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Monetary Policies and Inflation Targeting Strategy: Turkey and Morocco Comparision

Para Politikaları ve Enflasyon Hedefleme Stratejisi: Türkiye ve Fas Karşılaştırması

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ABSTRACT

This article comparatively discusses the monetary policies implemented in Türkiye and Morocco. In addition, the inflation targeting strategy implemented by the Central Banks after 1992 to ensure price stability and financial stability is examined in terms of the economies of Turkey and Morocco. Inflation targeting is a monetary policy strategy that aims to achieve price stability by setting a targeted inflation rate. In order for the inflation targeting strategy to be successful, GDP growth rates, GDP per capita and inflation rates are analyzed depending on the inflation rates of the two countries over the last twenty years. Türkiye switched to an inflation targeting strategy in 2002. In terms of implementation, it initially continued as implicit inflation and then as an explicit inflation strategy. While the inflation targeting strategy in the Turkish economy was successful until 2011, deviations from the inflation targeting strategy appeared after this year due to the increase in geopolitical risks and macroeconomic instabilities. In terms of the Moroccan economy, there is a relatively more stable inflation trend. The Moroccan economy, which has a hierarchical management system, narrows the authority of the Central Bank towards achieving a fixed inflation target and raises concerns about its reliability.

Keywords: Inflation Targeting, Monetary Policies, Inflation Rate, Morocco, Turkey

ÖZET

Bu makale, Türkiye ve Fas'ta uygulanan para politikalarını karşılaştırmalı olarak ele almaktadır. Ayrıca Merkez Bankaları tarafından fiyat istikrarı ve finansal istikrar hedefini sağlamada 1992 yılı sonrası uygulanan enflasyon hedeflemesi stratejisi Türkiye ve Fas ekonomileri açısından irdelenmektedir. Enflasyon hedeflemesi, hedeflenen bir enflasyon oranı belirleyerek fiyat istikrarını sağlamayı amaçlayan bir para politikası stratejisidir. Enflasyon hedeflemesi stratejisinin başarılı olabilmesi için GSYİH büyüme oranları, kişi başına düşen GSYİH ve enflasyon oranları iki ülkeye ait son yirmi yıllık enflasyon oranlarına bağlı olarak analiz edilmektedir. Türkiye, 2002 yılında enflasyon hedeflemesi stratejisine geçmiştir. Uygulama bakımından başlangıçta örtük enflasyon sonrasında ise açık enflasyon stratejisi olarak devam etmiştir. Türkiye ekonomisinde enflasyon hedeflemesi stratejisi 2011 yılına kadar başarılı bir seyirizlerken, bu yıldan sonra jeopolitik riskler ve makro ekonomik istikrarsızlıkların artması sebebiyle enflasyon hedeflemesi stratejisinden sapmalar görünmüştür. Fas ekonomisi açısından ise göreceli olarak daha istikrarlı bir enflasyon seyri bulunmaktadır. Hiyerarşik bir yönetim sistemine sahip olan Fas ekonomisi, sabitlenmiş bir enflasyon hedefine ulaşma yönünde Merkez Bankasının yetki alanını daraltmakta ve güvenilirliği bakımından endişe yaratmaktadır.

Anahtar Kelimeler: Enflasyon hedefleme, para politikaları, enflasyon oranı, Fas, Türkiye

1. INTRODUCTION

Inflation problem is one of the priority problems in the world. The high inflation rates seen in the economies of the countries placed the fight against inflation in the first place in these countries.

In the late 1970s, there was a consensus between economists and central bankers that the high inflation that emerged worldwide with the collapse of the Bretton Woods system was due to the inflationary tendency of monetary authorities and that price stability should be the most important goal of monetary policy in the long run. Also, one of the most important problems that destabilized the economies in the globalization process has been identified as high inflation. In this process, in order to create an acceptable level of inflation, they started to implement the inflation targeting regime, which is a new monetary policy regime since the early 1990s.

Inflation targeting regime can be defined as monetary authorities' public announcement of medium-term inflation targets and their commitment to achieve these targets.

Looking at the history of the inflation target regime, it can be said that it was first implemented by New Zealand in 1990 and has been adopted by developed countries over time. Successfully implemented inflation targeting regime, with its increasing appeal, has become a monetary policy strategy used in developing countries over time.

Inflation targeting strategy, together with the flexible exchange rate regime, has become a monetary policy strategy whose application area has become increasingly widespread in recent years. Türkiye switched to the inflation targeting regime in 2006. These policies, which are implemented in the literature to provide stability and reach the targets, can be at the discretion of the central bank on the one hand, and can be implemented within the framework of the rules, on the other hand.

The effectiveness of the monetary instruments to be used by the monetary authorities in order to successfully implement the inflation targeting strategy and to keep the inflation at the targeted level depends on the development of the capital, money and foreign exchange markets in the country. Another important point in inflation targeting is that the fiscal policy should overlap with the monetary policy and should be supportive of it. This is an indispensable condition for the success of the inflation targeting strategy.

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2. GENERAL FRAMEWORK OF INFLATION TARGETING

Although inflation targeting has an application history of approximately twenty-five years as a monetary policy strategy, it is seen that there is no common view in the literature on how to define inflation targeting and determine inflation target applications. However, it is possible to make a definition based on the formation of certain distinctive features of inflation targeting over time. Based on the studies in the literature, inflation targeting can be briefly stated as the announcement of the targeted inflation rate to the public in order to ensure price stability for the future (Galindo & Ros, 2009).

In the inflation targeting strategy, unlike many monetary policies, no intermediate target is used and the direct inflation rate or price level is targeted. However, as in other monetary policy strategies, there is a consensus that some prerequisites are required in order to achieve the target successfully in the inflation targeting strategy (Svensson, 1999). To list these prerequisites, they are:

- ✓ Independence of the Central Bank
- ✓ The ultimate goal of monetary policies is price stability.
- ✓ Reducing the pre-implementation inflation rate to a certain level
- ✓ accountability
- ✓ Transparency and Reliability
- ✓ Strong and developed fiscal discipline or low fiscal dominance.
- ✓ Advanced financial structures
- ✓ Flexibility
- ✓ Using advanced econometric models
- ✓ It is the degree to which the prerequisites can be met.

3. DEFINITION OF INFLATION

Inflation is when aggregate demand exceeds aggregate supply at a given price level. Thus, the general level of prices will increase. This means that inflation is a continuous increase in the general level of prices.(Brajer, 1992)

According to monetarists, inflation is a phenomenon that will occur with an increase in the money supply. There is a direct relationship between the money supply and prices. According to Keynesians, inflation is a result, that is, when the money supply increases, inflation does not occur, but with the increase in inflation, the money supply will expand.(Roger, 1998)

4. TYPES OF INFLATION

4.1. Demand-Pull Inflation

Cost inflation, broadly defined, is inflation resulting from wage growth independent of factor markets; Although it is defined in a narrow sense, it is expressed as an increase in factor prices without demand pressure in factor markets.(Schwarzer, 2018)

4.2. Creeping Inflation

The type of inflation in which price increases are at low levels and inflation expectations are not formed is called moderate inflation. In this type of inflation, single-digit annual increases are observed and this inflation is easy to predict. A low inflation is needed for the continuity of production and increase in investments. For this reason, it can be said that creeping inflation encourages investments.(Schultze, 1960).

4.3. Hyperinflation

This type of inflation occurs when price increases reach 50% monthly and 1000% annually. In such cases, in order to avoid the destructive effects of inflation in the purchase of goods and services and in the repayment of debts, foreign currency substitution, which we call currency substitution, is in question. In periods of hyperinflation, individuals avoid holding cash in their hands and increase their purchases of goods and services by selling the national currency, which loses value at any time.(Puente-Maestu & Stringer, 2006)

4.4. Costs of Inflation

Inflation, which is defined as a continuous and serious increase in the general level of prices, has negative effects in many respects. Some of these are: It causes a deterioration in resource allocation by affecting the relative price structure. While purchasing power decreases in the face of inflation, welfare losses increase and income distribution deteriorates. Chronic inflation is an obstacle to long-term investments. Negative expectations further feed the rise in inflation (Horwitz, 2003).

5. INFLATION TARGETING

Inflation targeting is a monetary policy strategy carried out by the central bank by announcing the targeted inflation in order to ensure price stability, which is its long-term ultimate goal (Mishkin, 2001).

5.1. Definition of Inflation Targeting

Inflation targeting strategy is a strategy where the government, the central bank or both of them act in coordination with the inflation target or target range that they want to achieve in a certain time period (Mishkin, 2001).

5.2. Purpose of A Central Bank Implementing Inflation Targeting Strategy

The main purpose of a central bank that implements the inflation targeting strategy is to bring inflation rates closer to the targeted inflation rates. Additional purposes can be added to this. The most common is to minimize the difference between the production level and the potential output level. This difference is called the "output gap". When the output gap is positive, there is a production above the potential(Bernanke & Mishkin, 1997).

5.3. Prerequisites for Inflation Targeting Strategy in Turkey

Many economists are of the opinion that the successful results of the developed countries in the Inflation Targeting strategy are more than the developing countries. Many economists are of the opinion that neither developed nor developing countries can achieve real success because they cannot fully meet the prerequisites of inflation targeting (Kara, 2008).

5.3.1. Central Bank Independence

The most important prerequisite for success in inflation targeting is to ensure the independence of the central bank. Central bank independence means that it has its own free will in terms of the tools it will use while executing its monetary policy and which monetary policy regime it will implement. Central banks should be independent in order not to think short-term and waste the long-term, to keep them away from daily policies and to achieve permanent sustainable growth (BÜYÜKAKIN & Erarslan, 2004).

5.3.2. Low Financial Dominance

In order to avoid financial dominance, the public should not have excessive debt burden and should have financial depth. Financial depth is the capacity of financial markets to meet the debt demand for them. Fiscal dominance is also increasing with the increasing concerns about the public debt stock, interest rates and maturity structure (Cıroğlu, 2021).

5.3.3. Ultimate Target Price Stability

Alan Greenspan defines price stability as follows; Price stability is a sufficiently low inflation rate that households and the private sector do not have to take into account when making decisions about their daily lives. The ultimate goal of the central bank, especially in developing countries, should be to achieve price stability, and commitment to this goal should also be ensured institutionally (Cıroğlu, 2021).

5.3.4. Advanced Financial Markets

Two possible problems that a central bank may face, which implements the inflation targeting strategy, can be eliminated thanks to the stable structure of the financial markets. The first of these problems is that when a negative monetary situation occurs, the MB alone will not be able to sanitize it. Large amounts of resources to be obtained from financial institutions will have a very important role in overcoming this problem, thus creating a substantial pressure against inflation. In this way, the central bank will have a very serious control over the money and credit volume in the economy by controlling the supply of these resources. Secondly, weak financial institutions and markets may be under serious threat as a result of the volatility of monetary conditions. For example, in the event of a liquidity crisis in the financial sector, the central bank will cease to prioritize price stability as its ultimate goal, and the lender will have to fulfill its function of last resort. If the financial markets are strong, this burden will be lifted from the central bank (Cıroğlu, 2021; Eroglu et al., 2017).

5.3.5. A Strong Financial System

Sufficiently strong and stable financial structure will assist the central bank in removing the effects of shocks. At the same time, the central bank will be able to concentrate more on the inflation targeting strategy instead of maintaining financial stability. On the other hand, it will not be stuck between price stability and financial stability, and it will be able to make appropriate rate changes in order to bring inflation to the determined target (Cıroğlu, 2021; Eroglu et al., 2017).

6. IMPLEMENTATION PROCESS OF THE INFLATION TARGETING STRATEGY IN TURKEY

By the year 2000, the main determinant of the Turkish economy was the "Inflation Reduction Program", which started to be implemented from the beginning of the year. Medium-term objectives in this program; to reduce inflation to single digits over a three-year period, to use resources more effectively and to increase growth potential. Key elements in the program; to give a primary surplus, to implement structural reforms, to accelerate privatizations, to follow an incomes policy in harmony with the target inflation, to focus monetary and exchange rate policies on low target inflation.

6.1. Implicit Inflation Targeting

With the Law on the Central Bank of the Republic of Turkey dated April 25, 2001, the institutional structure of the Central Bank was made to ensure price stability, which is its main objective. With the innovations introduced in the law; It has been accepted that the main purpose of the central bank is price stability and that it will use monetary policy independently to achieve this goal. In the 2002-2005 period, the institutional framework of the central bank and the positive developments in the financial discipline made the bank more transparent and accountable (Kayıkçı & Kaplan, 2019).

While the disinflation program that was put into practice in 2000 made its effects felt in January and February 2001, the exchange rate regime was changed after February 2001 and the floating exchange rate began to be applied, and the nominal value losses in the TL caused sudden increases in inflation. In 2001, WPI was 88.6% and CPI was 68.5% due to the contraction in domestic demand. As a result of the determined implementation of the program of transition to a strong economy, the increase in inflation rates slowed down in the last quarter of 2001. This slowdown showed itself increasingly in 2002 as well. At the end of 2002, the lowest inflation figures of the last 20 years with an increase of 29.27% in CPI and the lowest inflation figures of the last 16 years with an increase of 30.8% in WPI were measured (Kara, 2008).

In the second half of 2001, the central bank announced that the implicit inflation targeting strategy would be implemented in 2002. In implicit inflation targeting, the central bank used expectations and short-term interest rates to control future inflation. In this period, while short-term interest rates were determined by the head of the central bank at the meetings of the monetary policy committee, monetary targets also acted as anchors and contributed to securing monetary expansion. Although monetary aggregates are also monitored for future inflation, the bank has followed more cautiously due to reasons such as the necessity of forecasting the money demand in periods of high inflation and the instability in the relationship between money demand and monetary indicators (Kara, 2008; Kayıkçı & Kaplan, 2019).

The support of the program, which was implemented decisively in the first four months of 2002, by the IMF has increased the confidence in the program. TL appreciated by 8% in this period. The decrease in uncertainties brought an optimistic mood to the markets and lowered inflation expectations. Price increases started to slow down due to the decrease in cost-side inflationary pressures and the continuation of the decline in domestic demand. As a result of all these developments, the CBT gradually reduced the overnight borrowing rate from 59% to 48%, and the lending rate from 62% to 55% (Kara, 2008).

In 2003, inflation targets were achieved by remaining 1.6 points below the target in CPI and 2.6 points below the target in WPI. Between 2002 and 2003, except for the first quarter of the year, TL appreciated by 7% against the exchange rate basket. The fact that domestic demand did not put pressure on prices by forcing supply can be shown as a tangible effect on the decrease in inflation in 2003. Although the contribution of the exchange rate to this decline in inflation is an undeniable fact, the role of the program of transition to a strong economy in the appreciation of TL should not be underestimated (Kara, 2008).

Between 2002-2004 the appreciation in TL helped to reach the inflation target by lowering imported input prices. The increase in productivity above real wages limited the formation of cost-side inflationary pressures. Although the rapid increase in oil and agricultural prices slowed down the decline in inflation in wholesale prices, this situation did not prevent reaching the consumer inflation target. In parallel with the decrease in inflation, the CBT cut interest rates four times during the year (Kara, 2008).

By 2005, the decline in inflation continued at a slower pace compared to the last four years. Despite the slowdown in inflation; As a result of the prudent monetary policy, uncompromising budgetary discipline, and the harmony between the targeted inflation and the actual inflation, inflation expectations maintained their positive course. In addition, because of all these developments based on monetary reform and strengthening financial stability, such as the acceleration in structural reforms, the transition to 3-year budget planning, the existence of a determined medium-term program, and the start of negotiations for full membership to the European Union, the risk premium decreased and the demand for Turkish lira investment instruments increased. In the light of all these developments, while medium and long-term real interest rates continued to decline, maturities began to lengthen throughout the economy. Thus, the Turkish lira maintained its strong position. The decrease in interest rates and the prolongation of maturities, as well as the increase in borrowing opportunities, brought about a rapid increase in consumption and investment expenditures. The main factors causing the slowdown in the decline in inflation in this period are; increase in consumption and the labor force, the rigidity of services inflation, and the increase in oil prices (Kara, 2008).

6.2. Explicit Inflation Targeting (2006-2009)

The central bank has switched to the explicit inflation targeting regime since January 2006. First, after implementing the explicit inflation targeting regime, the forecast horizon was set to 2 years. Accordingly, the central bank will determine its forecasts for inflation rates every 2 years. Another development with the transition to the new implementation has been on the monetary policy tool of the central bank. After that, the new monetary policy tool of the central bank was adopted as the overnight interest rate. Many countries that have adopted the inflation targeting regime have used lending interest rates as their main policy tool. On the other hand, the borrowing interest rate has been effective for a long time in Turkey.

The central bank made the other change on the decision-making mechanism. The powers of the monetary policy board have changed, and they have the power to make decisions. While the Monetary Policy Committee decides on interest rates, the total supply-demand balance, indicators related to fiscal policy, monetary indicators and loan sizes, wage-employment-unit cost-efficiency developments, public and private sector pricing behaviors, inflation expectations, exchange rates and developments that may affect them, It has started to benefit from a wide range of information including the analysis of possible external shocks and projections obtained from the economic forecasting system produced within the Bank (Aksoy, 2019).

Countries that prefer the inflation targeting regime generally used the CPI as a measure. Türkiye also uses the same measure. It is preferred because it is an index that the whole society can easily access (Yilmazkuday, 2009).

If there is a change in the inflation target determined by the central bank, the new target should be determined together in cooperation with the Government(Yilmazkuday, 2009).

In 2007 and after, the main factors affecting the balance on inflation were the significant increases in oil and other commodity prices in international markets. In particular, the high ratio of food prices in the CPI has changed the balance on inflation in Turkey, as in all developing countries. Therefore, the 2007 year-end CPI inflation rate was 8.4% (Cıroğlu, 2021).

6.3. 2008 Global Financial Crisis

In 2007 and after, the main factors affecting the balance on inflation were the significant increases in oil and other commodity prices in international markets. In particular, the high ratio of food prices in the CPI has changed the balance on inflation in Turkey, as in all developing countries. Therefore, the 2007 year-end CPI inflation rate was 8.4% (Kose et al., 2012).

In 2008, there was a serious global crisis in Continental Europe and America. Its effects were reflected in other countries over time and in Türkiye in parallel. Because 3.8 percent of the EU's total exports and 3 percent of its total imports are in Turkey. In short, Türkiye has close commercial relations with the said regions. With the crisis experienced, Turkey's total exports remained at low levels towards the end of 2008. Depending on the developments abroad, Turkey entered into a serious economic recession between 2008-2009. Double-digit losses occurred in the financial and real sector sectors in Turkey. Despite this, Turkey experienced less vulnerability in the banking sector thanks to the measures it took after the 2001 crisis. Not a single bank went bankrupt, the banking sector came out of the crisis intact. Industrial production fell more sharply but temporarily compared to other world countries (Alp & Elekdag, 2011).

6.4. Flexible Inflation Targeting Regime

Since the end of 2010, the CBRT has started to implement policies aimed at taking into account macro-scale risks for the health of the entire financial system. The developments that were effective in the central bank's decision; the change in the perspective of the central bank around the world and the extraordinary global conjuncture that occurred after the 2008 crisis. In this context, the central bank reviewed the framework of the inflation targeting regime by developing additional policy instruments that support financial stability. The central bank took the first policy steps in April 2010 to protect financial stability without compromising price stability. In this context, the central bank gradually withdrawn the liquidity measures it had taken during the 2008 global crisis and announced that required reserve ratios would be gradually brought back to pre-crisis levels. While the emphasis on macro-financial imbalances has increased, it has been stated that alternative monetary policies will be implemented for this purpose. In this context, the central bank; It has increased the effectiveness of reserve requirements as a policy tool by ending interest payments on required reserves. In order to increase the efficiency of the liquidity management strategy, the operational framework was changed, and the one-week repo auction interest rates were determined as a policy, and the interest rate corridor system remained in existence. In this context, the interest rate corridor, which consists of overnight borrowing and lending rates, has become a more effective policy tool (Karahan, 2017).

7. IMPLEMENTATION PROCESS OF THE INFLATION TARGETING STRATEGY IN MOROCCO

The international consensus in monetary policy, which focuses more on the objective of price stability, as well as the orientation of the strategic and operational frameworks of most monetary authorities towards the independence of central banks and towards increasingly more focused on inflation targeting. In fact, the level of the inflation rate is far from being the priority problem of Moroccan economic policy. The hierarchical mandate adopted by Bank Al-Maghrib constitutes a source of passivity in monetary policy in Morocco and does not encourage the monetary authorities to take the problem of unemployment into careful consideration, hence the interest in giving the latter the same importance as that of the objective of price stability, by adopting a dual mandate (Aziz, 2012; HMADOUCH, 2020).

7.1. Strategies From The Hierarchical Mandate: The Forms Of Inflation Targeting

The adoption of a hierarchical mandate in practice does not automatically imply the adoption of inflation targeting. Several central banks in developing countries have a hierarchical mandate, for example, but they adopt the nominal anchor of the exchange rate or they target a monetary aggregate. However, most monetary authorities adopt, or intend to adopt, directly or indirectly, one of the forms of inflation targeting that we will present below. We therefore consider that inflation targeting strategies represent the type of monetary regimes ideally compatible with the hierarchical mandate (Aziz, 2012).

7.1.1. Strict Inflation Targeting

Inflation targeting is based on anchoring the inflation rate itself. This targeting is considered firm or strict when the monetary authorities make a clear and explicit commitment to reach an inflation rate fixed in advance, which limits the discretionary policy of the Central Bank and demands its credibility (Aziz, 2012; HMADOUCH, 2020).

7.1.2. Implicit Anchoring of Price Stability

The implicit price stability anchor is a monetary regime assigned to monetary authorities that target inflation, but their lack of transparency and commitment to the inflation target makes their price stability anchor implicit (Aziz, 2012; ZAKANI, 2022).

7.1.3. Inflation Targeting Lite.

Light inflation targeting is for countries that do not have a single anchor as part of their monetary policy strategy but announce a basket of targets alongside the inflation target and do not consider inflation as primary or single target (Aziz, 2012; ZAKANI, 2022).

7.1.4. Flexible Inflation Targeting

Under flexible inflation targeting, the central bank aims not only for the inflation target, but also for the stabilization of output by tolerating a fluctuation of the inflation rate around its target and at flexible time horizons, in depending on the evolution of economic activity (Aziz, 2012; ZAKANI, 2022).

8. COMPARATIVE ANALYSIS FOR TURKEY AND MOROCCO

This comparative analysis examines the key economic indicators of Turkey and Morocco from 2001 to 2021. Specifically, we focus on inflation, consumer prices (annual %), GDP growth (annual %), and GDP per capita (US$). By comparing these indicators, we aim to uncover the economic trends and disparities between these two nations over the past two decades.

Table 1: Key Economic Indicators for Turkey

Time	Inflation, consumer prices (annual %)	GDP growth (annual %)	GDP per capita (US$)
2001	54,40018876	-5,750006555	3100,428642
2002	44,96412095	6,447722047	3640,825641
2003	21,60243845	5,763206067	4704,725644
2004	8,598261681	9,795936389	6031,947927
2005	8,179160368	8,992304936	7369,338647
2006	9,597242123	6,947988086	8003,551154
2007	8,75618091	5,043507932	9668,628782
2008	10,44412838	0,815024573	10802,78061
2009	6,250976631	-4,823153953	8989,502589
2010	8,566444206	8,427104323	10615,32806
2011	6,471879671	11,20011058	11308,0649
2012	8,891569965	4,788492711	11697,48051
2013	7,493090305	8,485816997	12507,59451
2014	8,854572714	4,939715161	12020,58264
2015	7,670853648	6,084486904	10851,95413
2016	7,775134153	3,323084208	10734,37997
2017	11,14431108	7,501997489	10464,1014
2018	16,3324639	2,979885258	9400,778214
2019	15,17682157	0,783610198	9103,043375
2020	12,27895745	1,940032245	8561,070948
2021	19,59649269	11,35349641	9661,235975

Source: World bank

The table displays the inflation rate (consumer prices), GDP growth (annual %), and GDP per capita (US$) for each year from 2001 to 2021 in Turkey.

In terms of inflation rate, Turkey experienced a high level of inflation in the early 2000s, with rates exceeding 50% in 2001 and 2002. Since then, inflation has generally remained in the single digits, with occasional spikes. However, in 2018 and 2019, inflation surged to over 15%, before dropping back down to around 7-8% in 2020 and 2021.

In terms of GDP growth, Turkey has seen both high growth rates and periods of contraction over the years. The country experienced negative growth in 2001 and 2009 due to economic crises, but has generally seen positive growth rates since then, with the highest rates occurring in the mid-2000s and 2010s. However, in 2018 and 2019, growth rates began to slow, and in 2020, Turkey experienced a recession due to the COVID-19 pandemic. In 2021, growth rates rebounded to over 7%.

Lastly, in terms of GDP per capita, Turkey has seen a steady increase in the metric over the years, though growth has been somewhat volatile. In 2021, the GDP per capita in US dollars was around $12,400, up from around $3,100 in 2001.

Overall, the table shows a complex economic picture for Turkey, with periods of high inflation, strong growth, and occasional setbacks.

Table 2: Key Economic Indicators For Morocco

Time	Inflation, consumer prices (annual %)	GDP growth (annual %)	GDP per capita (US$)
2001	0,619801875	7,319967454	1350,712036
2002	2,795619669	3,121449656	1426,95752
2003	1,167733675	5,961162155	1737,063843
2004	1,493444034	4,797018362	1964,080078
2005	0,98264166	3,291639684	2026,025879
2006	3,28476167	7,574631645	2200,966064
2007	2,042085127	3,531594152	2501,222412
2008	3,714843115	5,923277686	2889,220947
2009	0,971862999	4,243757321	2863,59668
2010	0,993557401	3,815717917	2835,217773
2011	0,90692491	5,245697297	3041,145752
2012	1,287122401	3,009961262	2907,449219
2013	1,880654667	4,5354242	3117,515137
2014	0,442310054	19,0472788	3430,549561
2015	1,557907113	4,344582976	3139,243652
2016	1,635311143	0,521185509	3132,94458
2017	0,754663249	5,057898157	3288,502197
2018	1,803916711	3,065641334	3492,67334
2019	0,303386037	2,890974761	3498,573975
2020	0,705968661	-7,187079581	3258,121338
2021	1,40195884	7,929667942	3795,380127

Source: world Bank

As can be seen in the table 2 Inflation in Morocco has generally remained at moderate levels, with a few notable spikes such as in 2014 (when it reached 8.17%) and in 2020 (when it reached 11.75%). The overall trend in inflation in Morocco over the past two decades has been upward, with an average annual inflation rate of 8.17% from 2001 to 2021.

GDP growth in Morocco has been somewhat volatile over the past two decades, with several years of high growth (e.g., 7.32% in 2001, 7.57% in 2006, and 7.93% in 2021) and several years of negative growth (e.g., -7.19% in 2020). The overall trend in GDP growth in Morocco over this period has been positive, with an average annual growth rate of 3.66%.

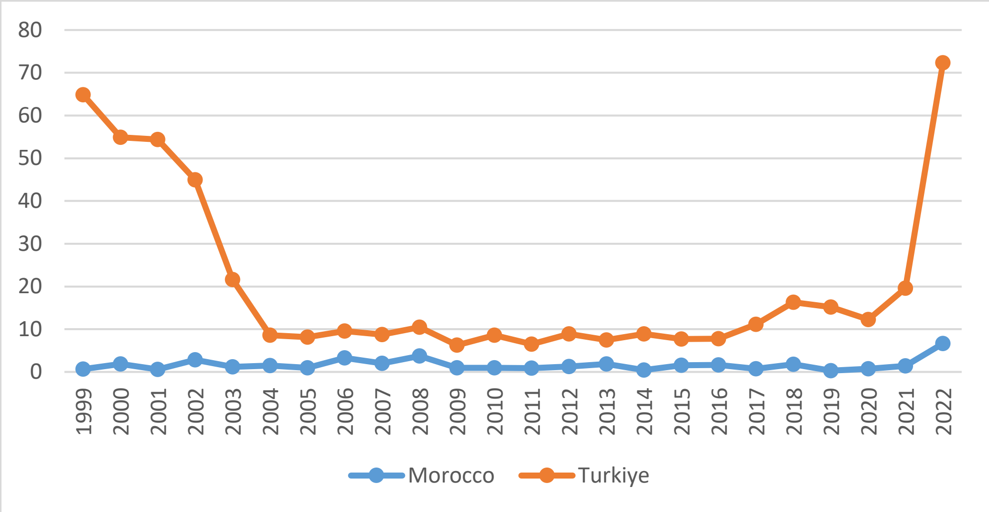
GDP per capita in Morocco has been steadily increasing over the past two decades, more than tripling from $1,350.71 in 2001 to $3,795.38 in 2021. However, growth has been uneven, with several years of slow growth or even decline in GDP per capita. It's worth noting that Morocco's population has also been growing over this period, which may have influenced these trends.

Eventually, when we compare the two economics, we found that both countries experienced high levels of inflation in the early 2000s, with Turkey's inflation rate peaking at over 54% in 2001, while Morocco's highest rate was less than 3% in 2002.

Since then, both countries have generally maintained lower inflation rates, although Turkey has seen more volatility in this regard, with rates fluctuating between 6% and 20% in recent years.

Overall, Morocco has had a more stable inflation rate compared to Turkey, which has experienced more fluctuations. Turkey has generally had higher GDP growth rates than Morocco, although both countries have experienced periods of negative growth. In particular, Turkey experienced negative GDP growth in 2001 and 2009, while Morocco experienced negative growth in 2020.

In recent years, Turkey's GDP growth has been more volatile, with a high of 11.4% in 2021, while Morocco's growth has been more stable, ranging between 2.9% and 7.9% over the same period. Turkey's GDP per capita is generally higher than Morocco's, although the gap has narrowed in recent years. In 2001, Turkey's GDP per capita was around $3,100, while Morocco's was around $1,350. By 2020, Turkey's GDP per capita had risen to around $8,560, while Morocco's had risen to around $3,260. Overall, Turkey has a higher GDP per capita than Morocco, although both countries have seen increases in this indicator over time.



Graphic 1. Inflation rate in Morocco and Turkey
Source: World Bank

This table consists of such data as the inflation rate from 1999 to 2022 for both Morocco and Turkiye. Inflation rate Morocco trended to be low and relatively stable from 1999 to 2010, with only two exceptions. Most other years were closed to 0.62% and 3.71%: the highest inflation rate recorded in 2008 amounts to 3.71%, and the rapid rate was the lowest in 2001 and equaled 0.62%. From 2011 to 2020, inflation Morocco still was modest and did not exceed 2%. Therefore, the fastest rate amounted to 1.88% and was recorded in 2013, while the slowest one was 0.30% in 2019. However, in 2022, the inflation rate increased sharply and amounted to 6.66%.

In stark contrast, the highest inflation rate in Turkiye for those early years was recorded at 64.87% in 1999 and decreased in 2003 to 21.60%. From 2004 to 2016, the inflation rates were stabilized but a little higher; the rate ranged between 6.25% and 10.44% in Turkiye. Inflation had again begun an upward trajectory from 2017, having reached 19.60% in 2021, sharply spiking to 72.31% in 2022. Comparatively, Morocco maintained a more stable and low inflation rate throughout the years, though it has recently spiked in 2022, while Turkiye has featured significant volatility with extreme highs in the late 1990s and early 2000s and another in 2022, suggesting different levels of economic instability or responses to global economic conditions.

In summary, both Turkey and Morocco have experienced economic growth over the past two decades, although Turkey has generally had higher GDP growth rates and a higher GDP per capita. However, Turkey has also experienced higher levels of inflation and more volatility in economic indicators compared to Morocco.

9. CONCLUSION

This paper provides a comprehensive analysis of inflation targeting and its implementation in Turkey and Morocco. The paper highlights the importance of successful implementation of inflation targeting and discusses the economic indicators of both countries over the past two decades. The paper shows that Turkey has implemented implicit and explicit inflation targeting strategies, contributing to a decrease in inflation rates but experiencing more volatility in economic indicators compared to Morocco. Morocco, on the other hand, has a hierarchical mandate in place and has generally had a more stable inflation rate. The paper provides insights into the challenges and opportunities of implementing inflation targeting strategies in emerging economies and highlights the importance of considering country-specific factors when designing monetary policy. The paper also discusses the impact of global financial crises on inflation and the economy of both countries. The 2008 global financial crisis had a significant impact on Turkey and Morocco, with both countries experiencing economic recession and double-digit losses in the financial and real sectors. However, Turkey was less vulnerable in the banking sector thanks to the measures it took after the 2001 crisis, and no bank went bankrupt during the 2008 crisis. The paper also discusses the implementation process of the inflation targeting strategy in Morocco, highlighting the hierarchical mandate adopted by Bank Al-Maghrib and its impact on monetary policy it is worth noting that Morocco has a hierarchical mandate in place and has generally had a more stable inflation rate. The paper suggests that the hierarchical mandate in practice does not automatically imply the adoption of inflation targeting, and several central banks in developing countries adopt different nominal anchors. However, most monetary authorities adopt, directly or indirectly, one of the forms of inflation targeting that is ideally compatible with the hierarchical mandate. Overall, this paper provides valuable insights into the implementation of inflation targeting strategies in emerging economies and highlights the importance of considering country-specific factors when designing monetary policy. The paper also emphasizes the need for a strong and stable financial system to assist the central bank in removing the effects of shocks and concentrating more on the inflation targeting strategy.

It can be said that this paper highlights the importance of understanding inflation, its various types, and the prerequisites and implementation process of inflation targeting in Turkey and Morocco. It underscores the need for independent central banks, reliable data, effective policy instruments, and transparent communication for successful inflation targeting strategies.

Further research and analysis are necessary to evaluate the effectiveness of inflation targeting in Turkey and Morocco over time and to identify potential areas for improvement. By continuously refining and adapting their inflation targeting strategies, both countries can strive towards achieving their monetary policy objectives and maintaining stable macroeconomic conditions.

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