of commodities and exchange rates, the U.S. is more sustainable to rising crude oil prices than European countries.

Output gap can help predetermine the inflationary pressure on an economy and indirectly affect crude oil prices. This data is found to be more relatable to developing countries.

Impetuous printing of money can cause havoc in the demand and supply as the supply stays limited and precipitously demand increases causing demand Pull inflation.

Weak monetary policy or improvident policies by the central banks can trigger inflation may, not in the short run but over a longer period of time. Even it may be the most critical reason for triggering inflation.

"Real wage is found to have a positive impact on emerging countries but a negative impact on the industrialized country."

"Budget balance for emerging economies and I.T. industrialized economies reflect a negative effect on inflation. However, the sign is reversed for non-IT industrialized economies, which may be attributed to the special conditions of these economies, such as abundance in capital and/or the ability to find funds via being a member of a monetary union."

RESEARCH GAP

Past research focused mainly on the history, root causes, and current scenario. However, due explanation of different factors of inflation and having done the microscopic analysis of the factors and inflation on the economy, there has been little or no comparative study on the inflation management policies approached by the top 10 GDP countries after the post-pandemic surge in the inflation rates around the globe.

RESEARCH METHODOLOGY

AIM

- To study the changes in the monetary and fiscal policies, country liquidity, and exchange rates and their impact on inflation.

OBJECTIVE

- To have an outlook on the overall economic perspective of the world.
- To study the Macroeconomic approach towards inflation.
- To examine any new approaches used towards controlling inflation.

RESEARCH METHODOLOGY & METHOD

The study follows the Comparative Research Methodology to compare the policies and approaches taken by the Central Banks and the Governments of the respective countries.

DATA SOURCES

Data is sourced from print and electronic media such as newspapers, magazines, and online websites, policy documents of the central banks, and reports from various governments.

STUDY PERIOD

The COVID-19 pandemic first appeared at the end of January 2020, and several waves of the pandemic affected countries through the middle of 2021. Inflationary pressures from the pandemic were shown from the end of 2021 through the middle of 2022. Hence, the period of the study is taken as 2021-2022

DISCUSSION

INDIA

India being a developing nation, is facing higher than usual inflation rates. This recurred several times, as can be seen during the years 2008-2013. The inflation rate was higher than the 9% mark, but after 2014, the central bank managed the inflation well by keeping it below 6% till COVID-19. A quick check soon after the pandemic, inflation came into control showed that the inflation rate peaked at 7.79% as on April 2022. On June 8, 2022, the Monetary Policy Committee (MPC) decided to increase the policy repo rate under the liquidity adjustment facility (LAF) by 50 basis points to 4.90 percent with immediate effect, and many more rate hikes were introduced.

Consequently, increasing the interest rates, the currently standing deposit facility (SDF) rate is adjusted to 6 percent, the marginal standing facility (MSF) rate is 6.5 percent, and the Bank Rate to 6.5 percent. Furthermore, to support growth while controlling inflation MPC decided to control the withdrawal of accommodation for consumer price index (CPI) inflation of 4 percent within a band of +/- 2 percent. In addition, a tax cut on petrol and diesel was being decided to manage the rising prices of fuels. The government tried reducing the prices of importing crucial raw materials relating to the steel and plastic industry to reduce the prices of the final product as well as the permitted duty-free import of 20 lakh tons of crude sunflower and soybean oil till March 2024 and limiting exports of commodities such as sugar and wheat. The interest rate on the Floating Rate Bond 2024 (FRB 2024), applicable for the half year November 07, 2022, to May 06, 2023, is to be kept at 6.75 percent per annum. The effectiveness of the policies has been proven by bringing down the inflation rate to 5.72% as on December 2022.

Figure 1: Inflation in India over the years

Data Source: TradingEconomics / Ministry of Statistics and Programme Implementation (MOSPI)

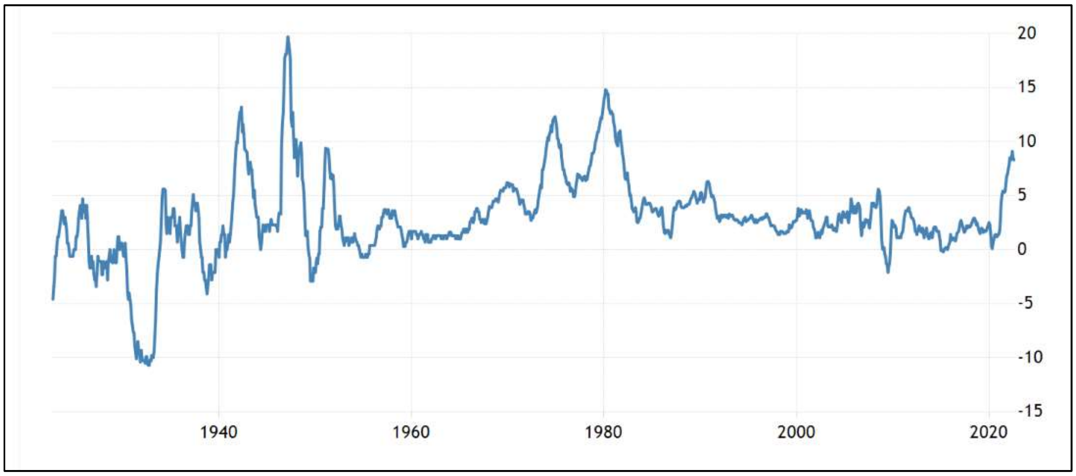
Figure 2: Interest rate in India

Data Source: TradingEconomics / Reserve Bank of India

UNITED STATES OF AMERICA

The post-pandemic economic stress became visible after the United States of America entered into a recession. Despite being a developed country, the annual inflation rate on June 2022 peaked at 9.06%. To recover from the falling economy, Federal Reserve System (Fed) made some arduous adjustments to its policies, affecting the whole world. On September 22, 2022, the Board of Governors of the Federal Reserve System voted unanimously to raise the interest rate paid on reserve balances to 3.15 percent and approve a 3/4 percentage point increase in the primary credit rate to 3.25 percent. In addition, they have decided to unwind their holdings of Treasury bonds and mortgage-backed securities to increase the cost of borrowing. Fed expects this policy action to slow the growth in consumer spending to around zero by early next year, easing the strain on supply chains. At the same time, higher mortgage rates will reduce housing prices, which have grown enormously during the pandemic. Finally, slowing demand will increase unemployment to around 5 percent by the end of 2023, which should decrease wages and PCE inflation to fall back toward 2 percent by late 2023, and economic activity to slow from 3.5 percent in the first quarter of this year to 0.6 percent by end-2023. Fed has constantly been focusing on the rate hike to control inflation, four constant 75 basis rates hike were introduced, but looking at the current situation and ease of inflation rates to 6.45%, they decided to continue with the diminishing rate hike on December 14, 2022, a 50-basis point increased 2023 rate hike interest rates. From December 15, 2022, the interest paid on the reserve balance was raised to 4.4%. Households and firms will face all impacts caused by changes in the rates, and controlling these fiscal measures can be impactful in reversing the effects.

Figure 3: Inflation in the U.S. over the years



Data Source: TradingEconomics / U.S. Bureau of Labor Statistics

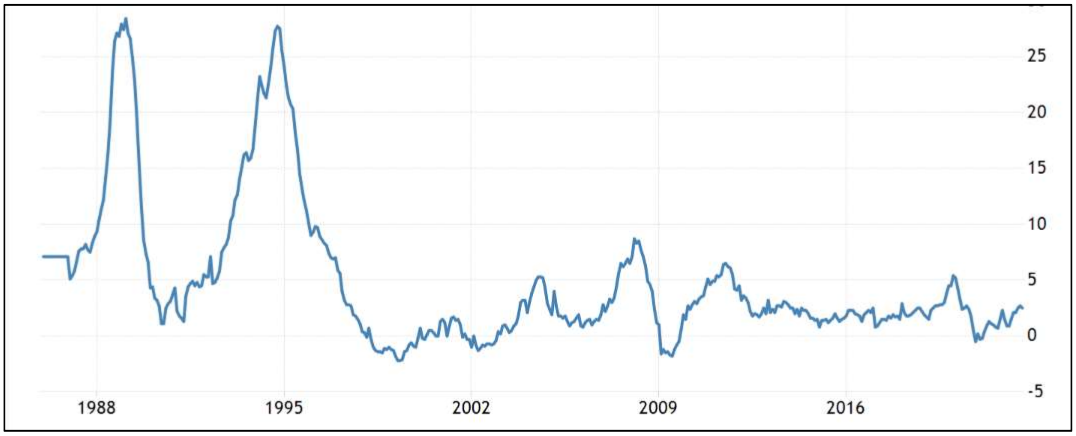
Figure 4: United States Fed Funds Rate

Data Source: TradingEconomics / Federal reserve

CHINA

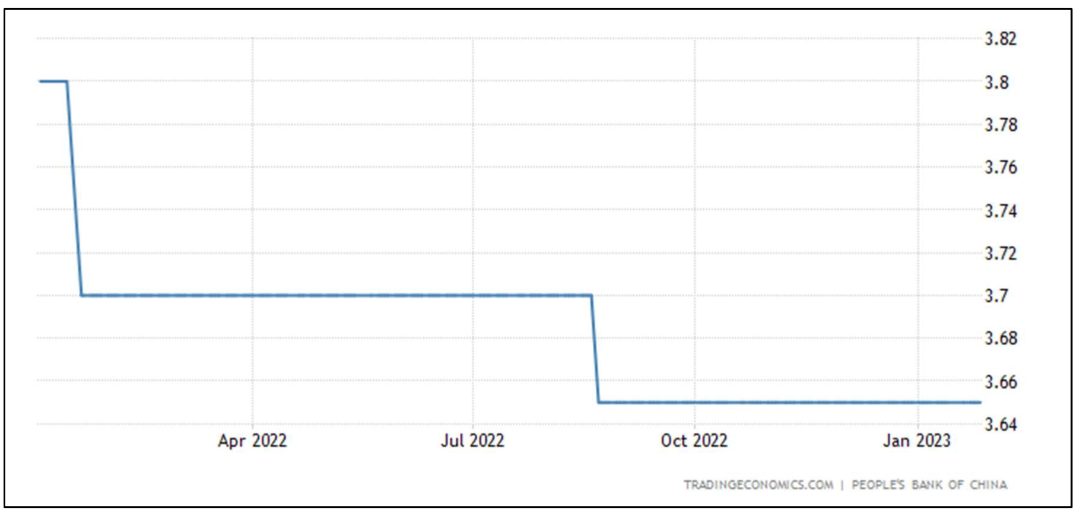
The case of China is slightly different from other countries. Unlike others, it is seen to manage the inflation rates very successfully, keeping it to 2.80% as of September 2022, and has projected that inflation rates will fall to the 2.00% mark around 2023. The People's Bank of China (PBC) has decided from October 1, 2022, the interest rates on personal housing provident fund loans for first-time home buyers will be reduced to 0.15 percentage points. The interest rates on 5-year-and-below loans and 5-year-above loans will be adjusted to 2.6 percent and 3.1 percent. China is experiencing slightly excess liquidity and forecasting that its liquidity will rise above the required mark. It might be an indication that The People's Bank of China (PBC) may cut down interest rates further. China is closely watching changes in other countries' monetary policies as it might impact the Chinese Yuan weakening from U.S. Dollar. China has already reduced its foreign reserve twice this year, seeing that its Yuan has depreciated to 8%, two years low against U.S. Dollar.

Figure 5: Inflation in China over the years



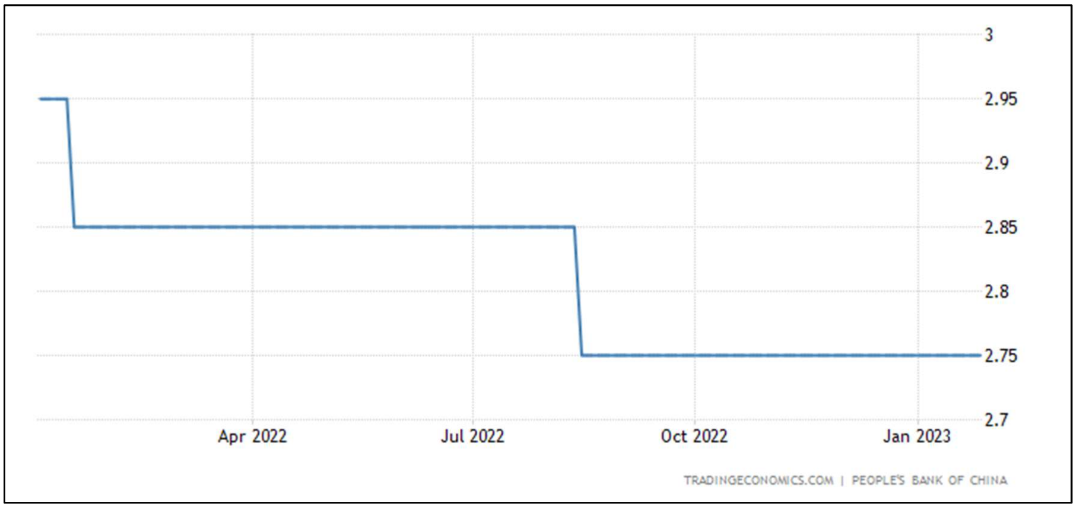
Data Source: TradingEconomics / National Bureau of Statistics of China

Figure 6: China Loan Prime Rate



Data Source: Trading Economics / Peoples Bank of China

Figure 7: China's one-year-medium-term Lending Facility rate



Data Source: TradingEconomics / People's Bank of China

JAPAN

Japan's economy is more distinct from other countries because its past monetary and fiscal policy has focused not on controlling inflation but improving people's standard of living because of its decade of the low inflation rate. Net exports remain the same, which constitutes a significant factor for the growth. With the rise in inflation, the Japanese Yen has depreciated but looking at a macro level, currency appreciation is viewed negatively in Japan, but currently, it is affecting the people's standard of living.

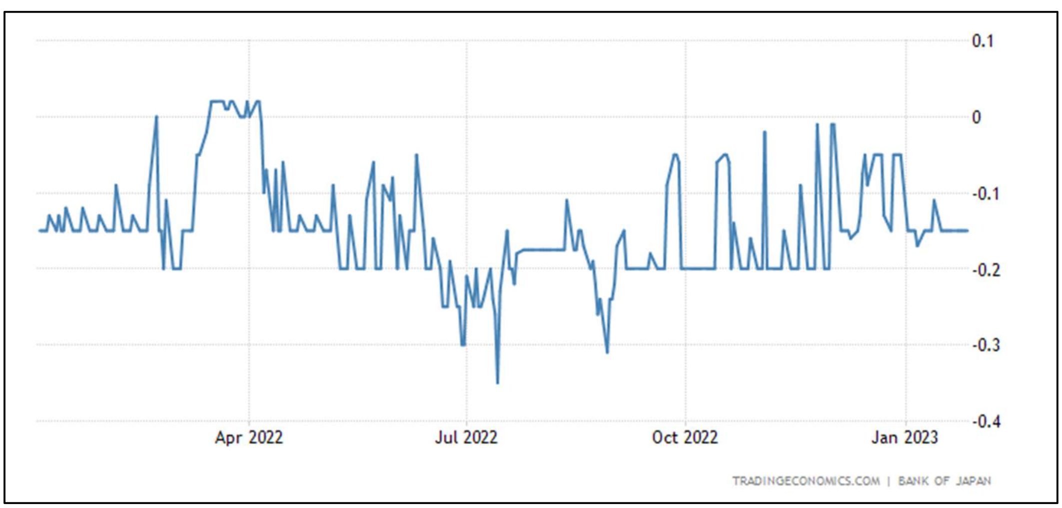
Japan has one of the finest monetary policies in the world it has developed its monetary policy in such a way that helps to reduce price fluctuations wherein their gas and electricity prices cannot be revised as asked for but need to take out long-term contracts. The same happened for wheat prices were fixed for six months, wherein maintaining stagnant prices. The effect of this policy might be a potential threat to the economy. After the Russia-Ukraine war, oil prices shot up. Japan government provided subsidized oil prices in order to prevent Consumer Price Index. Subsidies provided by the government on a large scale were financed by the extensive government bond purchased by the Bank of Japan. It is estimated that around 50% of the 50 percent of goods and services in the Japanese consumer bracket used to measure consumer price inflation are subsidized. The estimated value of this in 2021 is around 130 trillion yen (US$98 billion). Japan has been controlling inflation rates, but the rates have gradually increased to 4 percent as of December 31, 2022. They will continue to enhance Funds-Supplying Operations against Pooled Collateral.

Japan used a double edge sword recovery technique after the COVID-19 pandemic. Restrictions imposed on economic activity were lifted slowly compared to other G7 countries, which impacted their economic growth but kept inflation under control. There is a continuous outflow of capital to the United States and other countries, being invested in the U.S. Dollar by private households, life insurances companies purchasing US Bonds, and extending loans to Southeast Asia by Japanese banks the main reason for the outflow of capital is that The Bank of Japan's expansionary policy had kept low-interest rates steadily below the United States. But due spike in their interest rates, they announced a sudden increase in the 10-year bond yield from 0.25% to 0.5% through a fixed-rate purchase option. The cost increase in imports has affected the consumer price index in the short run, further impacting growth.

Figure 8: Inflation in Japan over the years

Data Source: TradingEconomics / Ministry of Internal Affairs & Communications

Figure 9: Deposit rate in Japan



Data Source: TradingEconomics / Bank of Japan

GERMANY

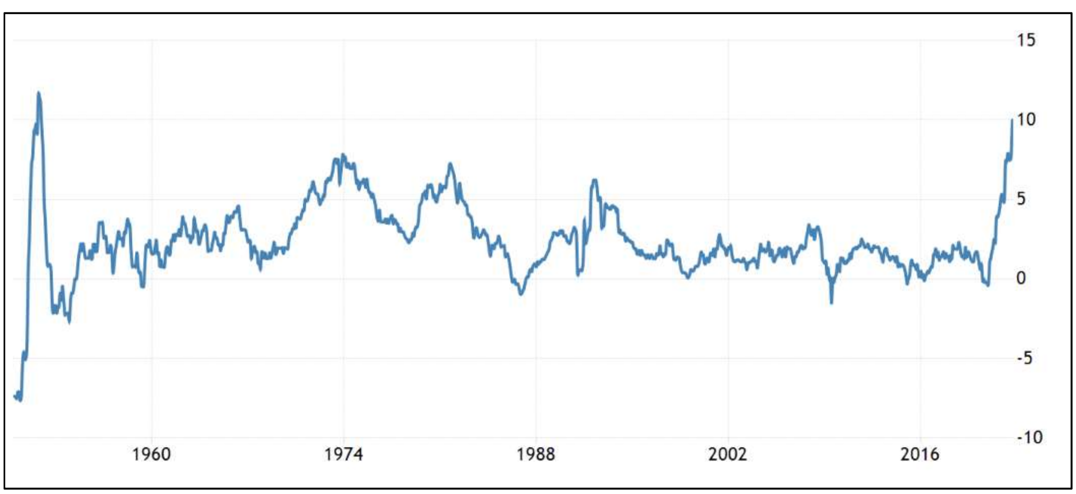
A sudden spike in the inflation rate of Germany has been seen from 0.37% in 2020 to 10.9% as of September 2022, the highest ever recorded since 1951. This is mainly due to an increase in food and energy prices due to the Russia-Ukraine war. In contrast, they have a medium-term target of 2%. To regulate the further increase in energy prices, The German government gave cushioning of 200 billion euros to tackle the energy crises. Accordingly, the interest rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility will be increased to 2.5%, 2.75%, and 2%, respectively, with effect from December 2022, and the governing council may increase it further if the situation aggravates.

The Governing Council intends to continue reinvesting, in total, the principal payments from maturing securities purchased under the APP for an extended period past the date when it started raising the key ECB interest rates and, in any case, for as long as necessary to maintain ample liquidity conditions and an appropriate monetary policy stance.

As concerns the PEPP, the Governing Council intends to reinvest the principal payments from maturing securities purchased under the program until at least the end of 2024. In any case, the future roll-off of the PEPP portfolio will be managed to avoid interference with the appropriate monetary policy stance.

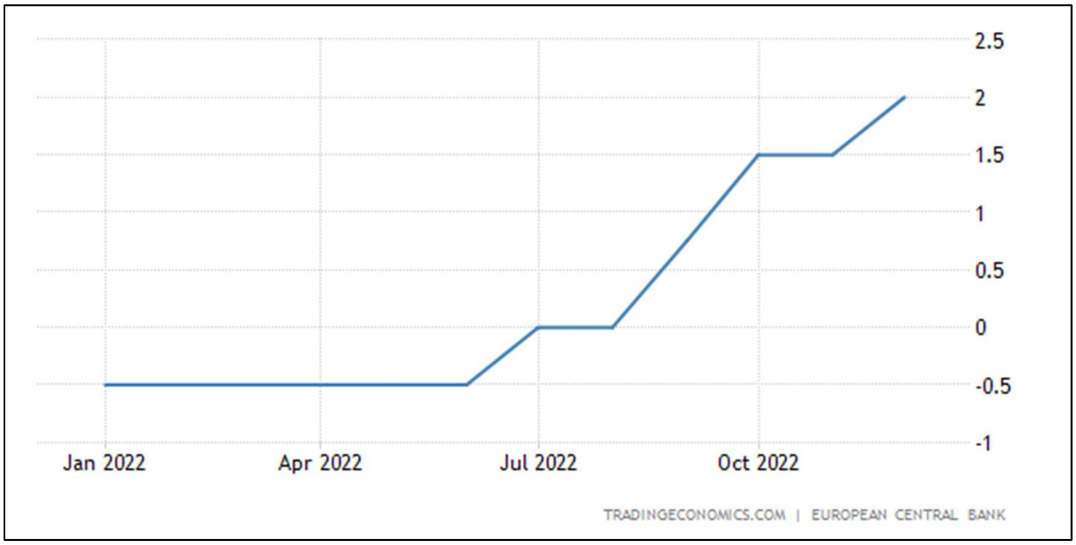
Redemptions coming due in the PEPP portfolio are being reinvested flexibly to counter risks to the monetary policy transmission mechanism related to the pandemic. As a result, inflation rate has eased to 8.6% as of December 2022.

Figure 10: Inflation in Germany over the years



Data Source: TradingEconomics / Federal Statistical Office

Figure 11: Euro Area Deposit Facility Rate



Data Source:TradingEconomics / European Central Bank

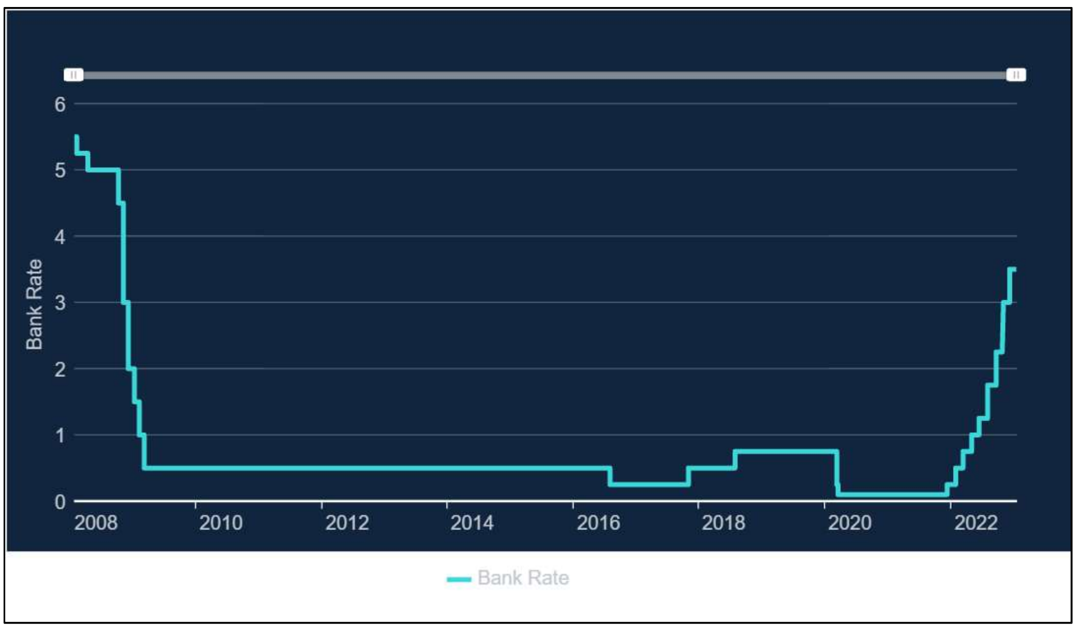
UNITED KINGDOM

The inflation rate in the U.K. peaked at 11.1% on October 2022 to control the extent of the inflation rate. The Bank of England has decided on a total of nine consecutive rate hike, bringing the current interest rate to 3.5% by December 14, 2022. The main factor for rising inflation is due to the Russia-Ukraine war limiting the supply of crude oil, and European countries have seen a sudden increase in oil and energy prices. Seeing this, the government decided to introduce an Energy price guarantee, the biggest challenge, by announcing the Energy Price Guarantee, which includes a stable price for energy even if the price of crude oil rises. The government also introduced a tax cut, but the following day, they faced the consequence, the pound dropped to an all-time low, mortgage deals were pulled from the market, and U.K. government bonds began to sell off at a historic rate, causing the Bank of England to begin a temporary purchase program to calm volatility. Political instability has also impacted the growth and also substandard GDP data.

Figure 12: Inflation in the U.K. over the years

Data Source: TradingEconomics / Office of National Statistics

Figure 13: Bank rates of United Kingdom



Source: Bank of England

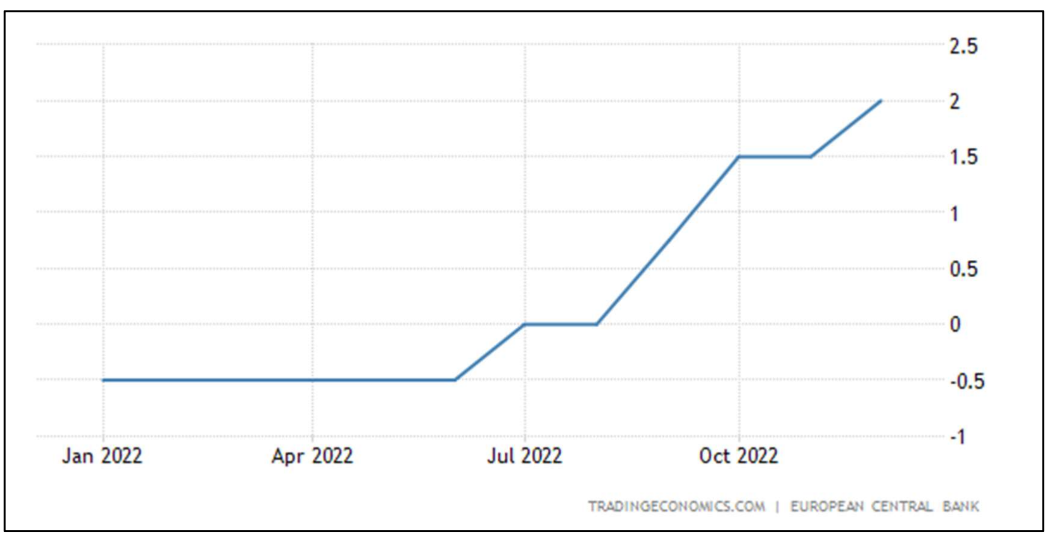
FRANCE

The inflation rate for France on October 2022 has touched a whopping 7.1% since 1991. Inflation has spiked since the Russian invasion of Ukraine on February 24, 2022, which has drawn unprecedented Western sanctions, including on some of its energy exports and supply of grains being blocked to the world. To tackle this, they increased the composite cost of borrowing for new loans to corporations increased to 1.86% and the household house purchase loans to 2.88%. The main refining operations, deposit facility, and marginal lending facility were increased to 2.5%, 2%, and 2.75%. The short-term rate as of January 25, 2023, stands at 1.904.

Figure 14: Inflation in France over the years

Data Source: TradingEconomics / INSEE, France

Figure 16: Euro Area Deposit Facility Rate

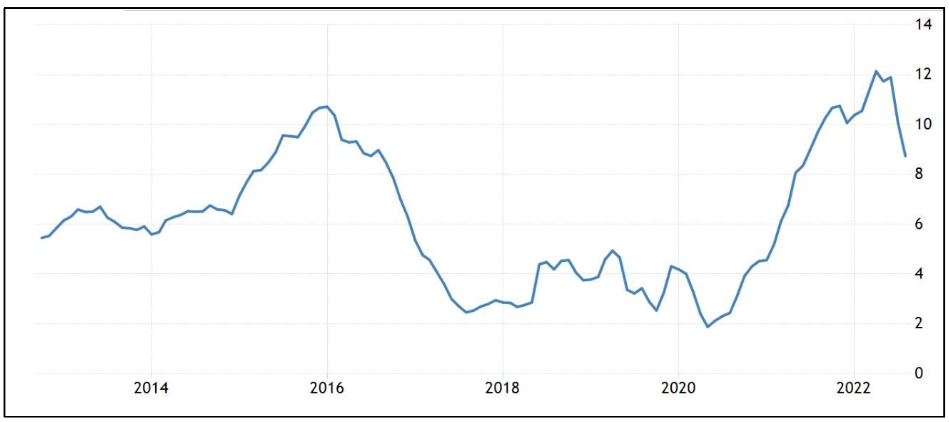


Data Source: TradingEconomics / European Central Bank

BRAZIL

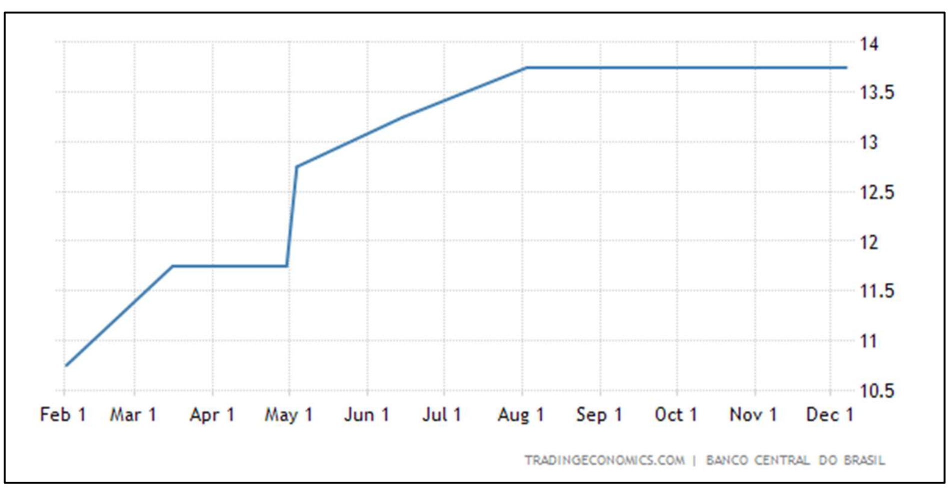
The annual inflation rate is cooling down in Brazil to 5.79% in December 2022 from 12.13% as of 12.13%, a major reason being the transportation cost cut due to the government cut in fuel prices. Brazil has observed 12 consecutive interest rate hike hikes, with the Selic interest rate reaching 13.75% to battle inflation pressure. Banks continue to optimize their liquidity management to eliminate excesses, adapt to current market conditions, and compete for funding. The central bank is doing a considerably better job in managing enough liquidity and capitalization to sustain in grim situations. Treasury assets neutralized the historic low of credit margins. However, the credit flow in the household is still higher than expected in the portfolio, composing very high risk, but the condition is stable for micro, small and medium-sized enterprises.

Figure 17: Inflation in Brazil over the years



Data Source: TradingEconomics / IBGE

Figure 18: Brazil interest rate



Data Source: TradingEconomics / Banco Central Do Brasil

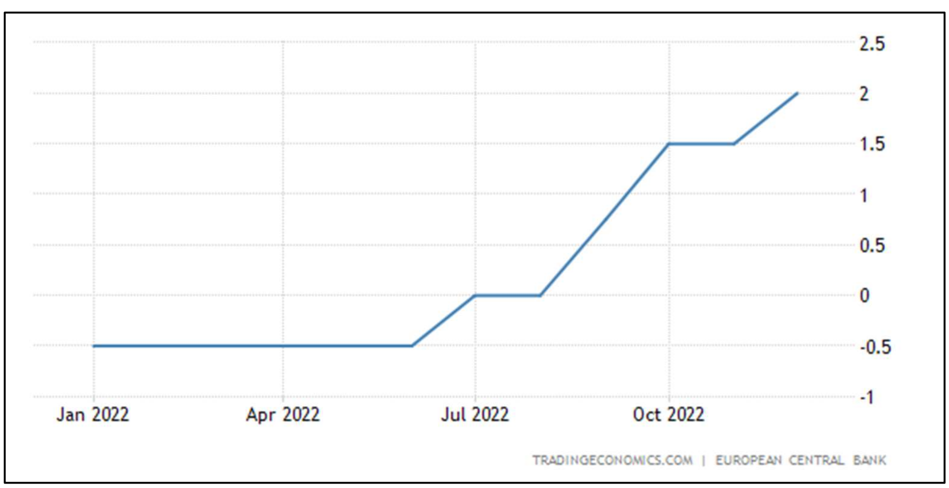
ITALY

The annual inflation rate in Italy is gradually rising. It currently stands at 11.6% as of December 2022, the highest in nearly 37 years, picking up from the 4.8 percent in January 2022.17 billion euros package was approved for economic aid due to energy cost and consumer price. European Central Bank raised the main refining operations, deposit facility, and marginal lending facility rates to 2.5%, 2%, and 2.75%and sovereign yield was up by 27 basis points to 4.0%. The government also provided fiscal support in 2022 by cutting tax and providing means-tested child allowance and some substantial additional fiscal support activity by providing Superbonus and other tax credits, 14 retroactive pay-outs on recently agreed public administration wage contracts, and large planned new hiring to support the implementation of the NRRP.

Figure 12: Inflation in Italy over the years

Data Source: TradingEconomics / ISTAT

Figure 20: Euro Area Deposit Facility Rate

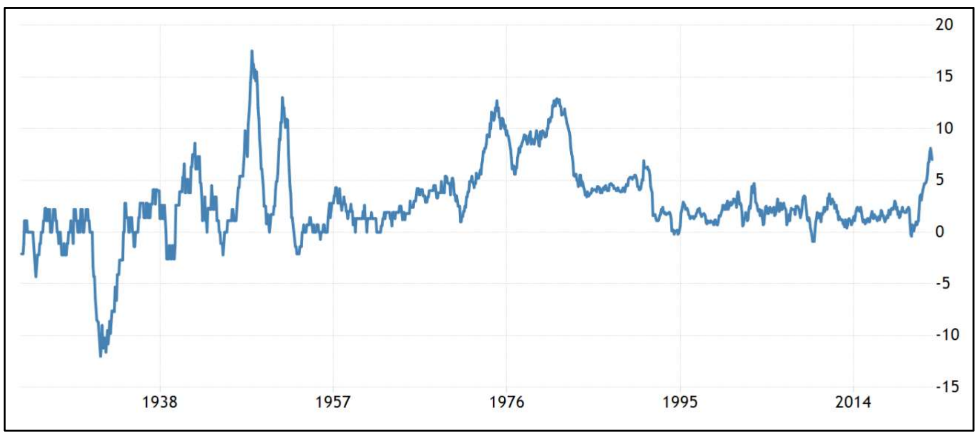


Data Source: TradingEconomics / European Central Bank

CANADA

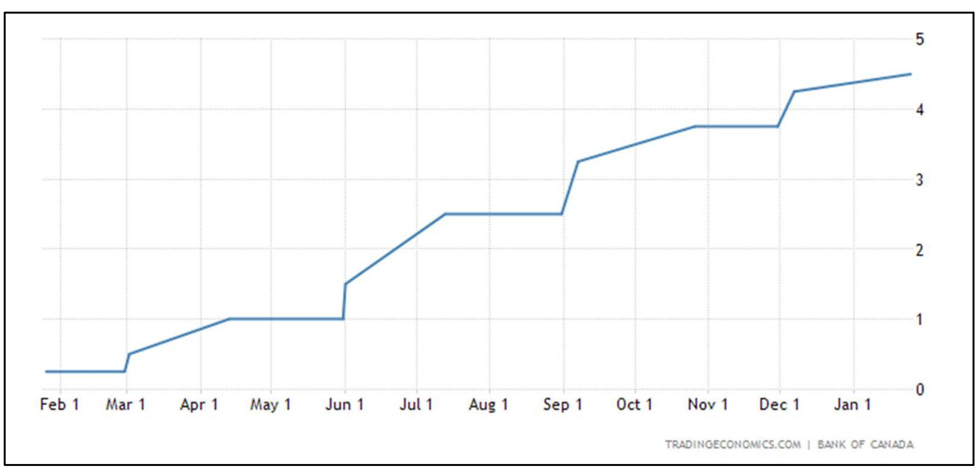
The inflation rate in Canada rose to 8.1% as of June 2022 from just 0.72% in 2020. The central bank increased its policy repo rate to 4.5 percent from 1.5 percent. Government and the Bank of Canada are in sync with each other to achieve the target of bringing down the inflation rate to 2% by 2022, but due to global pressure and understating of CPI measures, it could not be achieved, while at present, the Bank of Canada is taking responsibility to reduce the burden on the economy where in from fiscal policy authority there is not much support for inflation but rather to protect it from the economic impact of the pandemic. Many businesses are currently facing issues due to inflation finding it hard to attract workers with wages because of business and consumer inflation expectations. 10-Year Government Bond Yields increased by 101 basis points to 2.85%.

Figure 21: Inflation in Canada over the years



Data Source: TradingEconomics / Statistics Canada

Figure 223: Interest rates in Canada



Data Source: TradingEconomics / Bank of Canada

FINDINGS

- There have been many changes in monetary policies, but there are fewer changes in fiscal policy.
- Countries are giving priority to inflation rates over their growth rate.
- All countries are consequently increasing their interest rates, potentially threatening their economies in a bid to control inflation.
- Japan and China possess different overviews of their economy than all the other countries.
- All the countries have increased the interest rate and 10-year government bond yield.

Table 2: Comparison of inflation of various counties pre, during and post-pandemic

Country	Inflation		
	Feb-20	Aug-21	Aug-22
India	6.70%	5.30%	7%
United States of America	2.20%	5.60%	8.30%
China	5.30%	0.80%	2.50%
Japan	0.40%	-0.30%	3.00%
Germany	1.90%	3.90%	7.90%
United Kingdom	1.90%	3.30%	9.90%
France	1.70%	1.90%	5.90%
Brazil	4.01%	9.70%	8.73%
Italy	0.40%	2%	8.40%
Canada	2.30%	4.20%	7%

Data Source: Author compilation

CONCLUSION

This paper discusses how the top 10 GDP countries' central banks and governments reacted to the sudden inflation hikes, changing their monetary and fiscal policies to fight inflation. Increasing the interest rates, managing their foreign reserves, changing liquidity ratios, and cutting tax rates were executed by central banks of India, the United States, Germany, the United Kingdom, France, Brazil, Italy, and Canada, but this was not the case for China and Japan they were seen to manage inflation rates quite well, biggest solitude was their depreciating currency and liquidity rate while for Japan is even their net export growth has stalled, and both the countries could have the potential of inflation risk due to unstable economy of the world. The main reason for the economic instability is the Russia-Ukraine war possessing increased the prices of Crude oil and food prices.

REFERENCES

1. Auer, Raphael A., and Aaron Mehrotra. "Trade Linkages and the Globalisation of Inflation in Asia and the Pacific." *Journal of International Money and Finance* 49 (December 2014): 129–51. https://doi.org/10.1016/j.jimonfin.2014.05.008.
2. Baharumshah, Ahmad Zubaidi, Ly Slesman, and Mark E. Wohar. "Inflation, Inflation Uncertainty, and Economic Growth in Emerging and Developing Countries: Panel Data Evidence." *Economic Systems* 40, no. 4 (December 2016): 638–57. https://doi.org/10.1016/j.ecosys.2016.02.009.
3. Banca D'Italia. "TASSI UFFICIALI SULLE OPERAZIONI DELL'EUROSISTEMA." Intrest Rates, n.d. https://www.bancaditalia.it/compiti/polmon-garanzie/tassi-eurosistema/Tassi_ufficiali_operazioni_Eurosistema_dic_2022.pdf.
4. Bank of Canada. "Monetary Policy Report Press Conference Opening Statement," January 25, 2023. https://www.bankofcanada.ca/2023/01/opening-statement-2023-01-25/.
5. Bank of England. "Monetary Policy Summary, December 2022," December 15, 2022. https://www.bankofengland.co.uk/monetary-policy-summary-and-minutes/2022/december-2022.
6. Banko Central Do Brazil. "Minutes of the Monetary Policy Committee — Copom 251st Meeting - December 6-7, 2022," n.d. https://www.bcb.gov.br/en/publications/copomminutes.
7. Banque De France. "Fixed Rate Tenders," n.d. https://www.banque-france.fr/en/statistics/rates/policy-rates.
8. Barros, Geraldo Sant'Ana de Camargo, Aniela Fagundes Carrara, Nicole Rennó Castro, and Adriana Ferreira Silva. "Agriculture and Inflation: Expected and Unexpected Shocks." *The Quarterly Review of Economics and Finance* 83 (February 2022): 178–88. https://doi.org/10.1016/j.qref.2021.12.002.
9. Beauregard, Remy. "Are Inflation Expectations Well Anchored in Mexico?," 2023.
10. Berentsen, Aleksander, Guido Menzio, and Randall Wright. "Inflation and Unemployment in the Long Run." *American Economic Review* 101, no. 1 (February 1, 2011): 371–98. https://doi.org/10.1257/aer.101.1.371.
11. BOJ. "Statement on Monetary Policy." Bank of Japan, n.d. https://www.boj.or.jp/en/mopo/mpmdeci/mpr_2023/k230118a.pdf.
12. Bonatti, Luigi, Andrea Fracasso, Roberto Tamborini, Manuela Moschella, Palma Polyak, Karl Whelan, Daniel Gros, and Farzaneh Shamsfakhr. "Inflation as a Global Challenge," n.d.
13. Browne, Frank, and David Cronin. "Commodity Prices, Money and Inflation." *Journal of Economics and Business* 62, no. 4 (July 2010): 331–45. https://doi.org/10.1016/j.jeconbus.2010.02.003.
14. Buthelezi, Eugene Msizi. "Impact of Inflation in Different States of Unemployment: Evidence with the Phillips Curve in South Africa from 2008 to 2022." *Economies* 11, no. 1 (January 13, 2023): 29. https://doi.org/10.3390/economies11010029.
15. Cacnio, Faith Christian, and Joselito Basilio. "Insights on Inflation Expectations in the Philippines from a Household Survey." *The Philippine Review of Economics* 59, no. 2 (December 2022): 81–110. https://doi.org/10.37907/3ERP2202D.
16. Caldentey, Esteban Pérez, and Matías Vernengo. "Inflation Targeting in Open Economies: The Contradictions of Determinacy and Stability," n.d.
17. Cantah, William Godfred, James Atta Peprah, and Paul Owusu Takyi. "Financial Inclusion and Monetary Policy Effectiveness in Ghana." In *Financial Sector Development in Ghana*, edited by James Atta Peprah, Evelyn Derera, Harold Ngalawa, and Thankom Arun, 81–103. Palgrave Macmillan Studies in Banking and Financial Institutions. Cham: Springer International Publishing, 2023. https://doi.org/10.1007/978-3-031-09345-6_4.

18. Carrasco, Carlos A., and Jesus Ferreiro. "Latin American Inflation Differentials with USA Inflation: Does Inflation Targeting Make a Difference?" *Journal of Economic Policy Reform* 17, no. 1 (January 2, 2014): 13–32. https://doi.org/10.1080/17487870.2013.787794.
19. Chakraborty, Oindrila. "Inflation and COVID-19 Supply Chain Disruption:" In *Advances in Logistics, Operations, and Management Science*, edited by Ulas Akkucuk, 10–23. IGI Global, 2022. https://doi.org/10.4018/978-1-6684-5876-1.ch002.
20. Christensen, Jens H E. "COVID-19 Fiscal Expansion and Inflation Expectations in Japan," 2022.
21. Ciner, Cetin. "Commodity Prices and Inflation: Testing in the Frequency Domain." *Research in International Business and Finance* 25, no. 3 (September 2011): 229–37. https://doi.org/10.1016/j.ribaf.2011.02.001.
22. De Gregorio, José. "Commodity Prices, Monetary Policy, and Inflation." *IMF Economic Review* 60, no. 4 (December 2012): 600–633. https://doi.org/10.1057/imfer.2012.15.
23. Deniz, Pinar, Mahmut Tekce, and Ahmet Yilmaz. "Investigating the Determinants of Inflation: A Panel Data Analysis." *International Journal of Financial Research* 7, no. 2 (February 16, 2016): p233. https://doi.org/10.5430/ijfr.v7n2p233.
24. Deutsche Bundesbank. "Monetary Policy Framework," n.d. https://www.bundesbank.de/en/tasks/monetary-policy/monetary-policy-framework.
25. Dlamini, Samuel Nkosinathi, and Dr Pfano Mashau. "Determination of the Effects and Optimal Thresholds of Monetary Policy Instruments: A Study of Central Bank Lending System in Kingdom of Eswatini." *Cogent Economics & Finance* 11, no. 1 (December 31, 2023): 2160582. https://doi.org/10.1080/23322039.2022.2160582.
26. Dongchul Cho, and Wankeun Oh. "Predictive Abilities of Inflation Expectations and Implications on Monetary Policy in Korea." *The Korean Economic Review* 39, no. 1 (January 2023): 257–76. https://doi.org/10.22841/KERDOI.2023.39.1.009.
27. Eggoh, Jude C., and Muhammad Khan. "On the Nonlinear Relationship between Inflation and Economic Growth." *Research in Economics* 68, no. 2 (June 2014): 133–43. https://doi.org/10.1016/j.rie.2014.01.001.
28. European Central Bank. "Euro Short-Term Rate (€STR)," n.d. https://www.ecb.europa.eu/stats/financial_markets_and_interest_rates/euro_short-term_rate/html/index.en.html.
29. Feldkircher, Martin, and Pierre L. Siklos. "Global Inflation Dynamics and Inflation Expectations." *International Review of Economics & Finance* 64 (November 2019): 217–41. https://doi.org/10.1016/j.iref.2019.06.004.
30. Fonte, Amante&Vagnoni, Giuseppe, Angelo&Giselda. "Italy Unveils New $17.4 Billion Package against Inflation," n.d. https://www.reuters.com/markets/europe/italy-approve-145-billion-package-against-inflation-2022-08-04/#:~:text=ROME%2C%20Aug%204%20(Reuters),costs%20and%20rising%20consumer%20prices.
31. Fujikawa, Megumi. "Bank of Japan Lets a Benchmark Rate Rise, Causing Yen to Surge," n.d. https://www.wsj.com/articles/bank-of-japan-remains-only-major-central-bank-with-ultra-low-rates-11671506532.
32. Furlong, Fred, and Robert Ingenito. "Commodity Prices and Inflation," no. 2 (1996).
33. Gabisa, Namo, Aboma Benti, and Mulugeta Tesfaye. "The Effect Of Monetary Policy On Inflation In Ethiopia," n.d.
34. Giovanni, Julian di, Ṣebnem Kalemli-Özcan, Alvaro Silva, and Muhammed Yildirim. "Global Supply Chain Pressures, International Trade, and Inflation." Cambridge, MA: National Bureau of Economic Research, July 2022. https://doi.org/10.3386/w30240.
35. Gospodinov, Nikolay, and Serena Ng. "Commodity Prices, Convenience Yields, and Inflation." *Review of Economics and Statistics* 95, no. 1 (March 2013): 206–19. https://doi.org/10.1162/REST_a_00242.

36. Gupta, Suraj. "Managing Inflation In Canada," n.d. https://www.forbes.com/sites/forbesbusinesscouncil/2022/11/02/managing-inflation-in-canada/?sh=57f05d31793c.
37. Han, Zhao, Xiaohan Ma, and Ruoyun Mao. "The Role of Dispersed Information in Inflation and Inflation Expectations." *Review of Economic Dynamics*, April 2022, S1094202522000230. https://doi.org/10.1016/j.red.2022.04.001.
38. Hindustan Times. "Government Allows Duty-Free Import of 20 Lakh MT Crude Soybean, Sunflower Oil," n.d. https://www.hindustantimes.com/business/government-allows-duty-free-import-of-20-lakh-mt-crude-soybean-sunflower-oil-101653407433252.html.
39. Hodge, Andrew. "The US Economy's Inflation Challenge," n.d. https://www.imf.org/en/News/Articles/2022/07/11/CF-US-Economy-Inflation-Challenge.
40. Hüpper, Florian, and Bernd Kempa. "Inflation Targeting and Inflation Communication of the Federal Reserve: Words and Deeds." *Journal of Macroeconomics* 75 (March 2023): 103497. https://doi.org/10.1016/j.jmacro.2022.103497.
41. "Inflation and Economic Growth in Kenya: An Empirical Examination." *Advances in Decision Sciences* 25, no. 3 (2021): 1–25. https://doi.org/10.47654/v25y2021i3p1-25.
42. Islam, Rejoana, Refat Ferdous, Nahida Sultana, and Marzia Nomi. "Major Macroeconomic Determinants of Inflation in Bangladesh: An ARDL Bound Test Approach," n.d.
43. Jackson, Emerson Abraham. "Revisiting Inflation Targeting," n.d.
44. Johnson, D. Gale. "Inflation, Agricultural Output, and Productivity." *American Journal of Agricultural Economics* 62, no. 5 (December 1980): 917–23. https://doi.org/10.2307/1240284.
45. Joseph Silaban, Selvi Indriani, and Rian Pasaribu. "Analysis of the Influence of Rice Commodity Prices and Inflation on Mark Import Province Sumatra North." *International Journal of Business and Applied Economics* 2, no. 1 (January 3, 2023): 21–28. https://doi.org/10.55927/ijbae.v2i1.2143.
46. Joshi, Ajit R, and Debashis Acharya. "Inflation and Trade Openness: Empirical Investigation for India," 2010.
47. Lapavitsas, Costas. "The Return of Inflation and the Weakness of the Side of Production." *The Japanese Political Economy* 48, no. 2–4 (October 2, 2022): 149–69. https://doi.org/10.1080/2329194X.2022.2142613.
48. LeBlanc, Michael, and Menzie David Chinn. "Do High Oil Prices Presage Inflation? The Evidence from G-5 Countries." *SSRN Electronic Journal*, 2004. https://doi.org/10.2139/ssrn.509262.
49. Leibovici, Fernando, and Jason Dunn. "Supply Chain Bottlenecks and Inflation: The Role of Semiconductors." *Economic Synopses* 2021, no. 28 (2021). https://doi.org/10.20955/es.2021.28.
50. Liboreiro & Genovese, Jorge &Vincenzo. "Germany Faces Scrutiny from EU Peers over Massive €200 Billion Aid Scheme to Cushion High Gas Bills." *Euronews*, April 10, 2022. https://www.euronews.com/my-europe/2022/10/04/germany-faces-scrutiny-from-eu-peers-over-massive-200-billion-aid-scheme-to-cushion-high-g.
51. Lin, Shu, and Haichun Ye. "Does Inflation Targeting Really Make a Difference? Evaluating the Treatment Effect of Inflation Targeting in Seven Industrial Countries." *Journal of Monetary Economics* 54, no. 8 (November 2007): 2521–33. https://doi.org/10.1016/j.jmoneco.2007.06.017.
52. Lins, David A., and Marvin Duncan. "Inflation Effects on Financial Performance and Structure of the Farm Sector." *American Journal of Agricultural Economics* 62, no. 5 (December 1980): 1049–53. https://doi.org/10.2307/1240313.
53. Macallan, Clare. "Assessing the Risk to Inflation from Inflation Expectations," 2011.
54. Mahdavi, Saeid, and Su Zhou. "Gold and Commodity Prices as Leading Indicators of Inflation: Tests of Long-Run Relationship and Predictive Performance." *Journal of Economics and Business* 49, no. 5 (September 1997): 475–89. https://doi.org/10.1016/S0148-6195(97)00034-9.

55. Mahmoudzadeh, Mahmoud, and Leila Shadabi. "Inflation and Trade Freedom: An Empirical Analysis," 2012.
56. Manullang, Anggirini Liritiovani, Dedy Harianto Hutasoit, Khairani Alawaiyah Matondang, and Riza Indiriani. "Monetary Policy Effectiveness on Inflation and Growth Economy in Century Covid-19 Pandemic." *International Journal of Business and Applied Economics* 2, no. 1 (January 3, 2023): 51–58. https://doi.org/10.55927/ijbae.v2i1.2120.
57. Masterson, Victoria. "Why is Inflation so low in Japan?" October 6, 2022. https://www.weforum.org/agenda/2022/10/why-japan-low-inflation/.
58. Mendonça, Helder Ferreira de, and Gustavo José de Guimarães e Souza. "Is Inflation Targeting a Good Remedy to Control Inflation?" *Journal of Development Economics* 98, no. 2 (July 2012): 178–91. https://doi.org/10.1016/j.jdeveco.2011.06.011.
59. Mohanty, Deepak, and Joice John. "Determinants of Inflation in India." *Journal of Asian Economics* 36 (February 2015): 86–96. https://doi.org/10.1016/j.asieco.2014.08.002.
60. Mohseni, Mehrnoosh, and Feizolah Jouzaryan. "Examining the Effects of Inflation and Unemployment on Economic Growth in Iran (1996-2012)." *Procedia Economics and Finance* 36 (2016): 381–89. https://doi.org/10.1016/S2212-5671(16)30050-8.
61. Oner, Ceyda. "Inflation: Prices on the Rise," n.d.
62. Orji, Anthony, Onyinye .I. Anthony Orji, and Joan C Okafor. "Inflation and Unemployment Nexus In Nigeria: Another Test of the Phillips Curve." *Asian Economic and Financial Review* 5, no. 5 (2015): 766–78. https://doi.org/10.18488/journal.aefr/2015.5.5/102.5.766.778.
63. "Outlook for Economic Activity and Prices (January 2023)," n.d.
64. Paul, Satya, Colm Kearney, and Kabir Chowdhury. "Inflation and Economic Growth: A Multi-Country Empirical Analysis." *Applied Economics* 29, no. 10 (October 1, 1997): 1387–1401. https://doi.org/10.1080/00036849700000029.
65. Qureshi, Irfan A. "Price-Level Determinacy and Monetary Policy in a Model with Money and Trend Inflation." *Macroeconomic Dynamics*, January 20, 2023, 1–26. https://doi.org/10.1017/S1365100522000633.
66. RBI. "Liquidity Adjustment Facility- Change in Rates," n.d. https://www.rbi.org.in/scripts/NotificationUser.aspx?Id=12419&Mode=0#:~:text=2.,LAF%20Scheme%20will%20remain%20unchanged.
67. RBI. "RBI announces rate of interest on Government of India Floating Rate Bond 2024," n.d. https://www.rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=54649.
68. Reid, Jenni. "UK Government Abolishes Plan to Cut Tax on High Earners in Major U-Turn," n.d. https://www.cnbc.com/2022/10/03/british-pound-jumps-on-reports-uk-government-will-u-turn-on-cut-to-top-tax-rate.html.
69. Sandamali, W I, and A Jahufer. "DETERMINATION OF INFLATION IN SRI LANKA: AN ECONOMETRIC ANALYSIS USING JOHANSEN CO-INTEGRATION APPROACH," n.d.
70. Sanga, Goodluck John, Mukole Kongolo, and Rosemary Mnongya. "Effect of Inflation on Economic Growth in Tanzania for the Period from 1970 to 2020." *International Research Journal of MMC* 3, no. 5 (December 26, 2022): 12–27. https://doi.org/10.3126/irjmmc.v3i5.50732.
71. Santacreu, Ana Maria, and Jesse LaBelle. "Global Supply Chain Disruptions and Inflation During the COVID-19 Pandemic." *Federal Reserve Bank of St. Louis REVIEW*, n.d.
72. Sasmal, Joydeb. "Food Price Inflation in India: The Growing Economy with Sluggish Agriculture." *Journal of Economics, Finance and Administrative Science* 20, no. 38 (June 2015): 30–40. https://doi.org/10.1016/j.jefas.2015.01.005.
73. Schnabl, Gunther. "Japan's Low Inflation Conundrum," n.d. https://www.eastasiaforum.org/2022/08/12/japans-low-inflation-conundrum/.
74. Sekwati, Dimakatso, and Mbulaheni Albert Dagume. "Effect of Unemployment and Inflation on Economic Growth in South Africa." *International Journal of Economics and Financial Issues* 13, no. 1 (January 14, 2023): 35–45. https://doi.org/10.32479/ijefi.13447.

75. Setiartiti, Lilies, and Yuni Hapsari. "DETERMINANTS OF INFLATION RATE IN INDONESIA." *Jurnal Ekonomi & Studi Pembangunan* 20, no. 1 (2019). https://doi.org/10.18196/jesp.20.1.5016.
76. Singh, Dr Rubee. "Impact of GDP and Inflation on Unemployment Rate: "A Study of Indian Economy in 2011-2018"," n.d.
77. Stevanović, Suzana, Ivan Milenković, and Sladjana Paunović. "Effects of the Implementation of the Inflation Targeting Regime on Economic Growth." *Ekonomski Horizonti* 24, no. 3 (2022): 297–311. https://doi.org/10.5937/ekonhor2203297S.
78. "Threshold Effect of Inflation on Agricultural Growth: Evidence from Developing Countries." *Advances in Decision Sciences* 25, no. 2 (2021): 28–50. https://doi.org/10.47654/v25y2021i2p28-50.
79. Ture, H Elif, and Ali Reza Khazaei. "Determinants of Inflation in Iran and Policies to Curb It." *IMF WORKING PAPERS*, n.d., 35.
80. Walsh, Carl E. "Inflation Targeting: What Have We Learned?" *International Finance* 12, no. 2 (August 2009): 195–233. https://doi.org/10.1111/j.1468-2362.2009.01236.x.
81. Wan, Nana, and Xu Chen. "Contracts Choice for Supply Chain under Inflation." *International Transactions in Operational Research* 25, no. 6 (November 2018): 1907–25. https://doi.org/10.1111/itor.12263.
82. Wang, Yunqing, Linsen Yin, Xinyu Sui, and Wenjie Pan. "Oil Price Shocks and Inflation Targeting in China." *Global Economic Review* 51, no. 2 (April 3, 2022): 114–41. https://doi.org/10.1080/1226508X.2022.2060277.
83. WULANDARI, Dwi, Sugeng Hadi UTOMO, Bagus Shandy NARMADITYA, and Mahirah KAMALUDIN. "Nexus between Inflation and Unemployment: Evidence from Indonesia." *The Journal of Asian Finance, Economics and Business* 6, no. 2 (May 30, 2019): 269–75. https://doi.org/10.13106/JAFEB.2019.VOL6.NO2.269.
84. Yadav, Ajay Singh, Kapil Kumar Bansal, Jitendra Kumar, and Sachin Kumar. "Supply Chain Inventory Model for Deteriorating Item with Warehouse & Distribution Centres Under Inflation" 8, no. 2 (n.d.).
85. Zombe, Chibvalo, Lincoln Daka, Christopher Phiri, Oliver Kaonga, Francis Chibwe, and Venkatesh Seshamani. "Investigating the Causal Relationship between Inflation and Trade Openness Using Toda–Yamamoto Approach: Evidence from Zambia." *Mediterranean Journal of Social Sciences* 8, no. 6 (November 27, 2017): 171–82. https://doi.org/10.1515/mjss-2017-0054.