INFLATION AND ECONOMIC GROWTH TRENDS: GLOBAL AND SOUTH AFRICAN PERSPECTIVES

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ABSTRACT

This paper explores the global inflation and economic growth trends, with a special focus on South Africa, from the 1970s – the period marked by the crumbling of the Bretton Woods system and the ensuing stagflation – to 2022. Our exploration reveals that global inflation is driven mainly by advanced economies, and there are signs of a negative correlation between the levels of income and inflation rates. We observed a structural break in global inflation in 1995 when inflation substantially decreased and became more stable than before. Our analysis links this structural break and stability in inflation to the emergence of strict monetary policy regimes like inflation targeting. Emerging and developing economies experienced a substantial decrease in inflation after they adopted inflation-targeting policies, as compared to advanced economies. In contrast, AEs benefitted from a significant rise in their economic growth. For South Africa, the trends in inflation and economic growth displayed a different picture. Although negligibly, South Africa's inflation rose three years after adopting inflation targeting. During the same period, the South Africa experienced rising economic growth. To better understand the relationship between inflation and economic growth, we suggest the use of extensive data and models to investigate the structural breaks experienced.

1. INTRODUCTION

Given the emergence of the Covid-19 pandemic, and the ensuing results thereof, inflation has once again become a topical issue. It is rearing its ugly head among a host of other economic evils, such as sluggish economic growth and rising unemployment. Despite other economic evils, what makes the issue of inflation topical is its role in destabilizing the financial sector directly and thereby

exacerbating the other economic ills. Without a doubt, failure to control inflation will lead to the inability to control all other economic variables (Brown, 2001). Inflation is known to erode the purchasing power of a currency over time, which inflates the costs of living.

In recovery efforts against the Covid-19 pandemic, fiscal and monetary stimuli have become prevalent, which resulted in overheating of the economies, affecting mainly the Emerging Markets and Developing Economies (EMDEs) (Reinhart & Von Luckner, 2022). In nearly half of 34 AEs and 78 out of 109 EMDEs as classified by the International Monetary Fund (IMF), annual inflation averages for 2021 exceeded 5% - a trend last experienced more than 20 years ago (Reinhart & Von Luckner, 2022). Such an alarming rise in inflation makes the issue timely for our study. However, it is not only inflation that is worsening but also economic growth. The World Bank (2022) warns there is an impending danger of an ensuing stagflation. The damage is projected to negatively affect the EMDEs and low-income economies the most.

Given this background, one question arises, is this the return of the 1970s stagflation? Could the trends be similar? This necessitates exploring the inflation trends from 1970 to 2022 in our study. Further, given that inflation is accelerating faster in EMDEs than in AEs, thereby driving global inflationary trends, we find it more prudent to devote attention to EMDEs. Against this background, this paper explores the global inflation-growth trends between 1970 and 2022. Firstly, the choice of the period is motivated by data availability and, secondly, by 1970 as the starting point given the stagflation of the era, which is compared to the events occurring post Covid-19.

Our paper also gives some attention to the South African inflation, inflation uncertainty and economic growth trends and dynamics. Our choice for South Africa is backed by three reasons. First, South Africa is an emerging economy grappled with rising inflation and sluggish growth (see International Monetary Fund, 2023). This is not the case with other emerging economies, like China and India for instance, which are experiencing high growth rates (see World Economic Forum, 2023). First, South Africa's current economic outlook mirrors the stagflation of the 1970s which justifies its inclusion in the study. Second, South Africa has one of the leading financial sectors in Africa, which exposes other African economies to any changes within the South African economy (International Monetary Fund (IMF) 2014). Third, South Africa is a member state of the Common Monetary Area [1](CMA) that uses the South African rand as

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1 The Common Monetary Area is a monetary union made up of South Africa, Namibia, Eswatini and Lesotho. All the member states have their currencies pegged to the South African rand at 1:1 parity and also recognize the rand as a legal tender.

the legal tender, exposing the member states to the South African monetary and real variables.

Although a discussion of the dynamics between inflation and economic growth is a well-researched topic, our paper seeks to enrich literature in various ways. We admit that inflation and economic growth nexus is a well-studied topic in economics. At a global level, the studies that are closer to ours are those by Barro (2013) and Sidrauski (1967). We add our voice to the discourse through providing trend analysis of global inflation and economic growth between 1970 and 2022. We also explore the inflation-economic growth dynamics along different income levels. Furthermore, we investigate the trends for structural breaks using a global sample and seek to explain the likely causes of the major structural breaks in inflation between 1970 and 2022. We also compare the changes in inflation and economic growth three years before and three years after the adoption of inflation targeting to examine whether there is evidence that it contributed to the eventual decline in the global inflation rates after 1995 and associated changes in economic growth.

For South Africa, studies on the inflation-economic growth nexus also exist. However, most of these studies analyze South Africa in isolation from other economies (see, for example, Hodge, 2006; Odhiambo, 2013; Phiri, 2018; Mandeya and Ho, 2021). Our study complements these studies through an analysis of the inflation, inflation uncertainty and economic growth trends for South Africa in relation to other EMDE countries. In this fashion, we seek to explore if the trends move in tandem with other EMDEs.

The paper is organized as follows. The second section explored the global inflation and growth trends between 1970 and 2022. The third section presents the episodes of inflation, inflation uncertainty and economic growth, both before the adoption of inflation targeting and after the adoption. Section 4 examines if South African trends mirror the EMDE trends, while section 5 concludes the study.

2. GLOBAL INFLATION AND ECONOMIC GROWTH TRENDS: 1970 – 2022

There is compelling evidence suggesting a significant decline in the purchasing power of global currencies since the collapse of the Bretton Woods agreement. This is evident when looking at the Big Mac Index published by The Economist (2023). There is no shortage of explanations for this decrease in the purchasing power of global currencies. The first interpretation is that during Bretton Woods, central banks pursued the gold standard rules of the game where the purchasing power of the currencies was a priority for policy (Bordo & Eichengreen, 2008).

The second explanation cites the persistence of above-zero inflation rates, as allowed by the monetary policies that accommodate inflation pressures, guided by the notion that permanently higher output levels can be attained by accepting above-zero inflation rates. There is an interesting insight to be gained from each of these hypotheses. We do not dispute their validity nor run a horserace between them. The focus of this section is drawn to the second interpretation, with a particular emphasis on the global inflationary trends from 1970 (as limited by data availability) to 2022. First, an analysis of the global inflationary trends will be given in relation to the different development levels, followed by an insight into the global inflation-growth trends.

2.1. Global inflationary trends (1970 – 2022)

The average rates of global inflation have been above zero since 1970. This is sustained mainly by the fact that policymakers and economists believe that the opposite of it, that is deflation, poses more costs to the economy, such as an increase in the real value of debt in the case of unexpected deflation, triggering or aggravating recessions hence leading to deflationary spirals (Blanchard, Dell'Ariccia & Mauro, 2010; Krugman, 2010). Figure 1 illustrates the inflationary trends between 1970 and 2022, with a breakdown of the global economy, advanced economies, low-income economies, and Emerging Markets and Developing Economies (EMDE). The data used was derived from the World Bank database by Jongrim, Ayhan and Franziska (2023). It is based on a sample of 196 countries (virtually all countries – making it a complete population). Gross Domestic Product (GDP) weighted averages of inflation were used in the illustration.
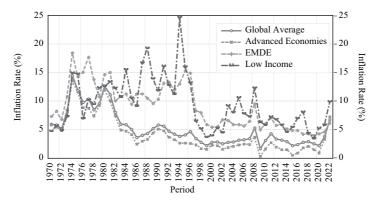

Figure 1. Global inflation trends (GDP-weighted averages) in line with levels of development: 1970 - 2022

Source: Authors' computations with data from Jongrim, Ayhan and Franziska (2023)

Four patterns can be observed from this dataset. First, throughout the period illustrated in Figure 1, it is noticeable that the levels of inflation and economic development correlate. Interestingly, the lower the level of development, the higher the levels of inflation and the inverse is true, where the higher the level of development, the lower the levels of inflation. Institutional failures and weaknesses (poor central bank and government policies) and the pressure to fight a host of macroeconomic issues such as high unemployment and poverty reduction can be some of the reasons attributed to the negative correlation between the levels of development and the higher levels of inflation.

The second observation shows that the global inflationary trends are driven mainly by advanced economies. For instance, the turning points coincide at best, or at least advanced economies precede the global inflationary trends. Since the data used was GDP-weighted, one may argue that this is due to the disproportionately high share of advanced economies' income in relation to the global income.

The third observation points to the stability or volatility of inflation rates in relation to the level of development or income. The data illustrate that inflation volatility is negatively related to the level of development. This is visible in the number of turning points in the data. The lower the income, the higher the data turning points. Again, institutional weaknesses and the pressure from several macroeconomic issues can be cited as the prime reasons. The changes in the inflation rates for low-income countries are very volatile, exhibiting sharp changes, for instance, the sharp declines and rises from 1986 to 1987 and from 1994 to 1997.

The fourth observation illustrates several structural breaks in inflation in 1974, 1986, 1995 and 2008. We can link 1974 to the stagflation of the 1970s. In 1986, inflation was in check due to a sharp drop in energy prices (see Howell, Burns & Clem, 1987), while 2008 can be linked to 2007/8 global financial crisis. Of these breaks, the most notable one worthy of scrutiny is 1995 for two reasons. First, the improvements in inflation after an increase were very sharp compared to other periods and second, inflation was, on average, strikingly higher before 1995 and lower after 1995. What could explain such a break in the rates of inflation?

While a point of contention among scholars can be on the factors that led to this striking improvement in inflation, for certain, a point of agreement is that this was not a shock but an enduring factor. The improvements in macroeconomic policies aimed at taming down prices globally, transmitted through globalisation, are cited as one of the reasons behind decreasing inflation in the mid-90s (McLeay & Tenreyro, 2019; Del Negro, Lenza, Primiceri & Tambalotti, 2020).

Globalisation increased, which stimulated competition for global markets, drawing prices down. Simultaneously, there was a growing momentum towards the adoption of inflation targeting policies by both advanced and the emerging economies, which tied down inflation expectations (Rose, 2007).

As it usually happens, the advanced economies adopted inflation targeting in its early years, with New Zealand in the pioneering role in 1990, then gradually spreading to the emerging markets (Taylor, 2019). In exploring the reasons behind the relatively low and stable global inflation rates from 1995, it appears that there is some trace of evidence to the adoption of inflation targeting. In substantiating this claim, we may need to illustrate the marginal changes in inflation after adopting inflation targeting, comparing advanced and emerging markets. Figure 2 below illustrates the changes in average inflation in inflation targeting countries.
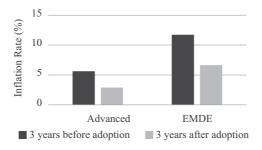

Figure 2. Changes in inflation in inflation-targeting countries
Source: Authors' computations with data from the World Bank (2022)

In Figure 2, we draw an analogy of the impact of inflation targeting on advanced economies vis-à-vis EMDEs. We compiled a sample of countries that adopted inflation-targeting regimes, made up of 12 advanced economies and 15 EMDEs. It can be observed from Figure 2 that the average inflation rate substantially decreased within three years after the adoption of inflation targeting, as compared to the average three years before the policy adoption. Our motivation for three years is to allow time for the impact lag of the monetary policies. For EMDEs, inflation declined by 5.08 percentage points, which is higher than the decrease in advanced economies, having a reduction of 2.74 percentage points. Because the decline in inflation after the adoption of inflation targeting is higher for the EMDEs, compared to advanced economies, it could be that EMDEs contributed immensely to the decline in the inflation rates in 1995. This motivates further scrutiny of inflation dynamics in EMDEs, especially concerning changes in monetary policy regimes. To fully understand the effects of inflation targeting, we will also investigate its impact on economic growth. On the first account,

we detail the global inflation-growth trends, and then in closing, the effects of inflation targeting on economic growth will be analysed.

2.2. Insights into the global inflation-growth trends (1970 – 2022)

Directed by the second explanation that, after the collapse of the Bretton Woods Agreement, inflation has been persistently above zero for fear of the opposite, that is deflations, as well as the notion that permanently higher rates of growth can only be accommodated by positive rates of inflation, an analysis of the inflation-growth trends will be explored. Figure 3 illustrates the global inflation-growth trends between 1970 and 2022.
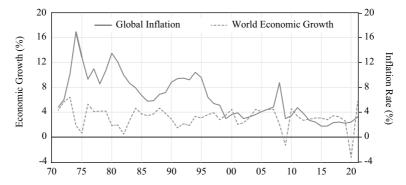

Figure 3. Global Inflation-Growth trends (1970 – 2022)

Source: Authors' computations with data from Jongrim, Ayhan & Franziska (2023)

The most remarkable observation from this dataset is that since 1973, there have been sharp contrasts between the inflation rate and the economic growth rates. It can be noticed that rising rates of inflation are associated with declining rates of economic growth, for instance, around 1973 and around 2009.

Between 1972 and 1976, the world experienced a stagflation when inflation and unemployment were on a rampant increase, with contracting economic production. This period defied the Phillips curve hypothesis, which primed on the inflation-unemployment trade-off. Arab oil embargoes and the resultant rise in crude oil prices, high budget deficits and the collapse of the Bretton Woods agreement are cited as some of the causes of this stagflation (Goutsmedt, 2021; Rehn, 2022). The world saw inflation decelerating while economic growth improved in the periods approaching 1985 as governments and policymakers were devising policies to counteract the effects of the deflation.

Sharp increases in inflation also coincided with 2007/8 global financial crisis. Over the same period, the global economy contracted considerably, recording

negative economic growth rates. The economic activities were revived by the resurgence of Keynesian economics throughout the world, with various governments increasing their expenditure. The emergence of the Covid-19 pandemic resulted in a record contraction in the global economic growth in 2020, shedding nearly 4% of economic growth.

In line with the fourth observation identified in section 2.1, the argument that the turning point in global inflation is credited to the adoption of inflation targeting will not be complete without also illustrating its effect on economic growth. We would like to determine if the trends are similar to our findings in Figure 3. Accordingly, Figure 4 illustrates the changes in average economic growth in countries that adopted inflation targeting three years before and three years after.
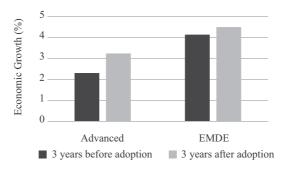

Figure 4. Changes in economic growth in inflation targeting countries
Source: Authors' computations with data from the World Bank (2022)

At first glance, the adoption of inflation targeting appears to have boosted economic growth by a large margin in advanced economies and there is hardly any difference for the EMDEs, as illustrated in Figure 4. Although such simple comparisons can be misleading due to the host of other factors that affect economic growth, there is a possibility of a weak relationship between the adoption of inflation-targeting and economic growth in EMDEs.

In summary, trends illustrate that the adoption of inflation targeting ties down inflation by a more significant margin in EMDEs relative to advanced economies. However, the impact on economic growth is lesser in EMDEs compared to advanced economies, notwithstanding the fact that the trends on economic growth are not something to rely on, given a plethora of factors affecting economic growth.

After the adoption of inflation targeting, EMDE countries recorded decelerating inflation and low but stable growth. However, this has not been the case with South

Africa, despite being also an EMDE. Instead, after adopting inflation targeting in 2000, the South African trends seem to illustrate decelerating inflation, albeit with stagnant growth. This anomaly further justifies further analysis of the South African trends. Accordingly, the debate will only complete after exploring the South African trends in more or less the same fashion we investigated the global dynamics. Apart from the fact that South Africa resembles more or less in the same trends as the collective EMDEs, South Africa's influential role played by the South African Rand as the anchoring currency in the CMA and its monetary policies further motivate the choice of South Africa. Accordingly, the following sections draw focus on South Africa.

3. SOUTH AFRICA'S INFLATION, INFLATION UNCERTAINTY AND ECONOMIC GROWTH TRENDS

In line with the trends discovered in section 2, this section further explores the inflation, inflation uncertainty and economic growth trends for South Africa in line with different monetary policy regimes adopted between 1970 and 2022. The monetary policy landscape is dominated by numerous policies before 2000 and inflation targeting since 2000. Table 1 illustrates the evolution of monetary policies and the associated economic growth, inflation and inflation uncertainty averages in South Africa since 1970, which shows that mainly five monetary policy regimes were pursued in South Africa until 2022.

Table 1. South Africa's Monetary Policy Regimes: 1970 - 2022

Period	Monetary Policy Regime	Economic growth (Average)	Inflation rate (Average)	Inflation Uncertainty (Average)
1970 - 81	Liquid asset ratio-based system	3.71%	10.66%	404.35%
1981 - 85	Mixed system during the transition	1.42%	14%	346.95%
1986 - 98	Monetary targeting	1.55%	12.02%	289.03%
1998 - 99	Monetary targeting in conjunction with informal core-inflation targeting	1.45%	6%	368.10%
2000 - 22	Inflation targeting	2.36%	5.49%	197.61%

Source: Casteleijn (2001) for monetary policy frameworks, and economic growth, inflation and inflation uncertainty figures are authors' computations with data from SARB quarterly bulletins.

South Africa pursued dominantly direct intervention monetary policies in the 1970s but evolved over time towards market-oriented policies towards the late 1990s (Van Der Merwe, 1997). Section 3.1 explains the evolution of these policies in line with the inflation, inflation uncertainty and economic growth trends from 1970 to 2022.

3.1. Monetary policy frameworks and the economic growth, inflation and inflation uncertainty trends before inflation targeting (1970 – 1999)

3.1.1. Trends during the liquid asset ratio-based regime (1970 – 1981)

Policies of the 1970s were characterised with direct interventions in the monetary sector and gradually evolved toward market-oriented policies. As the system changed, it also coincided with the transition from the pound to the South African rand as the official currency and legal tender in 1961. During this era, the regime exercised much emphasis on liquid asset requirements, rendering interest rates insignificant. Further, direct intervention measures were employed to directly tie down the growth of money supply, and indirectly the effects were transmitted ultimately to dampen inflation (Casteleijn, 2001). The average inflation rate between 1970 and 1981 was 10.66%, associated with an economic growth rate of 3.71%.

In the early 1970s, housing and vegetable inflation increased sharply, which drove inflation uncontrollably (SARB, 1972). The situation was worsened by the Arab world's oil embargos on the United States and Netherlands in 1973 (Wakeford, 2006). That was not the peak of oil price woes as the Organisation of Petroleum Exporting Countries (OPEC) restricted oil production in 1973, which pushed the price of crude oil by more than 400% (Van Der Merwe & Meijer, 1990). Figure 6 illustrates the trends between 1970 and 2022. As illustrated, the trends between 1970 and 1981 show a sharp increase in inflation uncertainty, consistent with Friedman's (1977) hypothesis of inflation being the driver of inflation uncertainty.
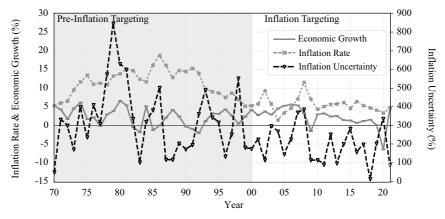

Figure 5. Inflation, inflation uncertainty and economic growth trends (1970 - 2022)
Source: Authors' computations with SARB Quarterly Bulletin data.

Inflation was on an upward trend throughout the early 1980s, associated with rises in inflation uncertainty. This is less explained by the internal factors, and mainly by external factors such as rising international oil prices as well as oil import embargoes on the apartheid[2] government in 1979 (Crawford & Klotz, 1999). The inflation level remained high until the transition to a cash-reserve regime in 1981.

3.1.2 Trends during the transition period (1981 – 1985)

The SARB could not dwell any longer on direct intervention mechanisms given the rampant inflation and had to shift towards market-oriented policies (Mollentze, 2000). With the De Kock commission under way, efforts to liberalise the financial sector were echoed, and started gathering momentum (see De Kock 1978; 1985). The De Kock commission argued for the development of financial markets as a necessary condition and platform for not only financial stability but also long-run growth. The commission advised against direct intervention mechanisms and vied for market-determined interest rates. In turn, the economy moved towards market-related measures with less regulations, and greater financial liberalisation, which effect from 1981 (Moolman & Du Toit, 2004).

The measures were also extended to the international capital markets where capital movements were eased by SARB (Odhiambo, 2011). To influence ongoing interest rates, the system employed the use of the discount rate which regulated the cost of overnight collaterised lending. While the interest rates were controlled indirectly by the discount rate, the supply of credit was influenced by open market operations, which was expected to regulate money supply, and the inflation rate by an estimated lag of over twelve months (Aron & Muellbauer, 2006).

However, all these measures were in vain since inflation kept rising, with the average inflation increasing by more than double the previous regime's average recording an average of 14%. The sanctions on South Africa forced production costs up, which fuelled the inflation further. However, Chicheke (2009) offered a different view, rather arguing that that it was Governor Gerhard De Kock's poor monetary policy performance that left inflation high.

Consistent with the Friedman hypothesis, inflation uncertainty rose during this period, marking a record 346.95%. Economic growth decreased substantially to

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2 Apartheid, which was in existence between 1940 and 1994, was an institutionalised system in South Africa and Namibia that vied for racial discrimination, prioritizing the white minorities while disadvantaging the non-white majority.

an average of 1.42%. Economic sanctions on South Africa can be linked to this decline in economic growth.

3.1.3 Trends during the monetary targeting regime (1986 – 1999)

The De Kock Commission report was finalised and commissioned in 1985, bringing with it a number of recommendations (see De Kock, 1985). The first step towards implementation of the De Kock commission was the adoption of the monetary targeting in the mid-1980s, which relied on the M3[3] as the nominal anchor for inflation (Stals, 1997). The belief was that M3 money supply has a direct influence of the creation of bank credits, hence the value of the rand. However, the reserve bank did not create any ways to account itself to the public in case of failure to meet its targets (Aron & Muellbauer, 2006). Because the direct relationship between money supply and inflation did not exist in South Africa or was weakened by the structural transitions in the financial system, and the velocity of money supply was unstable, monetary targeting did not work and it was abandoned (Casteleijn, 2001).

The authorities, first, failed to keep inflation stable, and second, failed to keep the growth of money supply within the targets in nine out of 14 years. The failure to control inflation was mainly due to the lack of a structural relationship between money supply and inflation while the failure to control money supply was due to the easing of sanctions on South Africa, which resulted in capital inflows and the subsequent rise in money supply. The actual growth of money supply breached the targets rampantly and continously from 1994 onwards.

The lifting of sanctions and weak monetary stance coupled with the lack of empirical evidence in support of monetary targeting were the main contributors to the failure by the policy of control inflation (Moll, 1999; Van Der Merwe, 1997). The lifting of sanctions and the subsequent rise in demand for domestic products contributed to the low but steady rise in economic growth, to an average of 1.61% during this period. From these trends, one interesting observation can be noticed that inflation started to decline in 1992 owing to the partial adoption of the informal inflation targeting from 1992 (Van Der Merwe, 2004).

3.1.4 Trends during the inflation targeting regime (2000 – 2022)

Because the monetary targeting approach did not yield the desired results, the SARB decided to switch to formal inflation targeting from 2000 when they

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3 M3 is the most comprehensive measure of money in South Africa, which includes in it all other definitions of money as well as long term balances.

used the inflation rate of 3-6% as the nominal anchor (South African National Treasury, 2000). Although the framework was adopted in 2000, the target was supposed to be met by 2002, with a clause that was announced in 2001 allowing temporary deviation from the target in cases of exogenous supply shocks.

South Africa adopted inflation targeting framework with the hope that it will tie down inflation expectations and achieve price stability which will then create conditions conducive for economic growth. Price stability is crucial to achieve for two main reasons. First basis was to preserve the savings from the scourge of rising inflation, thus cushioning the poor from inflation while, second was to anchor inflation expectations to boost confidence in the economy and promote economic growth prospects (StatsSA, 2016; Vermeulen, 2020).

Figure 6 depicts a downward trend in inflation as well as inflation uncertainty after the adoption of inflation targeting. During this period, inflation recorded an average of 5.49%, which falls within the official inflation targets. Inflation uncertainty has decreased since the inflation targeting framework's inception. This ties down speculation while boosts investor confidence. Inflation uncertainty recorded an average rate of 197.61%. Both inflation and inflation uncertainty recorded the lowest averages under inflation targeting, which corroborates with Mandeya and Ho (2021) findngs that inflation targeting managed to stir the South African economy towards price stability.

Although inflation targeting has mainly been rated a success, there are periods where the targets were breached. For instance, in 2002 inflation rose to more than 9% which threatened its credibility (StatsSA, 2016). However, the failure cannot be attributed to SARB, but rather, to external factors such as the rise in the price of oil, as well as adverse weather conditions (Akinboade, Siebrits & Niedermeier, 2004). Also, another breach coincided with the global financial crisis of 2007/8 and extended to 2009, owing to the crisis as well as increases in the prices of food, electricity and oil (see SARB, 2008).

South Africa experienced stunted economic growth during this period, recording an average rate of 2.36%. Since averages are affected by outliers, this low rate of average economic growth can be attributed to the emergence of Covid-19 in 2020 and the associated economic lockdowns. The economy of South Africa in 2020 contracted by 6.4% as a result. Apart from the impact of Covid-19 on production and economic growth, 2007/8 global financial crisis which hit the South African shores in 2009, also contracted the economy by 1.5%.

4. DOES SOUTH AFRICAN INFLATION-ECONOMIC GROWTH DYNAMICS RESEMBLE THE EMDE TRENDS?

Having established that the South African trends differ from the EMDE trends, this section explores the changes in inflation and economic growth three years after the adoption of inflation targeting, in comparison to three years before the adoption. We perform this operation using the same approach as we did in section 2. In this way, we illustrate the changes in the average inflation rate and economic growth in South Africa three years before the adoption of inflation targeting and three years after, shown in Figure 6. We make this comparison in light of the EMDE economies' illustrations in section 2.
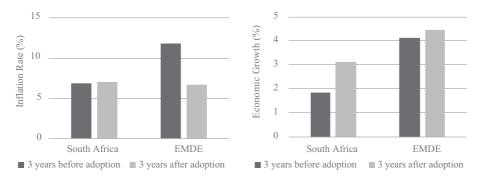

Figure 6. Changes in the average inflation rates and economic growth, three years before the adoption of inflation targeting and three years after adoption.

Source: Authors' computations with data from the World Bank (2022)

Regarding changes in the inflation rate, the trends seem to illustrate that South Africa followed its own trend. While the EMDEs showed a substantial decrease in the inflation rates three years after policy adoption, on the contrary, South Africa showed hardly any changes, with a negligible rise in inflation. This is because South Africa experienced inflationary pressures sharply in the first few months of 2002 largely as a result of the depreciation of the South African Rand in the last half of 2001 as well as rising expectations of price increases (SARB, 2002). However, existing empirical studies involving longer data spans suggest otherwise; for example, Mandeya and Ho (2021) find evidence in favour of inflation targeting effectiveness in South Africa.

Regarding economic growth, the trends seem to be more consistent with advanced economies than with EMDEs. South Africa recorded a substantial rise in economic growth three years after the adoption of inflation targeting, compared to the gains by the advanced economies, which is relatively higher

than EMDEs. However, we still raise the same objection that this rise may not be attributable to inflation targeting but to other factors that may affect economic growth unless this notion stands an empirical or sensitivity test.

5. CONCLUSIONS

This paper explored the global inflation and economic growth trends from 1970 to 2022. The observed trends illustrate the signs of a negative correlation between income and inflation pointing out that global inflation is mainly driven by inflation from advanced economies. Stability in inflation rates decreases with the decrease in incomes across countries. We further observed that, despite inflation rates assuming different turning points over the period under study, the one of interest is 1995 for two reasons. First, the improvements in inflation after an increase in inflation were very sharp compared to other periods and last, but more importantly, inflation was on average strikingly higher before 1995 and lower after 1995. We sought reasons behind this, and suspicions are on the emergence of credible policies against inflation, with inflation-targeting at the centre. We then drew an analogy of countries that adopted the inflation-targeting policy. Interestingly, the changes in inflation three years after the adoption of inflation targeting were quite substantial for EMDEs compared to advanced economies, which attracted our interest more towards the EMDEs. Even though there is a substantial number of EMDEs, we chose to focus on South Africa. At a first glance, South Africa seems to mirror the same trends, and given its influential role in Africa, and more especially to the CMA, we further explored its trends. An observation of longer data trends seems to show inflation stabilising. However, running the exact comparisons on the EMDEs narrates a different story. Instead, inflationary trends observe a different trajectory to that of other EMDEs three years after the adoption of inflation targeting as it showed a negligible increase in South Africa, compared to a considerable decline for EMDEs. Again, the trends for economic growth favour more of the advanced economies than the EMDEs since South Africa's economic growth improved considerably while the EMDEs showed a slight improvement. However, we recommend that these findings stand robustness tests with long data spans and that other variables that may affect economic growth should be considered.

Conflict of interests

The authors declare there is no conflict of interest.

REFERENCES

Akinboade, O. A., Siebrits, F. K., & Niedermeier, E. W. (2004). *The determinants of inflation in South Africa: An econometric analysis*. Research Paper No. 143. African Economic Research Consortium, Kenya. https://opendocs.ids.ac.uk/opendocs/bitstream/item/2845/RP%20143.pdf?sequence=1

Aron, J., & Muellbauer, J. (2006). Review of monetary policy in South Africa since 1994. *Journal of African Studies, 16*(5), 705-744. https://doi.org/10.1093/jae/ejm013

Barro, R. J. (2013). Inflation and Economic Growth. *Annals of Economics and Finance, 14*(1), 85-109. http://aeconf.com/articles/may2013/aef140105.pdf

Blanchard, O., Dell'Ariccia, G., & Mauro, P. (2010). Rethinking Macroeconomic Policy. *Journal of Money, Credit and Banking, 42(*1), 199-215. https://doi.org/10.1111/j.1538-4616.2010.00334.x

Bordo, M., & Eichengreen, B. (2008, September 25 - 27). *Bretton Woods and the Great Inflation* [Conference presentation]. NBER Conference on the Great Inflation, Woodstock, Vermont. https://www.nber.org/system/files/chapters/c9174/revisions/c9174.rev0.pdf

Brown, G. (2001). The conditions for high and stable growth and employment. *The Economic Journal, 111*(471), C30 − C44. https://doi.org/10.1111/1468-0297.00618

Casteleijn, A. H. J. (2001, September 17 - 19). *South Africa's Monetary Policy Framework* [Conference Paper]. Paper presented at the Monetary Policy Frameworks in Africa Conference, South African Reserve Bank.

Chicheke, A. (2009). *Monetary Policy, Inflation, Unemployment and the Phillips Curve in South Africa*. [Masters dissertation, University of Fort Hare]. University of Forthare Repository. http://libdspace.ufh.ac.za/handle/20.500.11837/715

Crawford, N. C., & Klotz, A. (1999). *How Sanctions Work.* 1st ed. Macmillan Press Ltd., London.

De Kock, G. (1978). *Commission of Inquiry into the monetary system and monetary policy in South Africa: Interim Report.* Government Printer, Pretoria.

De Kock, G. (1985). *Commission of Inquiry into the Monetary System and Monetary Policy in South Africa: Final Report.* Government Printer, Pretoria.

Del Negro, M., Lenza, M., Primiceri, G., & Tambalotti, A. (2020). *Why has inflation in the United States been so stable since the 1990s?* Research Bulletin No. 74. European Central Bank, Frankfurt am Main.

Friedman, M. (1977). Nobel lecture: inflation and unemployment. *Journal of Political Economy, 85*(3), 451-472. https://doi.org/10.1086/260579

Goutsmedt, A. (2021). From the Stagflation to the Great Inflation: Explaining the US economy of the 1970s. *Dans Revue D'Economie Politique, 131*(3), 557-582. https://doi.org/10.3917/redp.313.0239

Grier, K.B., & Perry, M.J. (2000). The effects of real and nominal uncertainty on inflation and output growth: some GARCH-M evidence. *Applied Econometrics*, *15*(1), 45−58. https://doi.org/10.1002/(SICI)1099-1255(200001/02)15:1<45::AID-JAE 542>3.0.CO;2-K

Hodge, D. (2006). Inflation and growth in South Africa. *Cambridge Journal of Economics, 30*(2), 163 – 180. https://doi.org/10.1093/cje/bei051

Howell, C., Burns, R. & Clem, A. (1987). Sharp drop in energy prices holds inflation in check during 1986. *Monthly Labour Review, 110*(5), 3-9. https://www.bls.gov/opub/mlr/1987/article/sharp-drop-in-energy-prices-holds-inflation-in-check-during-1986.htm

IMF. (2014). *South Africa: Financial System Stability Assessment.* https://www.elibrary.imf.org/view/IMF002/22173-9781484372005/22173-9781484372005/22173-9781484372005_A001.xml?redirect=true

Jongrim, H., Ayhan, K. M., & Franziska, O. (2023). *One-stop source: A global database of inflation.* Policy Research Working Paper No. 9737. World Bank, Washington, DC.

Krugman, P. (2010). *Why is Deflation Bad?* https://archive.nytimes.com/krugman.blogs.nytimes.com/2010/08/02/why-is-deflation-bad/

Mandeya, S. M. T., & Ho, S-Y. (2021). Inflation, inflation uncertainty and the economic growth nexus: an impact study of South Africa. *MethodsX, 8*(2021), 101501. https://doi.org/10.1016/j.mex.2021.101501

McLeay, M., & Tenreyro, S. (2019). Optimal Inflation and the Identification of the Phillips Curve. *NBER Macroeconomics Annual 2019*(34). https://doi.org/10.1086/707181

Moll, P. G. (1999). Money, interest rates, income and inflation in South Africa. *The South African Journal of Economics, 67*(1), 15 - 30. https://doi.org/10.1111/j.1813-6982.1999.tb01132.x

Mollentze, S. (2000). Monetary Policy In South Africa on the threshold of a new era. *South African Journal of Economics and Management Sciences, 2*, 1-50.

Moolman, E., & Du Toit, C. (2004). Modelling price determination in South Africa. *South African Journal of Economic and Management Science, 7*(1), 151-170. https://hdl.handle.net/10520/EJC31423

Odhiambo, N. M. (2011). *The impact of financial liberalisation in developing countries: Experiences from four SADC countries.* Organisation for Social Science Research in Eastern and Southern Africa, Addis Ababa. http://www.ossrea.net/publications/images/stories/ossrea/impact-financial-liberalisation-dev-countries.pdf

Odhiambo, N. M. (2013). Inflation and economic growth in South Africa: an empirical investigation. *Economics, Management and Financial Markets, 8*(4), 27.

Phiri, A. (2018). Nonlinear impact of inflation on economic growth in South Africa: a smooth transition regression analysis. *International Journal of Sustainable Economy, 10*(1), 1-17. https://doi.org/10.1504/IJSE.2018.088624

Rehn, O. (2022). *The stagflation beast is staring: Is it back to the '70s?* https://www.bofbulletin.fi/en/blogs/2022/the-stagflation-beast-is-stirring-is-it-back-to-the-70s/

Reinhart, C. & Von Luckner, C. G. (2022). *The Return of Global Inflation.* https://blogs.worldbank.org/voices/return-global-inflation

Rose, A.K. (2007). A stable international monetary system emerges: Inflation targeting is Bretton Woods, reversed. *Journal of International Money and Finance, 26*(5), 663-681. https://doi.org/10.1016/j.jimonfin.2007.04.004

Sidrauski, M. (1967). Inflation and economic growth. *Journal of Political Economy, 75*(6), 796-804. https://doi.org/10.1086/259360

South African National Treasury. (2000). *Budget Speech.* http://www.treasury.gov.za/documents/national%20budget/2000/speech/speech.pdf

SARB. (1972). *Quarterly Bulletin of Statistics, September 1972, No. 105.* SARB, Pretoria.

SARB. (2000). *Quarterly Bulletin of Statistics, December 2000, No. 218.* SARB, Pretoria

SARB. (2008). *Monetary Policy Review, November 2008.* South African Reserve Bank, Pretoria.

SARB. (n.d.). *Monetary Policy.* https://www.resbank.co.za/en/home/what-we-do/monetary-policy#accordion-b1aa16a041-item-b203822e05

Stals, C. (1997). Monetary Policy Challenges in South Africa. *An address at the South African Reserve Bank at a South African Financial Markets Conference*, 07 November. https://www.bis.org/review/r971127a.pdf

StatsSA. (2016). *South Africa's CPI reveals how volatile inflation hurts the poorest.* StatsSA, Pretoria.

StatsSA. (2017). *Consumer Price Index. The South African CPI Sources and Methods Manual*. 15 March 2017. http://www.statssa.gov.za/cpi/documents/The_South_African_CPI_sources_and_methods_May2017.pdf

Taylor, J. B. (2019). Inflation targeting in high inflation emerging economies: lessons about rules and instruments. *Journal of Applied Economics, 22*(1), 103-116. https://doi.org/10.1080/15140326.2019.1565396

The Economist. (2023). *The Big Mac Index.* https://www.economist.com/big-mac-index

Van Der Merwe, E. J., & Meijer, J. H. (1990). *Notes on Oil, Gold and Inflation*. SARB Occasional Paper No. 2, December 1990. https://www.resbank.co.za/content/dam/sarb/publications/occasional-papers/2005/2905/occpaper2.pdf

Van Der Merwe, E. J. (1997). Monetary Policy Operating Procedures in South Africa. *Discussion Paper: SARB,* Volume October. https://www.bis.org/publ/plcy05l.pdf

Van Der Merwe, E. J. (2004). Inflation Targeting in South Africa. *South African Reserve Bank Occasional Paper, No 19.* https://www.resbank.co.za/content/dam/sarb/publications/occasional-papers/2005/4704/OCCNo19-1-.pdf

Vermeulen, C. (2020). On the mandate, ownership and independence of the South African Reserve Bank. *South African Journal of Economic and Management Sciences*, *23*(1), 1 – 11. http://dx.doi.org/10.4102/sajems.v23i1.3416.

Wakeford, J. (2006). *The Impact of Oil Price Shocks on the South African Macroeconomy: History and Prospects.* Johannesburg, TIPS/DPRU Forum.

World Bank, (2022). *Stagflation Risk Rises Amid Sharp Slowdown in Growth.* https://www.worldbank.org/en/news/press-release/2022/06/07/stagflation-risk-rises-amid-sharp-slowdown-in-growth-energy-markets

ТРЕНДОВИ ИНФЛАЦИЈЕ И ЕКОНОМСКОГ РАСТА: ГЛОБАЛНЕ И ЈУЖНОАФРИЧКЕ ПЕРСПЕКТИВЕ

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САЖЕТАК

Овај рад истражује трендове глобалне инфлације и економског раста, са посебним фокусом на Јужну Африку од 70-их година прошлог вијека, периода обиљеженог распадом Бретонвудског система и стагфлацијом која је услиједила, до 2022. године. Наше истраживање открива да је глобална инфлација вођена углавном од стране напредних економија; а постоје знаци негативне корелације између нивоа дохотка и стопа инфлације. Уочили смо структурални прекид глобалне инфлације 1995. године када се инфлација значајно смањила и постала стабилнија него раније. Наша анализа повезује овај структурни прекид и стабилност инфлације са појавом строгих режима монетарне политике као што је таргетирање инфлације. Економије у успону и економије у развоју доживјеле су значајно смањење инфлације након што су усвојиле политике таргетирања инфлације, у поређењу са развијеним економијама. Насупрот томе, АЕ су имале користи од значајног пораста њиховог економског раста. За Јужноафричку Републику, трендови инфлације и економског раста показали су другачију слику. Иако занемарљиво, инфлација у Јужноафричкој Републици је порасла три године након усвајања политике таргетирања инфлације. Током истог периода, Јужноафричка Република је доживјела убрзан економски раст. Да бисмо боље разумјели однос између инфлације и економског раста, предлажемо коришћење опсежних података и модела за истраживање структуралних ломова.

Кључне ријечи: *инфлација, економски раст, таргетирање инфлације, глобални трендови, Јужна Африка.*