

THE IMPACT OF INFLATION ON THE GROWTH OF NIGERIA ECONOMY

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ABSTRACT

The paper presents an analysis of the impact of inflation on growth in Nigerian economy, using annual time-series dataset for the period of 1981-2012. It has been argued that inflation is an unavoidable phenomenon in the face of economic growth which adversely affects investment decisions in Nigeria. That is why over the years there had been a long standing conventional wisdom that inflation impedes economic growth and growth of investment. The stationary and normal techniques were adopted to examine the data in order to determine if there exists a long-run relationship among the variables. Also, using OLS regression technique, the empirical findings revealed an inverse significance relationship between inflation and economic growth in Nigeria. These findings revealed a significant relationship between inflation and economic growth in Nigeria. These findings recommend among others, exchange policy to bridge investment gap in Nigeria.

Keywords; Inflation, Nigerian Economic Growth, Investment, and phenomenon

INTRODUCTION

Over the past few decades, the nexus between inflation and economic growth has continued to dominate the center of stage of economics in there discussion amongst macroeconomists, policy makers and the central banker.

The issue originally evolved from the controversial notion between the structuralist and monetarists. In this connection, and in line with the submission of the structuralists, Mundel (1965) and Tobin (1965) cited in Ahmed and Mortaza (2005) suggests positive relationship between inflation and economic growth through the new growth theory. Their argument is validated on the premise that inflation leads to increased accumulation, which promotes economic growth. Conversely, Fischer Modigliani (1978) cited in Mortaze et al (2005) suggest a negative and non linear relationship between the rate of inflation and economic growth Samuelson (1973) defines inflation as "a general rising price for breeds, cars,, haircut, rising wages, rent etc. Onwukwe (2003), on his side defines inflation as "a significant and sustained rise in the general price level or a declining value of the monetary units. Inflation is generally used to describe a situation of high and sustained increase in the general price level of an economy. It is a social malady as well as a pervasive economic phenomenon. Besides, distorting prices, it erodes savings, discourages investment, stimulates capital flight inhibits growth, and makes economic planning a nightmare and political unrest (Guy, Debelle et al, 1998). Governments consequently regard inflation as a plague and try to squelch it by adopting sustained and consistent fiscal and monetary policies.

As at March 2014, the inflation rate was recorded at 7.8% by the National Bureau of Statistics. Inflation rate was averaged at 10.33% from 2006 to 2013, but reaching an all-time high of 15.6% in February 2010 and a record low of 3% in 2006. Inflation rate rose by 6.6% year on year down by 1.3% point from 7.8% recorded in march 2014. The country has been experiencing a somewhat stable and high inflation in the present era.

Inflation can have positive and negative impact on the economic performance of an economy. Positively, inflation can lead to a higher sustained growth due to the effect it has on capital accumulation. Also, through its negative impact on productivity in an economy, inflation results in adverse effects on economic growth.

Various macro-economic policies notably fiscal, monetary and exchange rate had from time to time been adopted to address this problem of inflation. Unfortunately, these measures have met with little or no success and this has hindered the achievement of other macro-economic objectives such as economic growth, increase in employment, satisfactory balance of payments and equitable income distribution.

It is in this light that this study is devoted to assess the impact and the rate of inflation acceptable to achieve economic growth in Nigeria.

STATEMENT OF THE PROBLEM

Since the attainment of independence of 1960, economic policies have been concerned basically with measures aimed at achieving sustained economic growth. The monetary policy framework adopted by Nigeria since 1993 has as a basic objective the achievement of single digit inflation (Essien and Eziocha 2002). In retrospect of these efforts; the achievement of price stability has been limited thus leading us to un-sustained economic growth and also to uncertainty about the future profitability of investment projects.

This leads to more conservative investment decisions that would otherwise be the case. It will ultimately lead to lower levels of investment and economic growth. Inflation may also impact an economy's balance of payments by making its exports more costly. Moreover inflation can interact with tax system to disturb borrowing and lending decisions. Against this background, this policy is poised to re-investigate the impact of inflation on economic growth and the extent of the effect of inflation on investment decisions and its level of growth, with a view to proffering solutions and policies of alleviating the present inflationary issues.

LITERATURE:

Numerous theoretical studies investigated the association between inflation and growth. The studies of Hyubens and Smith (1999) Gylgason and Herbertson (2001), Bose (2002) and Rosseau and Wachtel (2002) have demonstrated that the level of inflation is an important factor in affecting the relationship between financial development and economic growth. Moreover, these studies provide theoretical evidence indicating that under a low or moderate inflation rate, financial development promotes economic growth. On the contrary, under higher inflation environments, financial development does not have any impact on economic growth. Inflation increases transactions and information costs which directly inhibits economic development. High inflation can repress financial intermediation by eroding the usefulness of money assets and by leading to policy decisions that distort the financial structure.

Espinosa and Yip (1999) reviewed the interaction between inflation and growth using models of endogenous growth with explicit financial intermediation. They use risk preference as their basis for identifying the effect of one variable on another which means the relation depends on the relative aversion of agents. If agents are fairly risk averse, higher rate of inflation decreases economic growth. If agents' relative risk aversion is low enough, there is a positive relationship between the two variables which is in line with conventional claims of Philips curve.

Hung (2001) studies the relationship between inflation and economic growth based on the model with adverse selection and costly state verification problems. He shows that if banking costs shows no externality, there is positive relationship between inflation and economic growth. However, if banking cost shows economies of scale, the relationship between the two variables depends on initial inflation rates. If initial inflation rate decreases economic growth and vice versa.

A different group of models (growth) does not explicitly include inflation in their framework. This group contains among other models, the endogenous growth model for a small open economy developed by Minford and Meenagh (2006) and the endogenous growth model with public goods proposed by Barro (1998). The models are derived from inter temporal utility function and perfect competitive firm sector with some production function. These frameworks differ from each other by minor assumptions, having at the same time the common result -they determine a steady growth rate endogenously.

According to Hossain et al, (2012), while high inflation is bad for an economy because of its adverse effect on economic performance, zero inflation is equally harmful because it will lead to eventual stagnation of the economy since its presence at a mild level is needed for economic growth. The problem of inflation is not confined to national boundaries neither is it restricted to emerging market economies of the world; it is also an overarching challenge in the developed market economies, and since it is by no means a new challenge or phenomenon, over the years, its control has become the unquestioned mantra of economic policymakers worldwide.

EMPIRICAL REVIEW OF LITERATURE:

Existing empirical studies just as theoretical models, reflects different views on the relationship between inflation and output growth. The findings depend and differ depending on data periods and countries, suggesting the association between inflation and growth.

In Wang and Yip (1992), inflation is negatively related to growth, because a reduction in real balances arising from an increase in the rate of monetary growth raises transaction time and therefore transaction costs. In contrast Mino and Shibata (1995), in an overlapping-generations framework, show that inflation may have a redistributive impact from one generation to the other and foster capital accumulation. Bonatti (2002a, 2002b)

argues that, when multiple balanced growth paths exist in a nonmonetary economy, inflation targeting cannot resolve the resulting indeterminacy, whereas a fixed-monetary growth rule can do it, and it also determines the growth path of the economy. Furthermore, a restrictive monetary policy may select a lower growth path rather than a more expansive one.

Haslag (1997), Boyd et al. (2001), and Andres and hernando.(1997) focused on the interconnections between inflation, financial development, and growth. The first two studies support the validity of the growth-financial development link but not of the inflation-growth one. On the other hand, Andres.(1997) challenge the importance of financial markets in understanding the impact of inflation on growth.

Nell (2000) studies the cost and benefit of inflation by dividing the South Africa's inflationary experience into four episodes. The empirical results suggest that there is nonlinear relationship between inflation and economic growth. Within the single-digit zone inflation is beneficial to growth, while it costs in terms of slower growth at higher level. However, further results indicate that even during periods when deflationary policy yielded growth benefits as a result of a more stable economic environment, the costs of deflation outweighed the benefits.

Burdekin (2000) showed that the effects of inflation on growth reverses substantially as the inflation rate rises .He concluded that the threshold at which inflation first begins to negatively affect GDP growth for four south Asian countries(Bangladesh,india,sri lanka.and pakistan)using co-integration and error correction models. They found evidence of a long-run positive relationship between GDP growth and inflation. They also discovered significant feedbacks between inflation and economic growth and concluded that the sensitivity of inflation to changes in growth is larger than that of growth rates to changes in inflation rates This study puts the countries on a knife edge as they struggle to achieve non-inflationary growth. The challenge for them, therefore is to find a growth rate that is consistent with a stable inflation rate, rather than beat inflation first to take them to a path of faster economic growth.

Faria and Carneiro (2001) investigate the relationship between inflation and economic growth in the context of Brazil which has been experiencing persistent high inflation until recently. Analyzing a bivariate time series model (i.e., vector autoregression) with annual data for the period between 1980 and 1995, they find that although there exists a negative relationship between inflation and economic growth in the short-run, inflation does not affect economic growth in the long-run. Their empirical results also support the superneutrality concept of money in the long run.⁴ This in turn provides empirical evidence against the view that inflation affects economic growth in the long run.

Khan and Senhadji (2001) estimated a panel regression with data from 140 countries and spanning about 40 years to investigate the nonlinear relationship between inflation and economic growth. Having established the presence of nonlinearity, they found a threshold range of 1-3 per cent for industrial economies and 11-12 per cent for developing economies. The estimated relationships were found to be robust to different estimation procedures, alternative specifications, changes in threshold levels and different data frequency.

In Paul and Smith (2001), the relationship between money growth and real growth is shown to be characterized by a threshold. At low money-growth rates, banks perceive a small opportunity cost in detaining reserves instead of lending funds for investments. As money growth rises, the nominal interest rate rises too, increasing the opportunity cost of holding reserves and spurring lending and therefore investment and growth. When the nominal interest rate grows beyond a certain threshold level, credit rationing badly affects lending, reducing capital accumulation and growth.

Gokal and Hanif (2004) reviewed several different economic theories to develop consensus on the inflation and growth relationship for the economy of Fiji. Their results show that a weak negative correlation exists between inflation and growth, while the change in output gap bears significant bearing. The causality between the two variables ran one-way from GDP growth to inflation.

Sweidan (2004) examines the relationship between inflation and economic growth for economy of Jordan and finds a structural break point at 2 percent level of inflation. Another issue which is covered by the study is to check the effect of inflation uncertainty on the growth and developments in the economy. The result implies that the effects of inflation on growth are stronger as compared to the effects of inflation uncertainty and variability.

Burdekin et al. (2004) found that, for industrialized countries, inflation rates below 8% have an insignificant effect on growth and a negative one above that rate. Fischer (1993) reported findings that growth was related inversely to inflation.

Drukker, D, Gomis-Porqueras, P. and Hernandez-Verme, P. (2005) used data from a sample of 138 countries from 1950 to 2000 to investigate the threshold effects in the relationship between inflation and economic growth. The panel regression results revealed that there is one threshold with an estimated value of 19.16 per cent that is well identified by the full sample. For the industrialized sample, the results indicated that there are two threshold points at 2.57 per cent and 12.61 per cent.

Mubarik (2005) estimated the threshold level of inflation for Pakistan using an annual data set from the period between 1973 and 2000. He employed the Granger Causality test as an application of the threshold model and finally, the relevant sensitivity analysis of the model. His estimation of the threshold model suggests that an inflation rate beyond 9-percent is detrimental for the economic growth of Pakistan. This in turn, suggests that inflation rate below the estimated level of 9-percent is favorable for the economic growth. Moreover, the sensitivity analysis performed for the robustness of the threshold model also confirms the same level of threshold inflation rate. Li (2005) used data for 90 developing countries and 28 developed countries over the period 1961 - 2004 and found evidence of a nonlinear relationship between inflation and economic growth. He further showed that the form of nonlinearity in the inflation-growth relationship for developed countries differ from that of the developing ones. While two thresholds were found for the latter, only one threshold was detected for the former. He also studied the transmission channel through which inflation affects economic growth in a nonlinear manner. Based on theory and empirical findings, he identified two major transmission channels, which are the capital accumulation channel and the total factor productivity channel. He noted that inflation has been documented to affect economic growth either directly or via the behavior of the financial intermediaries. He opined that high and unstable prices affect the financial market and developments in the financial markets in turn affect the level and efficiency of investment and ultimately output growth. He concluded, through his empirical work, that for both developing and developed countries, the total factor productivity is the channel through which inflation adversely and nonlinearly affects economic growth.

Ahmed and Mortaza (2005) explore the relationship between real GDP and CPI and find threshold at 6 percent level of inflation for the economy of Bangladesh. The empirical evidence demonstrates that there exists a statistically significant long-run negative relationship between these two variables.

On the other hand, Funk and Kromen (2005, 2006) investigated the connection between inflation and growth in a Schumpeterian framework with short-run price rigidity. They also found a hump-shaped inflation-growth [ocus due to the distortionary effects produced by inflation on the incentive to innovate.

Erba y k a l and Okuyan (2008) examined the relationship between the ation and the economic growth in Turkey has been in the framework of data covering 1987:1-2006:2 periods. The existence of the long term Relationship between these two variables was examined using Bound Test developed by Pesaran et al. (2001), and the existence of a cointegration relationship between the two series was detected following the test result. Whereas no statistically significant long term relationship was found with the formed ARDL models, a negative and statistically significant short term relationship has been found. The causality relationship between the two Series was examined in the framework of the causality test developed by Toda Yamamoto (1995). Whereas no causality relationship was found from economic growth to inflation, a causality relationship was found from ¹ inflation to economic growth.

Geda and Tafere (2008) states that the Ethiopian economy has been characterized by erratic nature of output growth as the economy have been highly dependent on fortune of nature and external shocks. Since agriculture accounted for over 50 percent of GDP for most of the recent past, whenever weather conditions turned to be unfavorable, agricultural production 18 contracted and GDP followed suit. With this systematic relationship between GDP (output) and rainfall there followed a systematic price trend. Prices followed the inverse of output growth trend. During years of good rainfall as output rises prices often dropped considerably.

Even within any particular year prices have been lower during harvest periods. This co - movement appeared to have reversed in the post 2002 period. From 2003 onwards, output is on average reported to have grown by 11.8 percent per annum. Despite this reported significant increase in output (especially in agriculture) prices continued to rise. Thus, during the same period the general price level has recorded an average annual rise of 12 percent. The 2007 budget year alone witnessed prices jump by 18.4 percent, food inflation being 49 percent in August 2008. This co - movement that contradicts the hither too pattern of negative co - movement in price and output growth has puzzled many and led many more to suspect the credibility of the stories of fast economic growth (and hence the official data) over the past five years.

Tan (2008) ascertained whether there is any trade-off between inflation and economic growth by integrating the Phillips curve framework with Okun's theory. Using quarterly data of these countries spanning generally from 1991 through 2006/7 were mobilized for the purpose. The empirical results suggest that a trade-off albeit small exists between economic growth and inflation in Singapore.

Finally, Loening and Takada (2008) study the dynamics of inflation in short run using error correction model fitted with monthly observations. The result shows that increased money supply and the nominal exchange rate significantly affect inflation in the short run and that monetary policy in Ethiopia triggers price inertia, which has large and persistent effects. A simulation suggests that monetary policy alone may be unfeasible to control inflation effectively. To circumvent an extreme tightening with discouraging impacts on growth, additional

measures are needed. These should improve the transparency and credibility of monetary policy, and reduce structural barriers that affect price formation and market efficiency.

Chimobi (2010) try to ascertain if there is relationship between growth and inflation using Nigeria's consumer price index from 1970-2005. He concludes that there is no long run relationship between inflation and economic growth in Nigeria but shows that inflation has an impact on growth.

Durevall, Loening and Birru (2010) develop error correction terms that measure deviations from equilibrium in the money market, external sector, and agricultural market to evaluate the impact on inflation of excess money supply, changes in food and non-food world prices, and domestic agricultural supply shocks in Ethiopia. Even though the paper is not about the relationship between inflation and growth, it is important mentioning it here.

Their primary purpose is to show the determinants of the current rampant inflation in the country. Since Ethiopia is a developing country with large agriculture sector dominance, it is crucial to give due emphasis to food inflation. The result shows that overall inflation in Ethiopia is closely associated with agriculture and food in the economy, and that the international food crisis had a strong impact on domestic food prices in the long run. An agricultural supply shock affects food inflation in short run. The evolution of money supply does not affect food prices directly, though money supply growth significantly affects non-food price inflation in the short run.

In a study on Nigeria, Chimobi (2010) investigates the existence of a relationship between inflation and economic growth using annual data for the period 1970 - 2005. The study finds no co-integrating relationship between The two variables. Using Granger causality test, however, the study established unidirectional causality running from inflation to economic growth.

Tabi and Ondoa (2011) study the link between economic growth, inflation and money in circulation. They analyze the major importance of -monetary variables on economic growth in Cameroon. Using data from 1960-2007, they constructed VAR model to identify the possible link between the variables mentioned above. The result shows that money in circulation causes growth and growth causes inflation. The interesting conclusion is that increase in money in circulation does not necessarily induce an increase in general price level.

Teshome (2011) explains the relationship between inflation and economic growth in Ethiopia using statistical analysis, even though the method he applies for the analysis is open to critique. Accordingly, he states that it is difficult to specify the exact relationship between inflation and growth. However, one must study the structure of government spending and the nature of economic growth. By comparing the rate of inflation and economic growth of Ethiopia to that of Sub Saharan Africa, he explains how inflation affects economic growth through time. Using statistical comparison of the rate of inflation and economic growth, he tries to figure out the relation between them from 2004 to 2010. Accordingly, inflation affects economic growth nonlinearly in the country. Between 2004-2006 inflation and economic growth has positive relationship while from 2006-2008 they have negative relationship. Despite the variation in the magnitude between 2008 and 2010, he states that inflation and economic growth has positive relationship.

Leshero (2012) using the regression method developed by Khan and Senhadji (2001) shows that inflation threshold is 4% in South Africa. At inflation level below the threshold there is positive relationship between inflation and economic growth and the relationship is insignificant. But at inflation level above the threshold the relationship is negative and significant.

CONCLUSIONS:

The study is focused on the impact of inflation on the growth of the Nigerian economy. Analysis of inflation on the economic growth and investment growth on the Nigerian economy explains that to achieve a high and sustainable economic growth and a better domestic investment in Nigeria, inflation rate has to be low and if possible negative .Economic growth was examined using the following independent variables inflation, money supply ,investment and exchange rate, while Investment growth was examined using the following independent variables gross domestic product, money supply, inflation and exchange rate. Information gathered through the various reviews and statistical analysis showed the following fact:.

- i. The pursuit of price stability is primary to long-run growth and development and should be concern of every economy.
- ii. High Investment will help to boost the gross domestic product of Nigeria if the exchange rate of the Nigerian domestic currency is appreciated which will attract foreign investors and create capital accumulation as well as stimulating savings.
- iii. High and controlled Money supply is needed for economic growth.
- iv. Measures like fiscal policies, monetary policies, and supply side policies, wage control etc. were suggested to curb out inflation from the economy.

RECOMMENDATIONS:

The following recommendations have been proffered based on the findings of the study:

- i. The government of Nigeria will have to adopt measures like fiscal policies, monetary policies, and supply side policies, wage control etc. to curb cum flush out inflation from the economy.
- ii. Adopting high Investment will help to boost the gross domestic product of Nigeria through capital accumulation as well as stimulating savings.
- iii. CBN must adopt expansionary and contractionary measures of money supply to correct the problems of high rate of inflation and real Gross Domestic Growth (GDP) in Nigerian economy.
- iv. On the determining power of money supply on inflation, the policy of selective credit control should be pursued with the it deserves .Greater efforts should be made available, short, medium and long term loans to productive investments like small scale industries /businesses as they constitute an integral part of the growth and transformation process of an agro based economy like Nigeria.
- v. Exchange policy should be designed to bridge the saving investment gap, enhance government revenue and reduce fiscal gap through the curtailment of deficits and guarantee of external balance in the long run .This implies that domestic productivity and exports should be enhanced in the long term while aggregate demand should be curtailed in the short run. To reduce exchange rate, the foreign market should be policied to ensure that only those who have the aim to add value to the real sector get attention. This among other steps would at least have value of the naira against major world currencies and leave us with only the prices increased occasioned by increase in local money supply.

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