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The Causes and Consequences of Inflation and Examining the Role of Central Banks in Achieving Price Stability.

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Introduction

Inflation is one of the most significant macroeconomic challenges that impact economies worldwide, with profound implications for economic growth, income distribution, and financial stability. This thesis aims to provide a comprehensive analysis of the causes and consequences of inflation, while critically examining the role of central banks in achieving price stability. Understanding inflation is crucial for policymakers, businesses, and consumers, as mismanagement can lead to economic volatility, reduced purchasing power, and uncertainty in investment and savings.

The first part of this research delves into the theoretical background of inflation. It starts by defining inflation and explaining how it is measured through common indicators like the Consumer Price Index (CPI) and GDP deflator. These tools are essential for tracking changes in the price level of goods and services within an economy. The measurement of inflation allows policymakers to assess the health of the economy and adjust their monetary policies accordingly. However, inflation can be harmful to the economy if it becomes excessive. High inflation erodes purchasing power, reduces real income, creates uncertainty in financial markets, and distorts investment decisions. For these reasons, price stability is a key goal of economic policy.

The causes of inflation are examined in detail, including both demand-pull and cost-push inflation. The Phillips Curve is discussed in both its short-run and long-run contexts. The short-run trade-off suggests that lower unemployment can result in higher inflation, but this trade-off does not hold in the long run. Additionally, cost-push inflation arises when production costs increase, leading businesses to raise prices, while external factors such as oil price shocks can also contribute to inflationary pressures.

The role of central banks in managing inflation and achieving price stability is central to this research. Monetary policy plays a key role in controlling inflation, using tools such as interest rate adjustments and money supply regulation. Central banks often employ frameworks like Taylor's Rule and the sacrifice ratio to guide their decisions and balance the trade-offs between inflation control and economic growth.

The second part of the thesis focuses on the practical application of inflation theory, specifically in the context of Morocco. In this section, the current inflationary situation in Morocco is analyzed, with an emphasis on the factors influencing inflation trends in the country. The effectiveness of the Central Bank of Morocco in addressing inflationary pressures and implementing monetary policies will be assessed. This section will also highlight the real-world implications of inflation, comparing the theoretical insights from the first part of the thesis with Morocco's actual experience.

By providing a structured examination of both the theoretical background and practical aspects of inflation, this thesis seeks to contribute valuable insights to economic literature and inform policy decisions aimed at maintaining price stability.

I. Literature review

I.1. Definition and Overview of Inflation

Inflation is a critical economic phenomenon characterized by a general, sustained increase in the prices of goods and services, which results in a decrease in the purchasing power of money. Essentially, consumers find themselves able to purchase fewer goods and services with the same amount of money. To measure inflation, several indices are commonly used, such as the Consumer Price Index (CPI), the Harmonized Index of Consumer Prices (HICP), and the GDP deflator. The CPI, the most widely used measure, tracks changes in the cost of a fixed basket of goods and services over time. The HICP is specifically used by the European Central Bank (ECB) to assess inflation across the euro area, while the GDP deflator, a broader measure, captures the price changes of all goods and services included in a country's GDP, offering a comprehensive view of inflation in the economy.

Inflation's effects on the economy can be profound, particularly when it leads to a wage-price spiral, a self-reinforcing cycle where rising wages push businesses to raise prices, which in turn leads workers to demand higher wages. This phenomenon is particularly concerning inflationary periods, as it can contribute to persistent inflation and reduce consumers purchasing power. If unchecked, it may require intervention from central banks through measures such as interest rate hikes, which can slow economic growth. In this scenario, rising prices cause wages to increase as workers try to compensate for the reduced purchasing power, leading to even higher prices. This creates a vicious cycle of inflation that can destabilize the economy, erode confidence in the currency, and reduce economic stability. For example, in June 2022, inflation in the EU hit a record-high 9.6%, driven mainly by increases in energy prices (42%) and food prices (8.9%). High inflation also distorts economic decision-making, as both businesses and consumers struggle with uncertainty about future prices, hindering long-term investment and consumption.

Price stability is a key goal for central banks, as it helps preserve the value of money and ensures that individuals and businesses can make long-term decisions without fear of inflation disrupting their plans. Stable prices are essential for maintaining economic stability and confidence in the currency. For instance, the ECB targets an inflation rate of around 2%,

considering this rate ideal for promoting economic growth and avoiding the risks associated with both deflation and excessive inflation. By maintaining price stability, central banks can reduce the harmful effects of inflation, such as its impact on income distribution, purchasing power, and overall economic growth.

To achieve price stability, central banks employ various monetary policy tools. The most influential of these is the interest rate, which can be adjusted to control borrowing costs, thus affecting consumer demand and business investment. Higher interest rates can help cool down inflation by reducing demand, while lower rates can stimulate the economy in times of low inflation or deflation. When traditional methods like interest rate adjustments are not sufficient, central banks may resort to non-standard measures such as quantitative easing and forward guidance, both of which influence inflationary pressures by adjusting the money supply or providing signals to the market about future monetary policy.

Factors like the green transition and global investment programs also contribute to inflationary pressures. For instance, carbon taxes and policies aimed at reducing emissions may drive up energy prices, adding to inflation. Moreover, large-scale investments in green technologies increase aggregate demand, further fueling inflation. These external factors complicate inflation management, requiring central banks to continuously adapt their strategies. Overall, inflation is a multifaceted issue with wide-ranging implications for both the economy and financial systems, making it essential for central banks, such as the ECB, to implement effective monetary policies to maintain economic stability. **(**Blanchard, O., & Johnson, D. R.2012)

I.2. Measuring Inflation

Inflation is measured by tracking changes in the prices of a basket of goods and services over a period. The goal is to capture pure price changes, rather than changes in the quality of goods. The most common inflation indicator is the Consumer Price Index (CPI), which measures the average change in prices for a basket of consumer goods and services. (Mishkin, 2007)

I.3. Key Points Regarding the Measurement of Inflation

Harmonized Index of Consumer Prices (HICP): This is the key indicator used by the European Central Bank (ECB) to assess whether its price stability objective has been met. The HICP is a cost-of-goods index derived from national consumer price indices in the euro area that follow the same approach. It is "harmonized" because all countries use the same categories of goods

and services in their baskets, and the same calculation methods. However, the composition of the HICP is specific to each country, with different weights for each product based on its share of household spending. Only monetary transactions made by households are included in the HICP (Eurostat, 2020).

Cost-of-living index: This index is close to what most people intuitively understand by the term "inflation." It measures the amount consumers need to spend to reach a certain standard of living. It considers changes in governmental or environmental factors that affect consumers' well-being. However, a cost-of-living index is difficult to measure because it is based on assumptions and estimates.

Core inflation: Central banks often use measures of "core" inflation that eliminate some of the most volatile price components, such as energy prices, because these are subject to transitory shocks and are difficult to control through monetary policy. Core inflation does not react to first-round effects of price changes resulting from changes in indirect taxes or administered prices.

I.4. Aspects to Improve Inflation Measurement

Owner-occupied housing costs (OOH): The HICP only partially includes housing costs, mainly through maintenance and minor repairs. It excludes the cost to households of owning their homes, even though most households in the euro area own their main residence. Including OOH costs in the HICP would improve how inflation dynamics are reflected, since people's perception of inflation is significantly affected by their housing costs.

Green transition: The transition to a greener economy, especially through carbon taxes, is likely to have a significant impact on prices. This transition could increase inflation due to public and private investments and carbon taxes.

II. Causes of inflation

Inflation, defined as the sustained increase in the general price level of goods and services, is a fundamental macroeconomic issue with widespread implications. Mishkin (1982) emphasizes that sustained inflation is primarily a monetary phenomenon, meaning that while short-term price fluctuations may arise due to external shocks, long-term inflation requires a

continuous increase in the money supply. Several key factors contribute to inflation, including monetary policy, demand-pull effects, cost-push pressures, and fiscal deficits, all of which interact with money supply growth. (Mishkin, 1984)

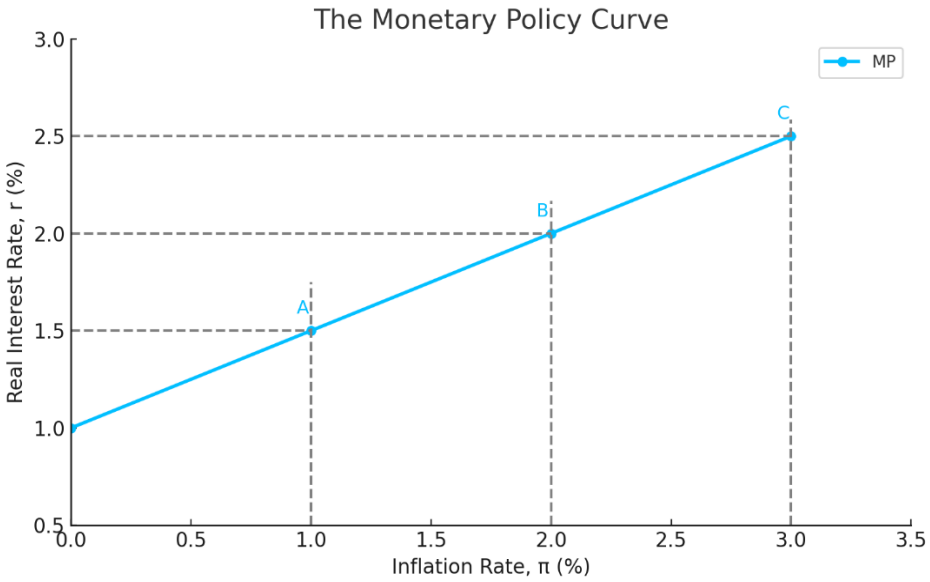
II.1. Monetary Policy and Inflation

Monetary policy, managed by central banks, plays a critical role in controlling inflation and stabilizing the economy. Mishkin (2016) explains that the Quantity Theory of Money (MV = PY) historically suggested a direct relationship between the money supply and inflation. However, modern research has demonstrated that this relationship is weaker than initially believed. One key reason is the instability of the velocity of money (V), which was once assumed to be constant but fluctuates due to factors such as changes in consumer behavior, digital banking, and advances in payment technology (Mishkin, 2016). As a result, economists have moved away from strict reliance on Quantity Theory when analyzing inflation.

Furthermore, Mishkin (2016) notes that distinctions between different categories of money supply (M1, M2, M3) have become less meaningful in the digital age, as technological advancements have made it easier to move money across forms. This has led central banks to shift away from managing the money supply directly, instead focusing on interest rate adjustments as their primary tool for controlling inflation. By influencing short-term interest rates, central banks can affect borrowing costs, investment, and consumption, ultimately shaping inflationary pressures (Mishkin, 2016).

Modern monetary policy also places significant emphasis on managing inflation expectations. According to Mishkin (2016), central banks influence expectations by establishing credibility in their commitment to price stability. When individuals and businesses trust that inflation will remain under control, they adjust their wage demands and pricing behavior accordingly, helping to prevent inflationary spirals. Many central banks use inflation targeting, typically around 2%, to anchor these expectations and reduce uncertainty in the economy.

FIGURE 1 THE MONETARY POLICY CURVE



Source: Self-created

This graph shows how a central bank reacts to rising inflation by increasing real interest rates. As inflation moves from 1% to 3%, the MP curve illustrates an upward path from points A to C, representing the policy tightening needed to maintain price stability.

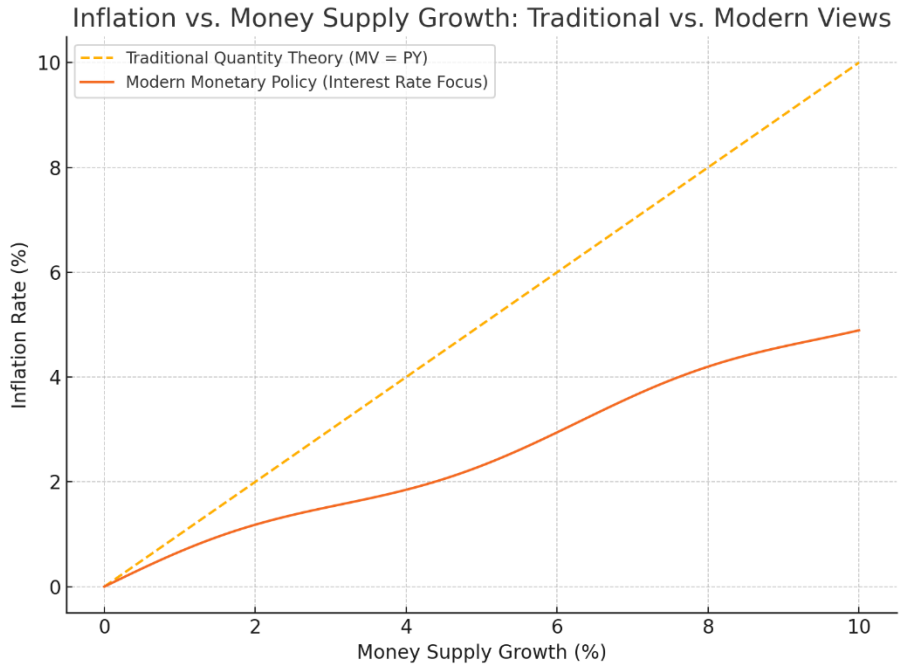
However, monetary policy has limitations. Mishkin (2016) highlights that factors like global commodity price fluctuations, supply-side shocks, and external economic conditions can drive inflation in ways that central banks cannot easily control. Additionally, during periods of very low inflation or deflation, interest rate policies may be less effective, requiring unconventional measures like quantitative easing to stimulate the economy.

In summary, while the Quantity Theory of Money once played a central role in inflation analysis, its limitations in explaining modern inflation dynamics have led central banks to prioritize interest rate policies and inflation targeting. As Mishkin (2016) emphasizes, managing inflation expectations and adapting to external economic shocks are now essential aspects of contemporary monetary policy.

To visually illustrate the evolution in thinking about the relationship between money supply and inflation, the graph below contrasts the traditional Quantity Theory of Money with the modern view of monetary policy. While the classical model (MV = PY) suggests a direct and proportional relationship between money growth and inflation, recent research—as emphasized

by Mishkin (2016)—demonstrates that this link has weakened. This is largely due to the instability of the velocity of money and the shift in central banking strategies toward interest rate adjustments and inflation expectation management. The graph reflects this divergence, showing how inflation rises more gradually under the modern framework, even when money supply grows.

FIGURE 2 INFLATION VS.* MONEY *SUPPLY GROWTH: TRADITIONAL VS. MODERN VIEWS



Source: Self-created

This graph compares the classical Quantity Theory (MV = PY) with the modern framework. The dashed yellow line shows the old direct relationship between money supply and inflation, while the orange curve reflects the modern, slower inflation response due to flexible monetary tools and inflation expectations.

I.1. Demand-Pull Inflation

Demand-pull inflation occurs when aggregate demand (AD) outpaces aggregate supply (AS), leading to sustained increases in the general price level. According to Mishkin (2016), this type

of inflation is primarily driven by excessive demand in the economy, often stimulated by expansionary monetary and fiscal policies. When demand for goods and services exceeds production capacity, businesses raise prices, fueling inflation. Several factors contribute to demand-pull inflation. Expansionary fiscal policy, where governments increase public spending or cut taxes, boosts disposable income for households and businesses, leading to higher consumption and investment, thus raising aggregate demand beyond sustainable levels. Similarly, expansionary monetary policy, characterized by low interest rates, encourages borrowing and investment, which increases consumer spending and economic growth. However, if demand rises too quickly relative to supply, inflation accelerates. Additionally, strong consumer and business confidence plays a role; when households and firms expect future economic growth, they tend to spend and invest more aggressively, further boosting aggregate demand. Lastly, global demand shocks, such as an unexpected surge in demand for goods and services during a post-pandemic economic recovery, can put significant pressure on supply chains, leading to higher prices.

Example: Post-Pandemic Inflation (2020-2022)

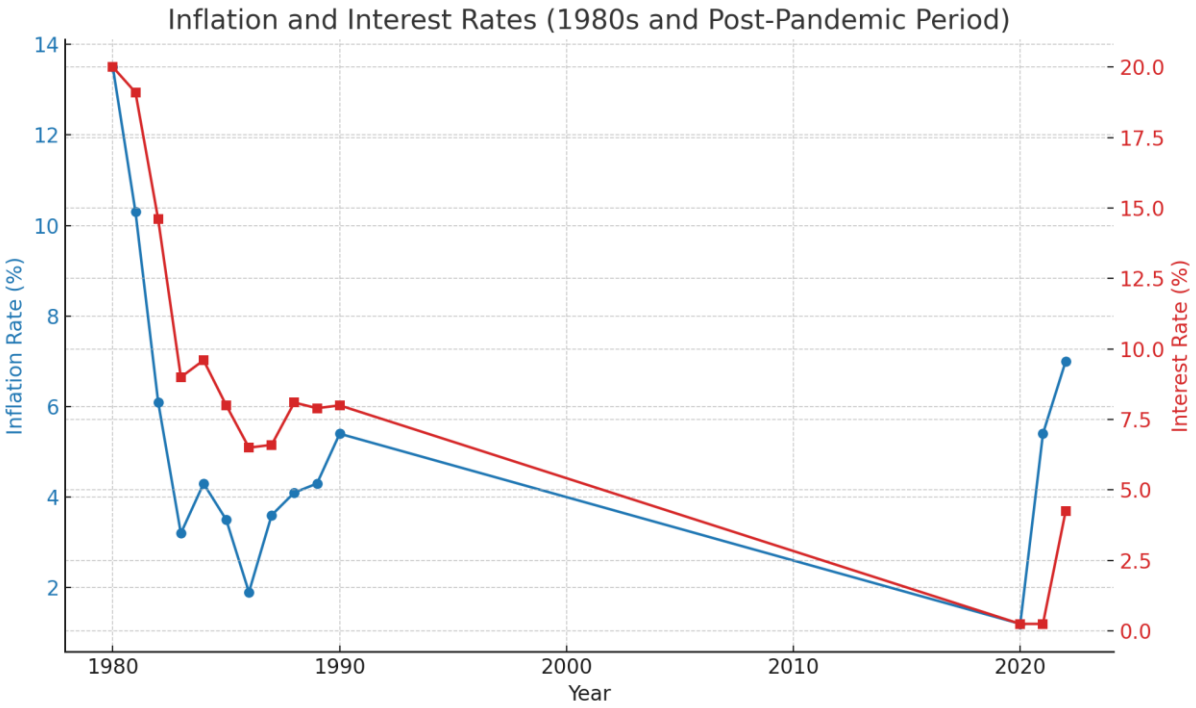
A recent case of demand-pull inflation occurred in the aftermath of the COVID-19 pandemic. In response to the economic downturn, governments worldwide implemented large-scale stimulus packages, injecting liquidity into the economy. Simultaneously, central banks lowered interest rates to near-zero levels, making borrowing cheaper. The U.S. Federal Reserve's policies, combined with trillions in government stimulus, fueled a surge in consumer spending. However, supply chains were still recovering, leading to shortages of goods, particularly in energy, electronics, and food markets. The result was a significant increase in inflation rates in 2021-2022 (OECD, 2022).

A historical example of this principle in action occurred during the early 1980s when the U.S. Federal Reserve, under Paul Volcker, aggressively raised interest rates to combat inflation. As inflation soared above 10%, the Fed significantly increased interest rates, leading to a recession but ultimately stabilizing prices. Mishkin (2016) explains that this bold monetary policy was essential in reducing inflation despite the short-term economic pain caused by the recession.

The graph below illustrates the fundamental relationship between inflation and interest rates, specifically focusing on the post-pandemic example. It demonstrates how central banks adjust

monetary policy by lowering interest rates in response to a downturn and raising them to curb inflation to maintain price stability.

FIGURE 3 INFLATION. MONEY SUPPLY GROWTH: TRADITIONAL VS. MODERN VIEWS



Source: Self-created based on data from the U.S. Bureau of Labor Statistics and Federal Reserve Economic Data (FRED).

This graph shows how central banks respond to inflation. In the 1980s, high inflation led to sharp interest rate hikes. In the post-pandemic period, inflation surged after prolonged low interest rates and stimulus, prompting monetary tightening.

I.2.Cost-Push Inflation

Cost-push inflation occurs when the costs of production increase, prompting businesses to raise the prices of goods and services in response. This type of inflation is typically driven by factors such as rising wages, increases in raw material costs, and external supply-side shocks. In contrast to demand-pull inflation, which is primarily driven by higher demand, cost-push

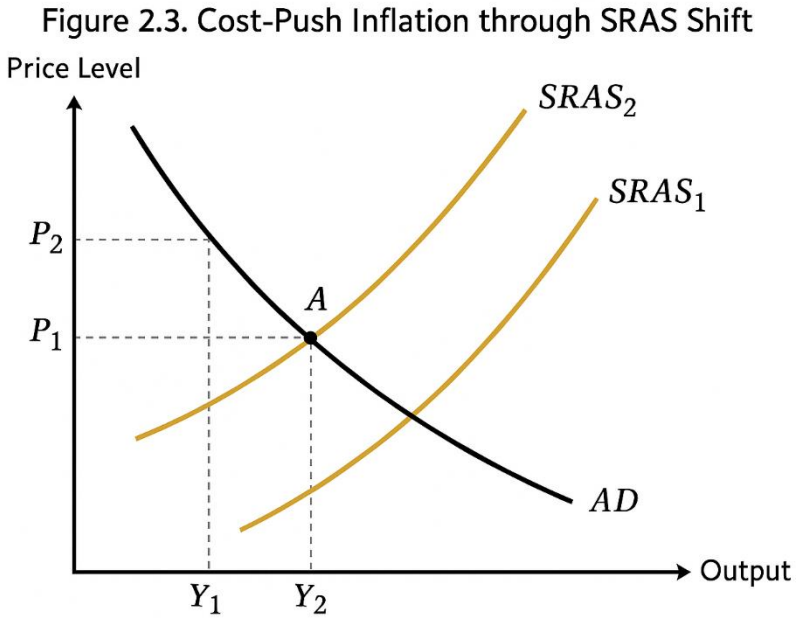
inflation stems from constraints on the supply side of the economy. When the costs of production rise, firms often pass these increased costs onto consumers, resulting in inflationary pressures that affect the broader economy.

A significant contributor to cost-push inflation is wage growth. As wages increase, businesses face higher labor costs, which are often transferred to consumers through higher prices. Several factors can drive wage increases, including strong labor unions, government-imposed minimum wage hikes, and tight labor markets. Mishkin (2016) explains that when unions negotiate for higher wages, or when minimum wages are increased by the government, the cost of production for businesses rises, prompting firms to raise the prices of their goods and services. This wage-driven inflation can significantly affect the broader economy as higher wages lead to higher production costs, which in turn push up prices for consumers.

Moreover, the phenomenon of the wage-price spiral plays a crucial role in perpetuating cost-push inflation. According to Mishkin (2016), when wages rise, businesses pass on these increased labor costs to consumers in the form of higher prices. This, in turn, erodes workers' purchasing power, leading them to demand even higher wages to keep pace with rising costs. The resulting cycle of wage increases and price hikes can become self-reinforcing, contributing to persistent inflation. This wage-price spiral can become entrenched over time, creating a feedback loop where inflationary pressures remain high until addressed by appropriate policy interventions.

Cost-push inflation is also often triggered by supply-side shocks, such as increases in the prices of raw materials or energy. For example, when the price of oil rises, transportation and manufacturing costs increase, which can lead to higher prices across a wide range of goods and services. Mishkin (2016) notes that supply-side shocks, particularly those affecting critical resources like energy, can significantly disrupt the production process and lead to broad-based inflationary pressures. Geopolitical events, natural disasters, and other unforeseen disruptions can exacerbate these effects, pushing prices higher and causing inflation to persist.

Figure 4 Cost-Push Inflation through SRAS Shift



Source: Self-created

This graph illustrates how cost-push inflation arises from a leftward shift in the Short-Run Aggregate Supply (SRAS) curve. As production costs rise, the SRAS curve shifts from $SRAS_1$ to $SRAS_2$, leading to a higher price level (from P_1 to P_2) and a decrease in real output (from Y_2 to Y_1), while aggregate demand (AD) remains unchanged.

In addressing cost-push inflation, central banks face significant challenges. Unlike demand-pull inflation, where contractionary monetary policy—such as raising interest rates—can help to reduce inflationary pressures, controlling cost-push inflation is more complicated. Mishkin (2016) highlights that raising interest rates in response to rising inflation may slow economic growth and potentially increase unemployment, particularly in the short term. This trade-off between controlling inflation and maintaining economic growth can complicate the policymaking process, especially when cost-push inflation is driven by factors outside of the central bank's control, such as supply-side shocks.

The credibility of the central bank plays a critical role in managing cost-push inflation, particularly with respect to inflation expectations. Mishkin (2016) emphasizes that if workers

and businesses expect inflation to continue rising, they are more likely to demand higher wages and increase prices in anticipation of future inflation. This can result in a self-fulfilling cycle, where inflation expectations become unanchored, leading to persistent inflationary pressures. Central banks must, therefore, be proactive in managing inflation expectations and maintaining credibility in their commitment to controlling inflation. If the public believes that the central bank is capable of stabilizing inflation, it is less likely that inflation expectations will spiral out of control.

In conclusion, cost-push inflation presents a complex challenge for policymakers. The increase in wages, supply-side shocks, and the wage-price spiral can contribute to persistent inflationary pressures that are difficult to address using traditional monetary tools. While central banks can influence inflation through interest rate adjustments, managing cost-push inflation often requires more nuanced policy interventions. The role of inflation expectations is crucial in this context, and maintaining the credibility of the central bank is key to preventing inflation from becoming entrenched. As Mishkin (2016) suggests, the central bank's ability to anchor inflation expectations is a vital element in controlling cost-push inflation and ensuring long-term economic stability.

I.3. Budget Deficits and Inflation

Fiscal policy also influences inflation, particularly when governments finance budget deficits by increasing the money supply. This happens when:

Governments print money instead of borrowing to cover spending.

Central banks monetize public debt, increasing money circulation.

Excessive public spending pushes aggregate demand beyond sustainable levels.

Example: Zimbabwe (2000s) and Venezuela (2010s) experienced hyperinflation due to excessive money printing (IMF, 2021).

I.4.The Phillips Curve: Short-Run vs. Long-Run Inflation Dynamics

The Phillips Curve, first introduced by A.W. Phillips in 1958, illustrates the inverse relationship between inflation and unemployment in the short run. In his empirical study of wage inflation and unemployment in the UK between 1861 and 1957, Phillips found that when unemployment was low, wages tended to grow faster, and conversely, when unemployment was high, wage growth slowed. This led to the belief that policymakers could trade higher inflation for lower unemployment. However, later research by Milton Friedman (1968) and Edmund Phelps (1968) challenged this notion, arguing that the trade-off between inflation and unemployment disappears in the long run as inflation expectations adjust.

Friedman and Phelps' work fundamentally altered the understanding of the Phillips Curve, suggesting that in the long run, the economy returns to its natural rate of unemployment, , also known as the Non-Accelerating Inflation Rate of Unemployment (NAIRU) regardless of inflation levels. They argued that while inflation may temporarily reduce unemployment, the effect is short-lived. As inflation rises, so do expectations of future inflation, leading to higher wages and, consequently, higher prices. This creates a self-perpetuating cycle that doesn't result in a permanent reduction in unemployment. Therefore, the long-run Phillips Curve is vertical at the natural rate of unemployment, indicating that inflation cannot be used as a tool for reducing unemployment in the long run.

This section explores both the short-run and long-run implications of the Phillips Curve. It highlights the importance of inflation expectations and wage growth in shaping the dynamics of inflation and the role of central banks in managing these expectations to stabilize the economy. The short-run trade-off between inflation and unemployment may seem appealing, but the long-run view underscores the necessity of maintaining stable inflation expectations to avoid the negative consequences of unchecked inflation. (Phillips, 1958; Friedman, 1968; Phelps, 1968)

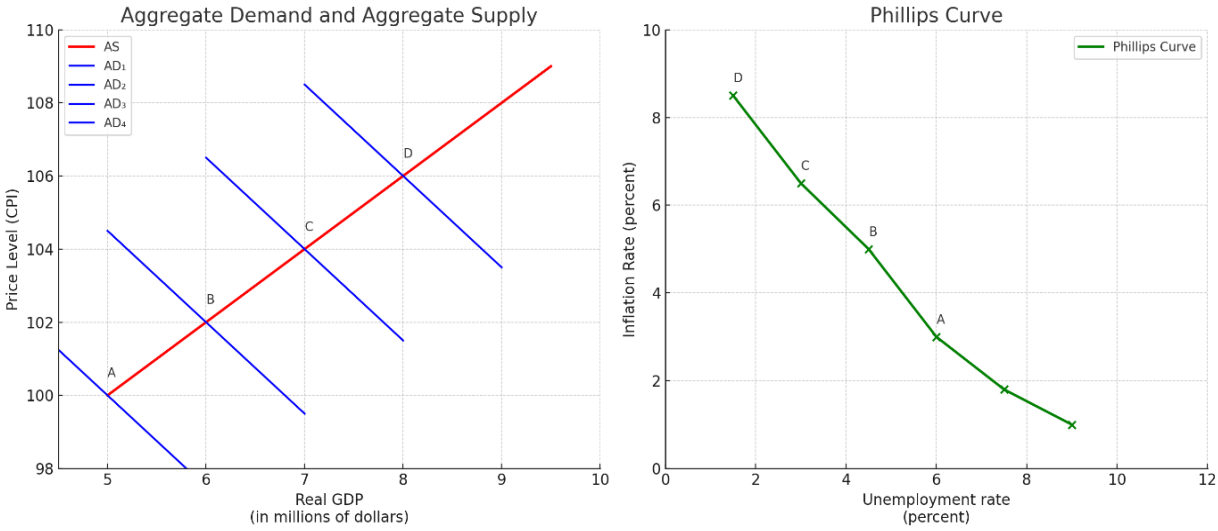
I.5. The Phillips Curve in Relation to Aggregate Demand

Although the Phillips Curve is often discussed independently, it shares important conceptual links with aggregate demand. The trade-off it illustrates between inflation and unemployment relates directly to the behavior of output and prices in the aggregate demand and supply framework. Inflation affects the price level component of aggregate demand, while unemployment corresponds to the real output aspect.

To better understand this relationship, consider a scenario where short-run aggregate supply (SRAS) remains fixed. If aggregate demand increases shifting from AD_1 to AD_4 equilibrium moves along the AS curve. This leads to higher real GDP, lower unemployment, and an upward pressure on the price level, representing a demand-pull inflation scenario. As output rises and unemployment falls, inflation increases, reflecting a movement along the short-run Phillips Curve. In this way, the Phillips Curve can be seen as a dynamic mirror of AD-induced changes in output and prices.

The left-hand graph presents the Aggregate Demand and Aggregate Supply model, where the AD curve shifts rightward from AD_1 to AD_4. This movement results in higher output and price levels, reflecting demand-pull inflation. The right-hand graph illustrates the corresponding short-run Phillips Curve. Each shift in AD leads to a movement along the Phillips Curve from point A to D, showing that as real GDP increases and unemployment falls, inflation rises. Together, these diagrams demonstrate how changes in aggregate demand impact both inflation and unemployment, confirming the theoretical relationship depicted by the Phillips Curve. (Pettinger, 2023; FasterCapital, 2025).

FIGURE 5 THE PHILLIPS CURVE IN RELATION TO AGGREGATE DEMAND AND SUPPLY



Source: Self-created

I.6.The short Run Philips

The Short-Run Phillips Curve (SRPC) illustrates the inverse relationship between inflation and unemployment in the short term, meaning that when unemployment decreases, inflation tends to increase, and vice versa. Initially, economists believed this trade-off to be stable, suggesting that policymakers could reduce unemployment by tolerating higher inflation. However, this relationship is influenced by wage and price rigidity, with the flexibility of wages and prices determining how strongly inflation reacts to deviations from the natural rate of unemployment.

A crucial refinement of the Phillips Curve is the expectations-augmented Phillips Curve, which accounts for how inflation expectations evolve over time. When unemployment remains below its natural rate for an extended period, inflation begins to accelerate rather than remain at a stable level. This concept, sometimes called the accelerationist Phillips Curve, suggests that inflationary pressures build up when the labor market is tight, meaning the unemployment gap is negative (i.e., unemployment is below the natural rate).

Additionally, inflation expectations play a central role in shifting the short-run aggregate supply (SRAS) curve. When inflation expectations rise due to persistent inflation, firms adjust prices

and wages upward, which shifts the SRAS curve and leads to even higher inflation. Conversely, when inflation expectations decline due to economic downturns or deflationary shocks, the SRAS curve shifts downward, reducing inflationary pressures.

The relationship between unemployment, output, and inflation is also captured in Okun's Law, which states that for every percentage point that output exceeds potential, unemployment falls by about half a percentage point below its natural rate. Conversely, when unemployment rises above its natural rate, output falls significantly below potential. These dynamics highlight the delicate balance central banks must maintain when designing monetary policies to stabilize inflation without creating excessive unemployment.

Mechanically, the Short-Run Phillips Curve operates as follows: When unemployment falls below the natural rate, businesses struggle to find workers, leading them to increase wages. Higher wages raise production costs, which businesses pass on to consumers in the form of higher prices, thus resulting in inflation. Conversely, when unemployment is above the natural rate, workers have less bargaining power, causing wage growth to slow. Lower labor costs reduce inflationary pressure, leading to a decrease in inflation. (Mishkin, 2016; Friedman & Phelps, 1968; Policonomics, 2023; Investopedia, 2025)

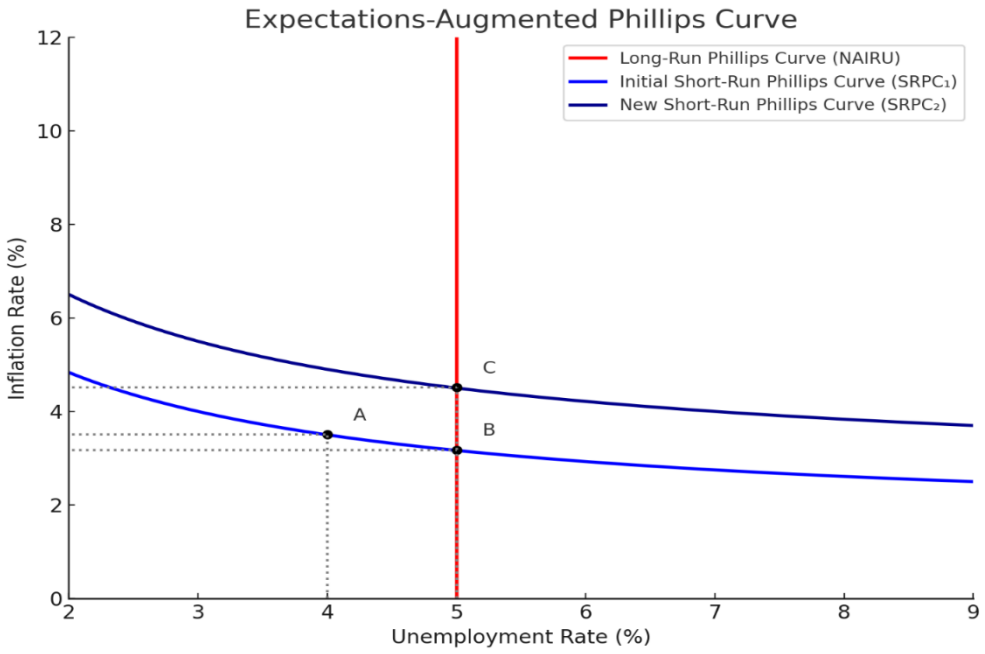
Example: The U.S. in the 1960s.

During the 1960s, the U.S. government adopted expansionary fiscal and monetary policies to combat rising unemployment, which led to an increase in inflation. At that time, economists believed that a stable trade-off existed between inflation and unemployment, as illustrated by the original Phillips Curve model (Mishkin, 2016). This historical example provides a clear illustration of the inverse relationship between inflation and unemployment described by the SRPC. The implementation of policies designed to reduce unemployment was associated with higher inflation, demonstrating the short-run trade-off between these two variables.

The expectations-augmented Phillips Curve model is illustrated in the graph below. Initially, the economy operates on $SRPC_1$: a reduction in unemployment from point A to point B results in rising inflation. However, as inflation expectations increase, the short-run Phillips Curve shifts upward to $SRPC_2$. The economy moves from point B to point C, where unemployment returns to its natural rate, but inflation remains elevated. This dynamic confirms

that the trade-off between inflation and unemployment disappears in the long run, consistent with Friedman and Phelps' theories.

FIGURE 6 EXPECTATIONS-AUGMENTED PHILLIPS CURVE



Source: Self-created

This graph demonstrates the short-run trade-off between inflation and unemployment (A → B), and the upward shift of the short-run Phillips Curve due to rising inflation expectations (B → C). The red vertical line represents the Long-Run Phillips Curve (NAIRU), where unemployment stabilizes at its natural rate, even though inflation remains higher.

I.7. Limitation of the Short-Run Phillips Curve

Despite the initial success of the Phillips Curve in describing the trade-off between inflation and unemployment, the relationship becomes less stable over time. As Milton Friedman and Edmund Phelps pointed out, this trade-off does not persist in the long run. Prolonged efforts by policymakers to maintain low unemployment through demand stimulus cause workers and firms to adjust their inflation expectations. This process, known as adaptive expectations, leads to a self-sustaining increase in inflation, even if unemployment remains low. In other words, while the SRPC may suggest a temporary trade-off, continuous intervention eventually results

in an acceleration of inflation without any permanent reduction in the unemployment rate. (Friedman & Phelps, 1968; Policonomics, 2023)

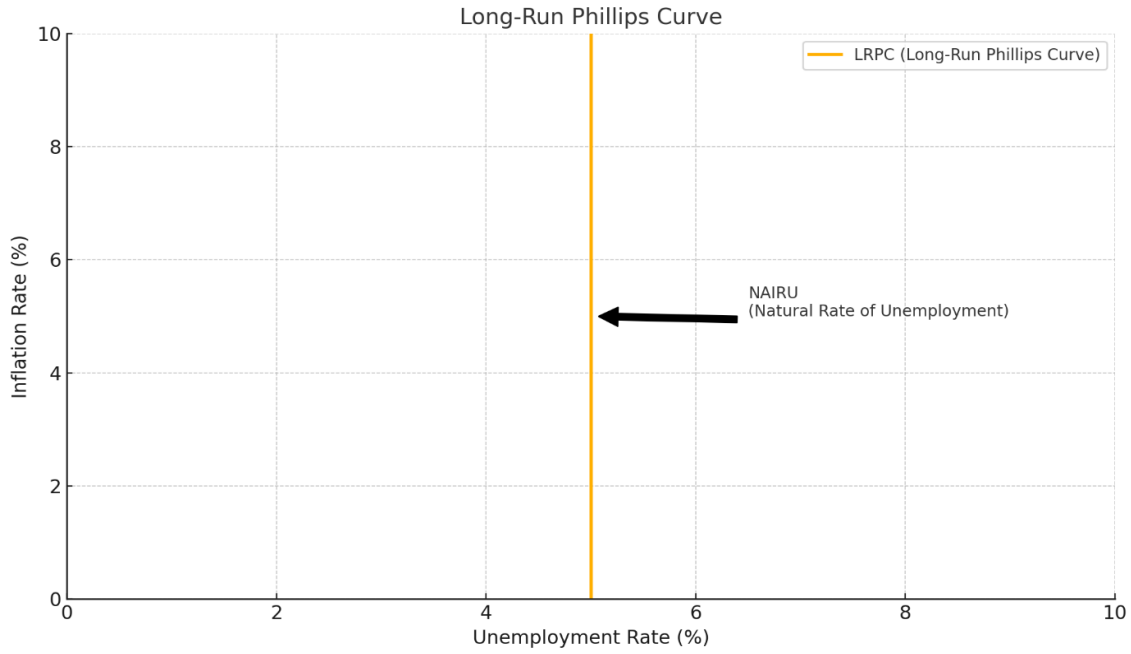
I.8. The Long-Run Phillips Curve (LRPC)

The Long-Run Phillips Curve (LRPC) differs from its short-run counterpart by representing a vertical relationship between inflation and unemployment. Unlike the short-run Phillips Curve, which suggests a trade-off between inflation and unemployment, the long-run version indicates that such a trade-off does not exist. Over time, the economy tends to adjust to the natural rate of unemployment, which is the level of unemployment consistent with stable inflation expectations.

This natural rate, also known as the Non-Accelerating Inflation Rate of Unemployment (NAIRU), marks the point at which inflation remains constant. At this rate, inflation is neither accelerating nor decelerating, as expectations of future inflation have fully adjusted. The NAIRU is influenced by structural factors within the economy, such as labor market conditions, institutional frameworks, and technological progress. It is important to note that attempts by policymakers to reduce unemployment below this rate through expansionary policies will only lead to an increase in inflation, without any lasting reduction in unemployment. (Friedman & Phelps, 1968; Policonomics, 2023; Investopedia, 2025)

A key factor in the long-run Phillips Curve is the role of inflation expectations. Over time, as inflationary pressures mount, workers and firms revise their expectations for future inflation. This leads to higher wages and prices, which causes inflation to increase even as unemployment remains stable. In the long run, these expectations become entrenched in the economy, and any attempt to reduce unemployment further results in accelerating inflation, with no permanent reduction in the unemployment rate.

Figure 7 The Long-Run Phillips Curve



Source: Self-created

This graph shows the vertical Long-Run Phillips Curve (LRPC), which illustrates that, in the long run, there is no trade-off between inflation and unemployment. The curve is vertical at the NAIRU (natural rate of unemployment), indicating that efforts to reduce unemployment below this point will only lead to higher inflation without a sustained decrease in unemployment.

The vertical nature of the LRPC reinforces the idea that, once the economy reaches its natural rate of unemployment, any efforts to lower unemployment further through monetary or fiscal policy will only result in higher inflation. The experience of stagflation in the 1970s provides a historical example, where attempts to reduce unemployment through expansionary policies led to persistent inflation without a significant decrease in unemployment. Despite the policy efforts, inflation continued to rise, reflecting the economy's adjustment to a higher inflationary environment.

In summary, the Long-Run Phillips Curve highlights the limitations of monetary policy in permanently reducing unemployment. While policymakers can influence inflation in the short term, any attempt to push unemployment below the natural rate will inevitably lead to higher

inflation. Therefore, maintaining price stability and managing inflation expectations are crucial for long-term economic stability.

II. The Role of Central Banks in Controlling Inflation

Central banks play a fundamental role in controlling inflation by managing the money supply, influencing interest rates, and employing various monetary policy tools. As the primary authority responsible for ensuring price stability, central banks aim to prevent excessive inflation while fostering sustainable economic growth. Their effectiveness largely depends on their ability to implement credible and transparent policies, ensuring market participants form stable inflation expectations (Castillo-Martinez & Reis, 2024).

II.1. Monetary Policy Tools

Central banks utilize several tools to regulate inflation, including interest rate adjustments, open market operations, and money supply management. These tools influence aggregate demand, credit availability, and overall economic activity, thereby affecting inflationary pressures.

Interest Rate Policy: One of the most direct ways central banks control inflation is by adjusting interest rates on reserves held by commercial banks. By increasing interest rates, borrowing becomes more expensive, reducing consumption and investment, which, in turn, curbs inflation. Conversely, lowering interest rates stimulates economic activity, potentially increasing inflationary pressures.

Open Market Operations (OMOs): Central banks conduct OMOs by buying or selling government securities to regulate liquidity in the financial system. Selling securities reduces the money supply and helps control inflation, whereas purchasing securities injects liquidity, stimulating economic growth.

Money Supply Management: Controlling the money supply is a classical approach to inflation management. Monetarist theories emphasize that long-term inflation is primarily driven by

excessive money supply growth. Central banks, therefore, adjust monetary aggregates to align with inflation targets. (IMF, 2023; ECB, 2024; MASEconomics, 2025; The Balance, 2024).

II.2. Taylor's Rule and Interest Rate Targeting

The Taylor Rule, proposed by economist John Taylor, offers a framework for central banks to set interest rates based on deviations of inflation and economic output from their targets. It suggests that interest rates should increase by more than one-to-one in response to rising inflation, ensuring real interest rates rise and thereby curbing excessive demand (Castillo-Martinez & Reis, 2024).

The formula for the Taylor Rule is as follows:

$$i_t = r^* + \pi_t + 0.5\,(\pi_t - \pi^*) + 0.5\,(y_t - y^*)$$

where:

where:

- r^*: the equilibrium real interest rate, i.e., the long-term average rate that balances savings and investment.
- π_t: the current inflation rate observed in the economy.
- π^*: the target inflation rate, often set around 2% in advanced economies.
- y_t: the actual level of economic output (GDP).
- y^*: the potential output the economy can sustainably produce without causing inflation.

By adhering to this rule, central banks can systematically adjust interest rates to stabilize inflation while minimizing output volatility. (Castillo-Martinez & Reis, 2024)

II.3. Sacrifice Ratio and the Cost of Reducing Inflation

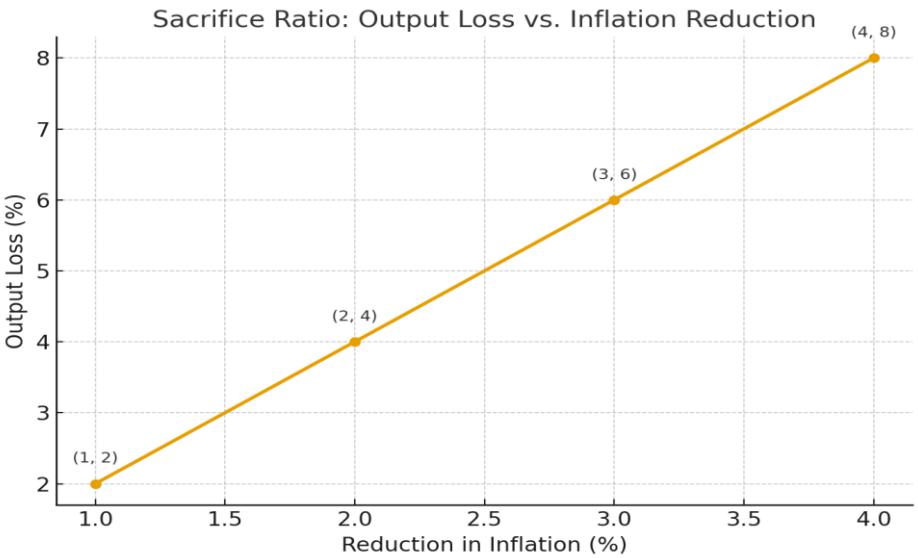
Reducing inflation often comes with economic trade-offs, measured by the sacrifice ratio—the loss in output or employment required to lower inflation by one percentage point. A

higher sacrifice ratio indicates that disinflation requires significant economic contraction, often through tight monetary policy. Historical examples include the Volcker Disinflation (1980–1982), where the U.S. Federal Reserve aggressively raised interest rates, leading to a sharp decline in inflation but at the cost of a severe recession (Castillo-Martinez & Reis, 2024).

Central banks must carefully calibrate policy measures to minimize these costs while maintaining credibility in their commitment to price stability.

To better illustrate the trade-offs described above, the relationship between inflation reduction and output loss can be presented through the concept of the **sacrifice ratio**. A higher sacrifice ratio indicates that central banks must accept larger declines in output to achieve relatively modest reductions in inflation. Figure 2.3 provides a simple illustration of this mechanism.

FIGURE 8 SACRIFICE RATIO: OUTPUT LOSS VS. INFLATION REDUCTION



Source: Self-created

As shown in Figure 8, reducing inflation is associated with a proportionally larger loss in output. In this example, the sacrifice ratio is assumed to be 2, meaning that for every 1% decline in inflation, there is an accompanying 2% decline in output. Thus, lowering inflation by 4% would entail an 8% contraction in economic activity. This linear relationship highlights the economic cost of aggressive disinflationary policies, such as those implemented during the Volcker era, and underscores the importance of carefully calibrating monetary policy to maintain both credibility and economic stability.

II.4. Inflation Targeting Strategies

Inflation targeting is a widely adopted monetary policy framework where central banks set explicit inflation targets, typically around 2%, and adjust policies to achieve these targets. This approach enhances transparency and credibility, ensuring that inflation expectations remain anchored. Key elements of inflation targeting include:

- **Clear Communication**: Central banks publicly announce inflation targets and policy strategies to guide market expectations.
- **Data-Driven Decision-Making**: Monetary policy adjustments are based on economic indicators, including inflation forecasts, GDP growth, and labor market conditions.
- **Flexibility**: While inflation prioritizes price stability, central banks may allow temporary deviations from the target to accommodate economic shocks.

Countries such as Canada, the United Kingdom, and Sweden have successfully adopted inflation targeting frameworks, resulting in improved economic stability and lower inflation volatility. However, challenges remain, particularly in emerging economies where external shocks, fiscal dominance, and weak financial systems can complicate policy implementation (Castillo-Martinez & Reis, 2024).

Central banks employ a range of tools to control inflation, including interest rate adjustments, money supply management, and open market operations. The Taylor Rule provides a structured approach to setting interest rates, while the sacrifice ratio highlights the trade-offs associated with inflation control. Inflation targeting strategies further enhance policy credibility by ensuring transparency and clear communication. Ultimately, the success of these policies depends on the central bank's independence, policy consistency, and ability to respond effectively to economic fluctuations.Castillo-Martinez, L., & Reis, R. (2024)

III. Inflation in Practice – The Case of Morocco

While Part One of this thesis provided a comprehensive theoretical foundation on the nature, measurement, and causes of inflation, as well as the role of central banks in maintaining price stability, the present section applies these concepts to a real-world context. The focus now shifts

to Morocco, a developing economy with unique structural characteristics and vulnerabilities that influence its inflation dynamics.

This part of the study aims to investigate how inflation has evolved in Morocco in recent years, identifying its primary drivers and assessing the policies implemented to control it. Particular attention will be given to the period between 2020 and 2024, during which Morocco, like many other economies, faced significant challenges stemming from both domestic and international developments. These include the economic disruption caused by the COVID-19 pandemic, the global surge in commodity prices, drought-induced pressures on the agricultural sector, and the impact of geopolitical tensions such as the Russia–Ukraine conflict on global energy and food markets. (Bank Al-Maghrib, 2020–2024; World Bank, 2024; The Morocco Post, 2024; Trading Economics, 2025)

In addition to examining official macroeconomic indicators, this analysis will evaluate the role of Bank Al-Maghrib in managing inflation through its monetary policy framework. This includes an assessment of interest rate adjustments, liquidity management operations, and communication strategies aimed at anchoring inflation expectations. Furthermore, the study will incorporate primary data collected through a public perception survey to compare the lived experiences of Moroccan households with official statistics, thereby offering a multidimensional perspective on the inflationary environment.

By combining statistical trends, policy analysis, and public opinion, this part seeks to provide a comprehensive picture of inflation in Morocco. The goal is not only to describe current and recent developments but also to connect them with the theoretical principles discussed in Part one, highlighting where Morocco's experience aligns with or deviates from established economic models. (Bank Al-Maghrib, 2024; World Bank, 2024; Trading Economics, 2025)

III.1. Overview of the Moroccan Economy

Morocco is a lower-middle-income country located in North Africa, with a diversified economic base that combines traditional sectors such as agriculture with rapidly developing industries and services. Over the past decade, the country has implemented a series of structural reforms aimed at enhancing competitiveness, fostering investment, and improving macroeconomic stability. Despite these advances, Morocco remains vulnerable to both domestic and external shocks, particularly those affecting commodity prices, agricultural

output, and global demand. (OECD, 2025; IMF, 2023; World Bank, 2025; Morocco World News, 2025)

III.2. GDP Structure and Growth Trends

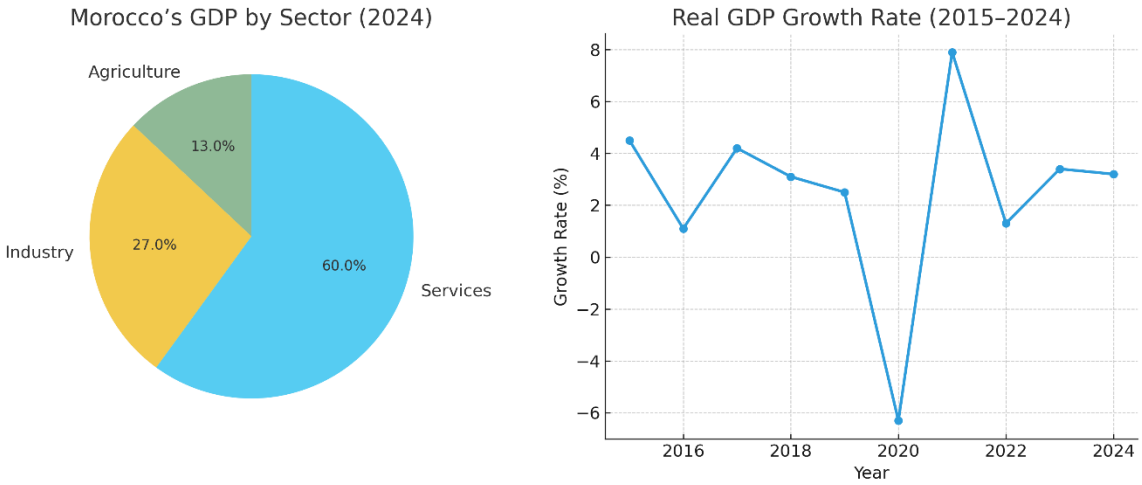
Morocco's economy is valued at approximately USD 154 billion in nominal GDP terms, with a per capita GDP of about USD 3,993 in 2024. The economy is structurally diverse: agriculture contributes around 12–14% of GDP but employs a large share of the labor force, while industry including mining, automotive manufacturing, and construction accounts for roughly 25–28% of GDP. The services sector, encompassing tourism, finance, and trade, represents more than half of total output.

Economic growth has shown moderate resilience in recent years, averaging between 3% and 4%, though fluctuations remain strongly correlated with the performance of the agricultural sector. In 2024, real GDP growth slowed slightly to 3.2% from 3.4% in 2023, primarily due to reduced agricultural output following persistent drought conditions. Non-agricultural sectors, however, maintained steady expansion, highlighting the gradual diversification of the economy away from its dependence on rainfall-sensitive crops.

The structural composition of Morocco's economy and its recent growth performance are illustrated in Figure 9 The left-hand chart presents the share of agriculture, industry, and services in total GDP for 2024, highlighting the dominant role of services and the continued importance of agriculture despite its relatively smaller GDP contribution. The right-hand chart shows annual real GDP growth rates from 2015 to 2024, illustrating the economy's fluctuations, including the sharp contraction in 2020 due to the COVID-19 pandemic and the rebound in subsequent years. (World Bank, 2025; Bank Al-Maghrib, 2024; Trading Economics, 2025; IMF, 2024)

FIGURE 9 MOROCCO'S GDP BY SECTOR (2024)

FIGURE 10 REAL GDP GROWTH RATE (2015-2024)



Source: Self-created based on World Bank (2024) and HCP Morocco (2024) data.

III.3. Inflation Dynamics

Inflation in Morocco has undergone significant changes in the post-pandemic period. After peaking at 6.1% in 2023 driven by rising food and energy prices headline inflation dropped sharply to approximately 1% in 2024. This decline was largely attributed to easing international commodity prices and targeted domestic policies to stabilize the cost of essential goods. In November 2024, annual inflation stood at 0.8%, with food prices increasing by 0.8% and non-food inflation at 0.7%. Core inflation, which excludes volatile food and energy prices, was higher at 2.6%, suggesting persistent underlying price pressures. (Bank Al-Maghrib, 2024; World Bank, 2025; Trading Economics, 2025; HCP Morocco, 2024).

III.4. Monetary Policy and the Role of Bank Al-Maghrib

As inflationary pressures eased, the Central Bank of Morocco (Bank Al-Maghrib) adopted a more accommodative monetary stance. In June 2024, the policy interest rate was reduced from 3% to 2.75%, and by mid-2025 it was maintained at 2.25% to support economic activity. This decision was guided by the dual objective of fostering growth while keeping inflation expectations anchored. The central bank has also indicated its intention to transition towards a formal inflation-targeting framework, which would

enhance policy transparency and predictability. (Bank Al-Maghrib, 2024; IMF, 2025; Morocco World News, 2025).

III.5. External Outlook and Structural Challenges

According to the International Monetary Fund (IMF), Morocco's economy is projected to grow by 3.9% in 2025, supported by a recovery in agricultural production, robust domestic demand, and continued strength in industrial exports. However, structural challenges persist. The economy remains exposed to climate variability, particularly drought, which can significantly impact food supply and rural incomes. In addition, the country's dependence on imported energy makes it sensitive to global oil and gas price fluctuations. Addressing these vulnerabilities will require sustained investment in renewable energy, irrigation infrastructure, and economic diversification strategies. (IMF, 2025; World Bank, 2025; Morocco World News, 2025).

III.6. Recent Inflation Trends in Morocco (2020–2024)

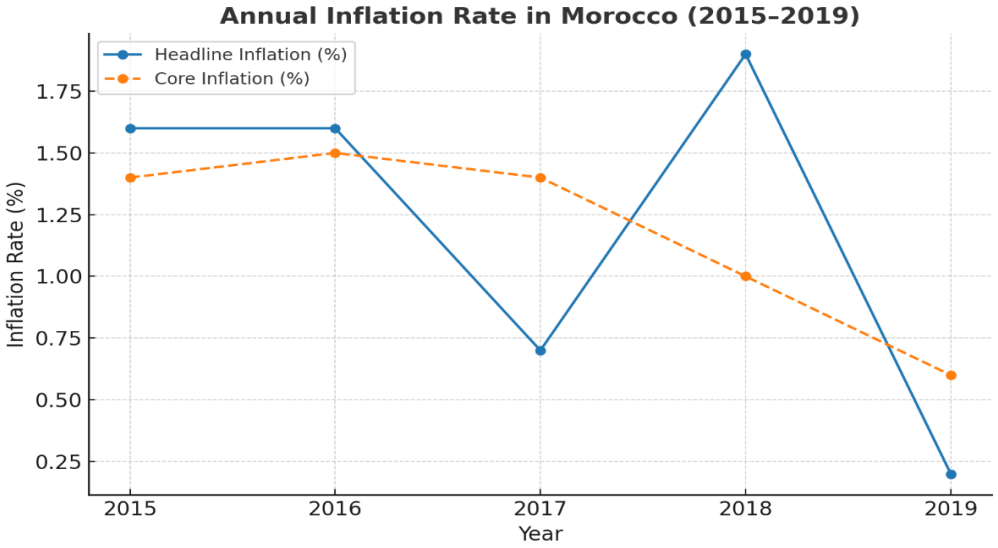
Before the onset of COVID-19, Morocco maintained a relatively stable inflation environment, reflecting both prudent macroeconomic management and moderate external price pressures. Between 2015 and 2019, headline inflation averaged around 1.6% per year, well below the levels observed in many emerging economies during the same period (HCP, 2020). This low and stable inflation was largely the result of anchored expectations, a managed exchange rate regime, and targeted subsidies on essential goods such as wheat, sugar, and butane gas. (HCP, 2020)

The primary drivers of price movements in this period were food and fuel, which together account for a substantial share of the Consumer Price Index (CPI) basket. Agricultural price volatility, linked to variable rainfall patterns, occasionally caused short-term spikes in food inflation; however, these effects were typically offset by price stability in other components of the CPI. Headline inflation , which includes all categories of goods and services , reflected these temporary fluctuations, while core inflation, which excludes volatile food and energy prices, remained even more subdued at around 1% on average. This indicated limited underlying demand-side pressures (Bank Al-Maghrib, 2019).

From a policy standpoint, Bank Al-Maghrib maintained an accommodative monetary stance to support growth, keeping its key policy rate at 2.25% for much of this period. The exchange rate peg to a basket dominated by the euro and U.S. dollar further shielded Morocco from imported inflation. As a result, the country entered 2020 with both a low inflation rate and a monetary policy framework that was well-positioned to respond to potential shocks. This stability, however, also masked structural vulnerabilities such as dependence on imported energy and cereals that would become more evident in the years that followed. (Bank Al-Maghrib, 2019; HCP, 2020)

Figure 11 illustrates the evolution of both headline and core inflation in Morocco between 2015 and 2019. Headline inflation experienced minor year-to-year variations due to food and fuel price changes, while core inflation remained more stable, reflecting the absence of persistent demand-driven inflationary pressures. Specifically, inflation decreased in 2017 (0.7%) due to a strong agricultural season and stable energy costs, increased in 2018 (1.9%) following a weaker harvest and rising global oil prices, and fell sharply in 2019 (0.2%) as food prices dropped amid good harvests and lower fuel prices.

FIGURE 11ANNUAL INFLATION RATE IN MOROCCO (2015–2019).



Source: Self-created based on HCP Morocco and Bank Al-Maghrib data.

III.7. Impact of COVID-19 on Inflation (2020–2021)

The COVID-19 pandemic marked a turning point in Morocco's recent economic trajectory. In 2020, the economy contracted by –6.3%, its sharpest decline in decades, as international tourism collapsed, exports fell, and domestic demand weakened under strict lockdown measures (World Bank, 2021). These conditions initially exerted disinflationary pressure: reduced consumer spending and falling services demand pushed down prices in non-food categories such as transport, clothing, and hospitality.

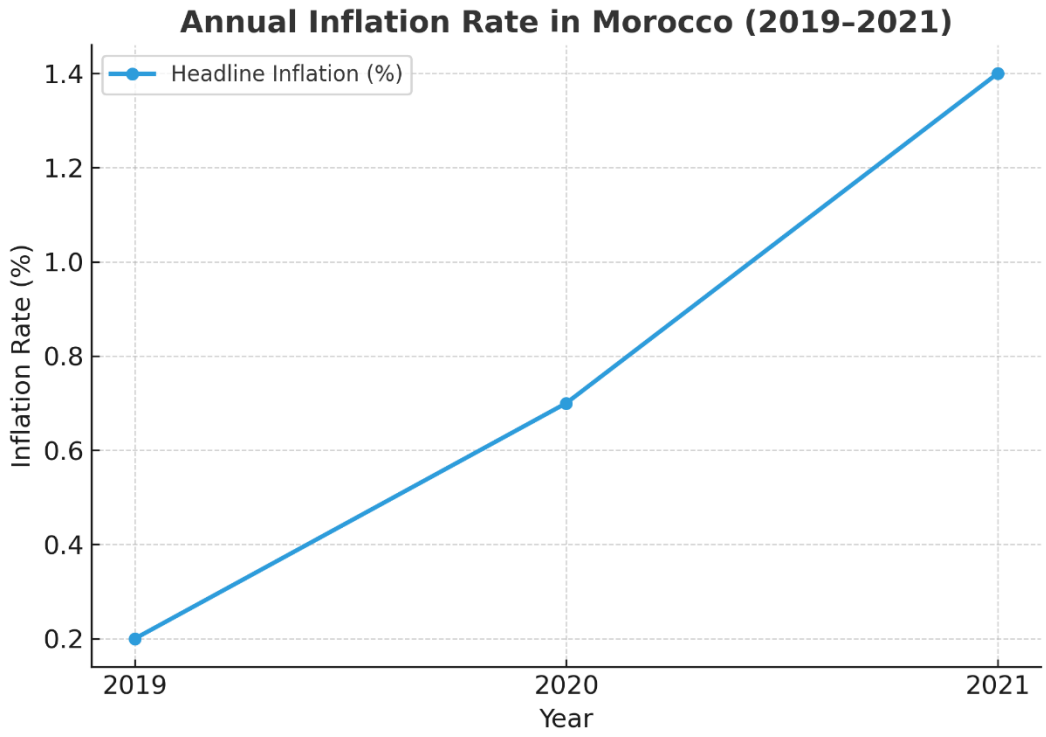
At the same time, however, supply-side disruptions created localized price increases, particularly for imported food and medical goods. The temporary closure of borders and logistical bottlenecks raised the cost of essential imports, while precautionary stockpiling by households pushed up demand for basic staples. As a result, inflation remained positive, averaging around 0.7% in 2020, but far below the levels seen later in the decade (HCP, 2021).

In 2021, as the economy gradually reopened and vaccination programs supported recovery, inflationary pressures began to reappear. Rising global shipping costs and higher international commodity prices especially for energy and cereals, spilled over into domestic markets. Morocco's reliance on imported wheat and fuel amplified these effects, raising the cost of food and transportation. By the end of 2021, inflation had climbed to nearly 1.4%, marking the start of a sustained upward trend that would intensify in 2022. (World Bank, 2021; HCP, 2021)

This period illustrates the dual nature of the pandemic's inflationary impact: on the one hand, a sharp contraction in demand suppressed overall price growth, while on the other, supply chain disruptions and import dependencies generated selective cost pressures. The net result was a fragile balance of low but persistent inflation, setting the stage for more severe price shocks in the following years.

The inflationary pattern during the pandemic years is summarized in Figure 12 It shows that inflation remained subdued in 2020 despite the severe economic contraction, with the rate standing at 0.7%. In 2021, however, inflation began to edge upwards to 1.4% as global commodity and shipping costs increased, feeding into Morocco's consumer prices. By contrasting 2019, 2020, and 2021, the figure highlights the transitional role of the pandemic period: from an exceptionally low inflation environment before COVID-19, to the emergence of renewed price pressures that set the stage for sharper increases in 2022.

FIGURE 12 ANNUAL INFLATION RATE IN MOROCCO (2019–2021)



Source: Self-created based on HCP Morocco and World Bank data.

III.8. Global Commodity Surge and Ukraine War Impact (2022)

The year 2022 represented a turning point in Morocco's inflation dynamics, as the combined effects of international and domestic shocks produced the sharpest price surge in decades. The outbreak of the war in Ukraine in February 2022 disrupted global supply chains and pushed up prices of fuel, cereals, and fertilizers commodities on which Morocco is structurally dependent. Given that nearly half of Morocco's wheat imports traditionally come from Ukraine and Russia, the conflict translated almost immediately into rising bread and cereal costs for Moroccan households (Tomé-Alonso, 2022; World Bank, 2023).

Energy prices also rose steeply, with global oil markets exceeding USD 100 per barrel, driving up the cost of fuel and transport. Since Morocco is a net energy importer, the pass-through effect on domestic inflation was significant. At the same time, fertilizer prices climbed to historic highs, adding to agricultural production costs and compounding the effect of one of the most severe droughts in recent decades. The combined result was a sharp increase in food

prices, which are especially impactful in Morocco where households allocate a large share of their income to basic consumption needs. (Tomé-Alonso, 2022; World Bank, 2023)

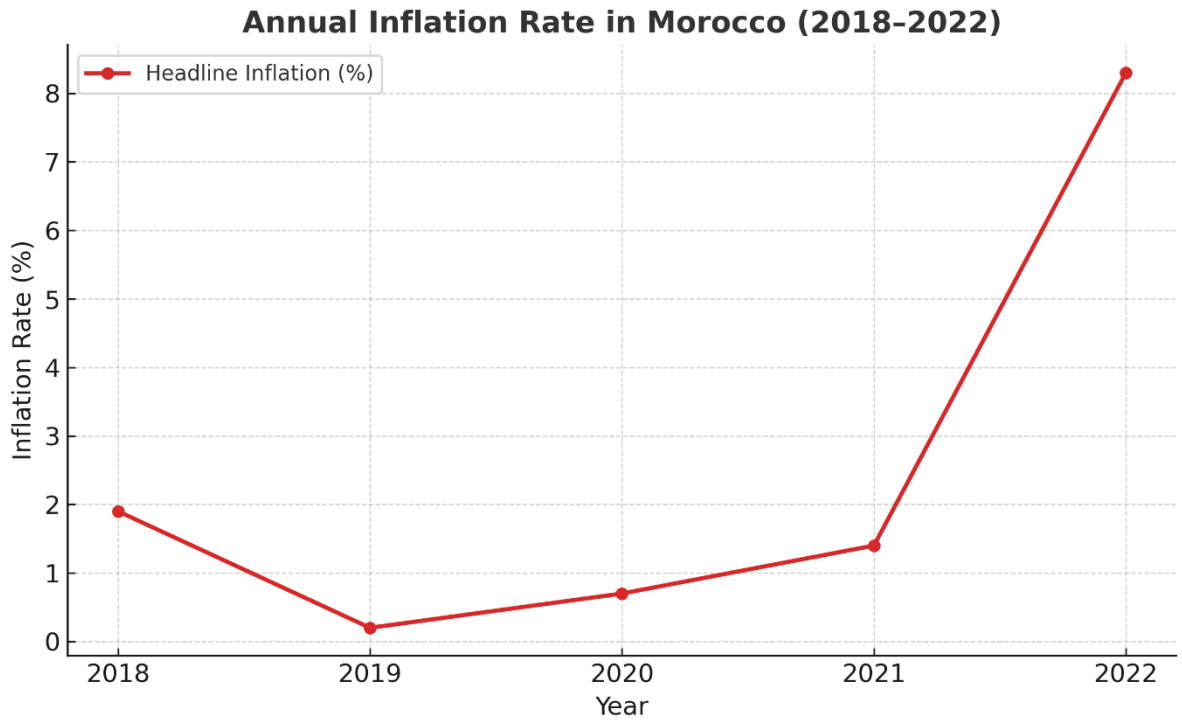
By the end of 2022, headline inflation had reached 8.3%, the highest level in more than thirty years (Tomé-Alonso, 2022). Food prices accounted for the bulk of this increase, but non-food components such as transport and housing also contributed, reflecting the economy-wide reach of the shock. Core inflation accelerated as well, indicating that inflationary pressures were not confined to volatile categories but had begun to influence broader price-setting behavior.

Despite the inflationary crisis, Morocco experienced some offsetting gains. Rising global demand for phosphates allowed the state-owned company OCP to increase revenues substantially, strengthening Morocco's fiscal position and reinforcing its role in global fertilizer markets (Tomé-Alonso, 2022). This dual outcome hardship for households but windfalls for strategic exporters highlighted the uneven distributional effects of the crisis. (Tomé-Alonso, 2022)

The surge in prices also intensified Morocco's structural vulnerabilities. Heavy reliance on imported food and energy exposed the fragility of its price stability, while the persistence of drought underscored the urgent need for investment in irrigation and agricultural resilience. On the social front, the erosion of purchasing power contributed to rising inequality and deepened concerns about potential unrest, particularly in peripheral regions where economic hardship is more acute.

The inflationary escalation of 2022 is visually captured in Figure 13 The graph demonstrates how Morocco moved from a low-inflation environment in the pre-pandemic years (2018–2019), through subdued pressures during the COVID-19 recession (2020–2021), to an unprecedented surge in 2022 when headline inflation spiked to 8.3%. This sudden jump highlights the vulnerability of Morocco's price stability to external shocks, particularly its dependence on imported energy and cereals. (Tomé-Alonso, 2022; World Bank, 2023).

FIGURE 13 ANNUAL INFLATION RATE IN MOROCCO (2018–2022)



Source: Self-created based on HCP Morocco, Bank Al-Maghrib, World Bank, and Tomé-Alonso (2022).

III.9. Inflation Moderation and Policy Response (2023–2024)

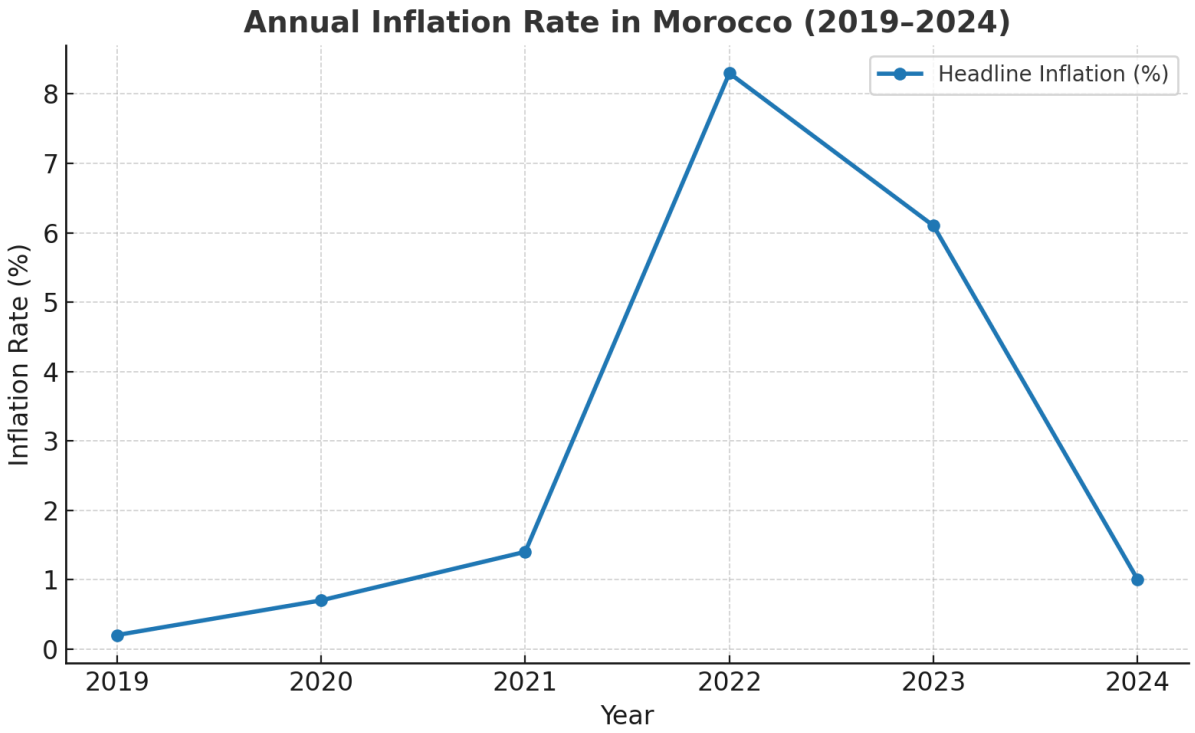
After reaching a peak of 8.3% in 2022, inflation in Morocco began to moderate during 2023 and returned close to pre-pandemic levels in 2024. Several factors contributed to this decline. First, the easing of international commodity prices, especially oil and cereals, reduced imported cost pressures. Second, improved rainfall supported domestic agricultural production, helping to stabilize food supplies and lower fresh produce prices. Third, targeted government subsidies on essential goods and transport cushioned households from global market volatility (Bank Al-Maghrib, 2024; World Bank, 2024).

By the end of 2023, annual inflation had slowed to 6.1%, still elevated compared to historical averages but significantly below the 2022 peak. In 2024, headline inflation dropped further to around 1%, one of the lowest rates in recent decades. This sharp deceleration reflected both favorable external conditions and the cumulative effect of domestic policy measures aimed at preserving purchasing power. Core inflation also receded, suggesting that underlying price pressures were easing in parallel with the broader trend.

Monetary policy played a central role during this adjustment. Confronted with the 2022 surge, Bank Al-Maghrib raised its policy rate incrementally from 1.5% to 3% during 2022–2023, aiming to anchor inflation expectations and signal its commitment to price stability. As inflationary pressures subsided, the central bank paused rate hikes and stabilized the policy rate at 2.25% in mid-2024, balancing the need to support economic growth while consolidating the disinflation process (Bank Al-Maghrib, 2024).

The evolution of Morocco's inflation between 2019 and 2024 is illustrated in Figure 14. The graph shows a prolonged period of low and stable inflation before the pandemic, a mild increase during COVID-19, the unprecedented spike in 2022 linked to the Ukraine war and drought, and the subsequent decline by 2024. This trajectory underscores the cyclical nature of Morocco's inflation, shaped by both external shocks and domestic vulnerabilities, but also highlights the importance of timely monetary and fiscal responses in restoring stability.

FIGURE 14 ANNUAL INFLATION RATE IN MOROCCO (2019–2024)



Source: Self-created based on HCP Morocco, Bank Al-Maghrib, and World Bank data.\

IV. Monetary Policy and the Role of Bank Al-Maghrib

IV.1. Institutional Role and Mandate

Bank Al-Maghrib, Morocco's central bank, is the cornerstone of the country's monetary and financial stability. Established in 1959 following independence, it has undergone several institutional reforms to strengthen its effectiveness and credibility. The most important of these came with the 2006 reform of the banking law, which consolidated its independence and clarified its primary mission. While the central bank remains accountable to the Moroccan Parliament, it enjoys operational autonomy in setting monetary policy, a feature considered essential for maintaining credibility in the eyes of both domestic and international markets (Bank Al-Maghrib, 2023).

The central bank's primary mandate is to ensure price stability, which is defined as the maintenance of low and predictable inflation rates. This mandate reflects the growing recognition, both in Morocco and globally, that sustained price stability is a prerequisite for economic growth and social welfare. In addition to this central goal, Bank Al-Maghrib is also tasked with safeguarding the stability of the financial system, supervising the banking sector, regulating payment systems, and managing the country's foreign exchange reserves. This multi-layered role ensures that monetary policy is implemented within a secure financial framework. (Bank Al-Maghrib, 2023)

Institutional independence plays a critical role in enabling Bank Al-Maghrib to fulfill its objectives. When monetary authorities are free from short-term political pressures, they are better able to take decisions that anchor inflation expectations and ensure credibility. This is particularly relevant in Morocco, where external shocks such as fluctuations in energy and food prices frequently affect domestic inflation dynamics. Clear communication of objectives and policies strengthens public trust in the central bank's ability to maintain stability, thereby enhancing the effectiveness of its policy instruments. (Bank Al-Maghrib, 2023)

IV.2. Toward Inflation Targeting

In recent years, Bank Al-Maghrib has taken important steps toward the adoption of a formal inflation-targeting regime. Such a framework, already implemented in many advanced and

emerging economies, would enable Morocco to move from an implicit focus on price stability to an explicit, transparent commitment to a medium-term inflation target.

The central bank has signaled that the target is expected to be set at a level consistent with international practice—around 2% to 3% annually. This would be close to the euro area and U.S. standard of 2%, but more flexible like Hungary's 3%, which is considered more realistic for emerging markets facing external shocks. (Bank Al-Maghrib, 2023; IMF, 2023)

This transition is expected to strengthen the effectiveness of monetary policy by enhancing accountability, credibility, and communication. It will also bring Morocco's policy framework closer to international best practices, supporting deeper integration with global financial markets.

From a regional perspective, Bank Al-Maghrib is already regarded as one of the most advanced and independent central banks in North Africa. Its relative autonomy and proactive stance distinguish it from peers, contributing to Morocco's resilience during global financial volatility, even if structural vulnerabilities—such as import dependence and climate risks—remain significant. (Bank Al-Maghrib, 2023; IMF, 2023)

IV.3. Monetary Policy Instruments

To achieve its mandate of price stability, Bank Al-Maghrib relies on a range of monetary policy instruments. The most important of these is the policy interest rate, also known as the key refinancing rate. This instrument serves as the main signal of the central bank's stance and influences short-term money market conditions, commercial bank lending rates, and ultimately aggregate demand. Adjustments to the policy rate are therefore the principal channel through which Bank Al-Maghrib seeks to control inflation and anchor expectations. (Bank Al-Maghrib, 2023)

In addition to the policy rate, Bank Al-Maghrib employs open market operations and other liquidity management tools. These include repurchase agreements (repos), deposit facilities, and outright purchases or sales of securities, which are used to regulate liquidity conditions in the banking system. Through these mechanisms, the central bank ensures that money market rates remain aligned with its policy objectives.

Another key element of Morocco's monetary framework is the exchange rate regime. Since 2001, the Moroccan dirham has been pegged to a basket of currencies dominated by the euro and the U.S. dollar. In 2018, this system was gradually liberalized, with a widening of the fluctuation bands, allowing the exchange rate to adjust more flexibly to external shocks. The peg remains an important nominal anchor, helping to stabilize inflation by limiting exchange rate pass-through from imported goods. (Bank Al-Maghrib, 2023; IMF, 2023)

Finally, Bank Al-Maghrib has strengthened the role of communication and forward guidance in its monetary policy toolkit. By publishing regular reports on monetary policy, inflation forecasts, and economic outlooks, the central bank seeks to influence expectations among businesses, households, and financial markets. Transparent communication enhances credibility and ensures that monetary policy decisions are better understood by the public. (Bank Al-Maghrib, 2023; IMF, 2023)

Taken together, these instruments provide Bank Al-Maghrib with a comprehensive framework to influence liquidity, interest rates, and inflation expectations. While the effectiveness of these tools is sometimes constrained by structural factors such as Morocco's dependence on imported food and energy they remain central to the management of price stability in the economy. (Bank Al-Maghrib, 2023; IMF, 2023)

IV.4. Policy Response to Recent Inflationary Shocks (2019–2024)

The period between 2019 and 2024 tested the adaptability of Bank Al-Maghrib's monetary policy. The central bank's response evolved in line with shifting economic conditions, from accommodative policies during the COVID-19 crisis to a tighter stance in the wake of the global inflationary surge, before returning to stabilization as inflation pressures eased.

During 2019, inflation remained subdued, and the policy rate was held steady at 2.25%, providing a neutral monetary stance. In 2020 and 2021, as the Moroccan economy experienced its sharpest contraction in decades due to the COVID-19 pandemic, Bank Al-Maghrib reduced the policy rate to 1.5%, its lowest level in history, to support lending and economic recovery. Liquidity injections and refinancing operations further cushioned the banking sector during this period of heightened uncertainty. (Bank Al-Maghrib, 2023; IMF, 2023)

In 2022, the situation changed dramatically. The outbreak of the war in Ukraine, combined with one of the most severe domestic droughts in recent decades, fueled inflation to levels unseen in over thirty years. In response, Bank Al-Maghrib initiated a cycle of monetary tightening, raising its key policy rate in stages to 3% by the end of the year. This move aimed to curb inflation expectations, even though it came to the cost of slower credit growth. (Bank Al-Maghrib, 2023; IMF, 2023)

By 2023, inflation had begun to moderate, falling to 6.1%, and the central bank maintained the policy rate at 3% for most of the year. This decision reflected the balance between consolidating disinflation and avoiding excessive pressure on growth. In 2024, as headline inflation dropped sharply to around 1%, Bank Al-Maghrib reduced the policy rate to 2.25%, restoring a more accommodative stance consistent with its price stability mandate.

The evolution of Bank Al-Maghrib's policy rate during this period is summarized in Table 1.

TABLE 1 EVOLUTION OF BANK AL-MAGHRIB'S POLICY RATE (2019–2024)

Year	Policy Rate (%)	Economic Context
2019	2.25	Low and stable inflation
2020	1.50	COVID-19 contraction; support for recovery
2021	1.50	Continue accommodative stance
2022	3.00	Ukraine war & drought; inflation spike
2023	3.00	Inflation moderating; cautious stance
2024	2.25	Inflation returns near 1%, easing resumes

Source: Self-created based on Bank Al-Maghrib (2020–2024).

This trajectory reflects the central bank's effort to strike a balance between controlling inflation and supporting growth. While rate hikes in 2022 were essential to anchor expectations, the subsequent moderation in 2023–2024 allowed for a gradual return to accommodative conditions. The experience highlights the challenges of conducting monetary policy in a small

open economy exposed to both global shocks and domestic structural vulnerabilities. (Bank Al-Maghrib, 2023; IMF, 2023)

IV.5. Challenges and Future Outlook

While Bank Al-Maghrib has successfully navigated a turbulent period marked by the COVID-19 pandemic, the Ukraine war, and recurrent droughts, several structural challenges continue to shape the effectiveness of its monetary policy. These challenges highlight both the limits of the current framework and the opportunities for future reforms.

A first challenge is Morocco's dependence on imported food and energy. Despite improvements in renewable energy and agricultural investment, fluctuations in global oil and cereal markets still exert strong pass-through effects on domestic inflation. This dependence constrains monetary policy, since interest rate adjustments have limited influence over supply-driven price shocks. Addressing this vulnerability requires broader structural policies, including diversification of energy sources and enhanced food security strategies *(IMF, 2023).*

A second challenge relates to climate variability. As an economy where agriculture remains a significant driver of both output and employment, Morocco is highly exposed to rainfall fluctuations. Droughts amplify food price volatility and create inflationary pressures that cannot be directly countered by monetary tightening without risking further harm to growth. Strengthening irrigation systems and promoting climate-resilient agricultural practices will be essential complements to the central bank's efforts to stabilize prices *(World Bank, 2024).*

Third, Bank Al-Maghrib faces the task of transitioning toward a formal inflation-targeting regime. While the current framework of a managed exchange rate and inflation monitoring has provided stability, a clearly defined target would improve transparency and accountability. International evidence suggests that inflation-targeting enhances policy credibility, especially in emerging economies, by anchoring expectations more firmly *(Mishkin, 2016).* For Morocco, adopting such a framework would also align with the government's broader agenda of modernizing financial institutions and deepening integration into global markets.

Finally, there is the issue of balancing price stability with growth and employment objectives. The experience of 2022–2023 illustrates the trade-off: raising interest rates was necessary to curb inflation but risked slowing recovery and reducing credit availability for businesses. In the

future, Bank Al-Maghrib will need to navigate these trade-offs carefully, supported by stronger fiscal coordination and social policies aimed at protecting vulnerable households.

In conclusion, Bank Al-Maghrib has demonstrated resilience and adaptability in the face of extraordinary challenges. However, the path forward will depend not only on its monetary decisions but also on the country's ability to implement complementary structural reforms. A successful transition to inflation targeting, coupled with investment in food security, renewable energy, and climate resilience, will determine how effectively Morocco can safeguard price stability in the decades ahead. (Bank Al-Maghrib, 2023; IMF, 2023)

V. Methodology

V.1. Research Design

This research adopts a mixed-methods design, combining both quantitative and qualitative approaches to provide a comprehensive understanding of inflation in Morocco. The aim is to analyze the main drivers of inflation, evaluate its effects on households, and assess the effectiveness of Bank Al-Maghrib's monetary policy response.

The quantitative component of the study is based on a structured online survey designed to capture public perceptions of inflation. The questionnaire includes both multiple-choice and open-ended questions, allowing respondents to express their views on price changes, income adjustments, and trust in economic institutions. This approach enables the study to quantify general trends while also gathering insights into people's real-life experiences.

The qualitative component complements the survey by analyzing secondary data obtained from reliable economic sources, including reports from Bank Al-Maghrib, the High Commission for Planning (HCP), and the World Bank. These sources provide valuable macroeconomic context and help validate the findings from the primary data.

By integrating these two methods, the research ensures both empirical depth and analytical accuracy. The mixed-methods approach strengthens the validity of the conclusions by linking quantitative evidence from the survey with qualitative insights from official statistics and policy reports. This design also aligns with the study's dual objective: to examine inflation

theoretically and to investigate its practical implications for Moroccan households and economic policy.

V.2. Data Collection

For this research, data were collected through two main sources: a structured online survey questionnaire and secondary information from official institutions.

Survey Questionnaire:
The primary data were obtained using a Google Forms questionnaire designed to capture public perceptions of inflation in Morocco. The survey consisted of eleven key questions, including demographic information, perceptions of price increases, categories most affected by inflation, household budget impacts, causes of inflation, trust in Bank Al-Maghrib, and expectations about future inflation. Following feedback, an additional question was included: *"*Did your income (wage) keep up with the inflation*?"* in order to better assess the relationship between income and price changes.

The survey was distributed online through social media platforms such as Instagram, Facebook, and WhatsApp to ensure wide reach. Respondents were encouraged to share the form within their networks, which enabled snowball sampling and contributed to reaching the target of 100 valid responses.

Secondary Data:
To complement the survey results, secondary information was collected from official reports and publications, including those issued by Bank Al-Maghrib, the High Commission for Planning (HCP), and the World Bank. These sources provided essential context for understanding Morocco's inflation dynamics and helped validate the perceptions captured in the survey against official macroeconomic data.

V.3. Sampling Method

The survey targeted individuals aged 18 and above, without restriction to a specific social or professional group, in order to capture diverse perceptions of inflation across Moroccan society. A combination of convenience and snowball sampling was applied: I began by sharing the questionnaire within my personal network and encouraged participants to forward it further. This approach allowed the survey to spread across different social circles and regions.

In total, 100 valid responses were collected. While the majority of respondents were residents of Morocco, a number of answers also came from Moroccans and other individuals living abroad, including in countries such as France, Spain, and the United Arab Emirates. This mix provided additional comparative insights into how inflation is perceived both domestically and internationally.

The sample includes participants from varied age groups, educational backgrounds, and income situations, ensuring a broad representation of perspectives. Although not a nationally representative sample, the diversity of responses offers valuable insights into how inflation affects households and shapes public trust in economic policy.

V.4. Data Analysis

After collecting the survey responses, the data were analyzed using both quantitative and qualitative techniques. This dual approach ensured that the analysis captured not only statistical patterns but also the underlying perceptions of inflation.

For the quantitative analysis, survey responses were organized into frequency tables and percentages were calculated for each of the eleven questions. This process highlighted key patterns such as the distribution of age groups, education levels, categories most affected by inflation, and the proportion of households adjusting their budgets. To present the results clearly, bar charts, pie charts, and histograms were generated, providing visual illustrations of the findings and facilitating comparison across groups.

For the qualitative analysis, open-ended responses—particularly those addressing government strategies to reduce inflation—were examined using a thematic approach. Answers were grouped into recurring themes such as subsidies and price controls, agricultural and energy investment, policy coordination, wage support, and structural reforms. Critical perspectives on government and central bank actions were also noted. This method allowed for a deeper understanding of public expectations and concerns beyond numerical data.

To strengthen the validity of the analysis, survey findings were compared with secondary data from Bank Al-Maghrib, HCP, and the World Bank. This triangulation helped link household-level experiences with broader macroeconomic trends, ensuring that the results reflect both individual perceptions and national economic realities.

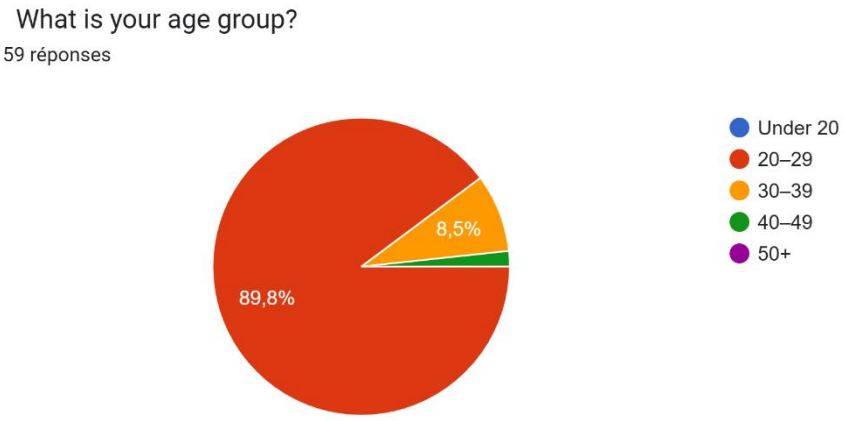
By combining these methods, the analysis provides a comprehensive picture of how inflation is perceived, how it affects household behavior, and how the role of Bank Al-Maghrib is evaluated by the public.

VI. Findings

This section presents the results of the survey and complementary secondary data analysis. The aim of the survey was to capture public perceptions of inflation in Morocco, focusing on its perceived causes, effects on households, and the role of Bank Al-Maghrib in maintaining price stability. A total of 100 valid responses were collected. The following subsections summarize the results, supported by charts and graphs for clarity.

VI.1. Demographic Overview

FIGURE 15 DISTRIBUTION OF AGE GROUPS AMONG RESPONDENTS



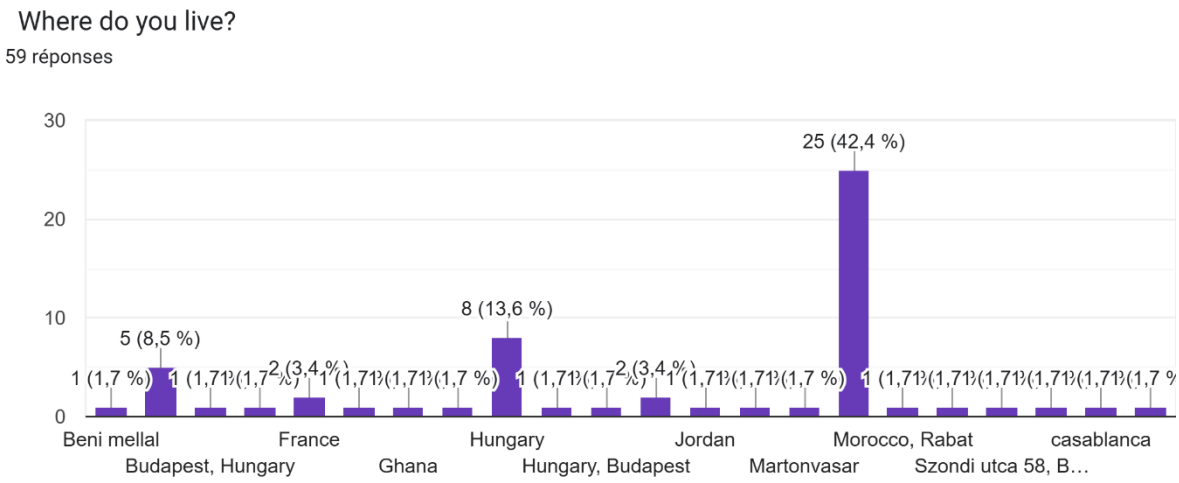
Source: Own research

The survey results presented in Figure 15 show that most respondents, 89.8%, fall within the 20–29 age group. A smaller proportion, 8.5%, belongs to the 30–39 category, while only 1.7% are in the 40–49 range. No participants were recorded in the under-20 or 50+ categories.

This age distribution clearly indicates that the study sample is predominantly composed of young adults. This concentration is significant, as individuals in their twenties and thirties are

often at critical stages of life — entering the workforce, pursuing higher education, or establishing financial independence. As a result, their perceptions of inflation provide important insight into how rising prices affect Morocco's younger population, particularly in terms of budgeting, saving, and trust in monetary policy.

FIGURE 16 GEOGRAPHIC DISTRIBUTION OF RESPONDENTS

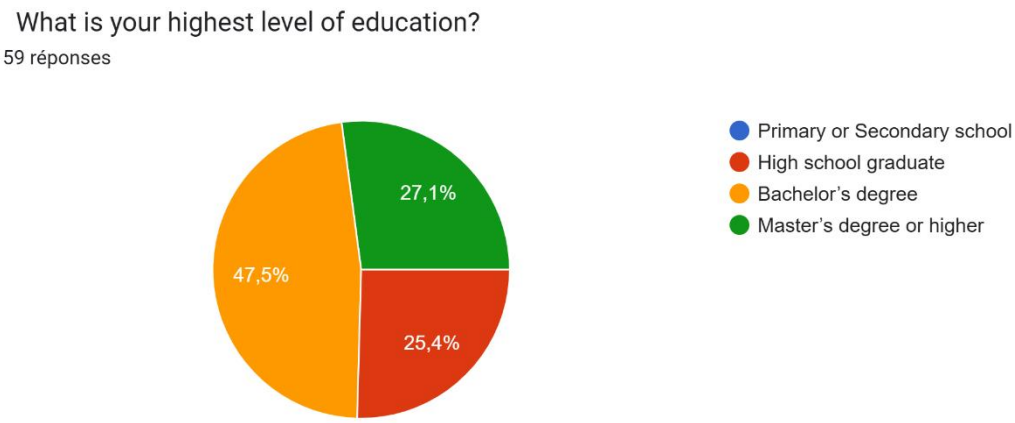


Source: Own research

As shown in Figure 16, the largest share of respondents, 42.4%, indicated that they currently reside in Morocco. Within this group, several participants are concentrated in major cities such as Casablanca and Rabat. A smaller but notable proportion, 13.6%, reported living in Hungary, while 8.5% reside in France. Other responses were dispersed across countries such as Jordan, Ghana, and additional locations in Europe, each representing around 1.7–3.4% of the total sample.

This distribution shows that while the majority of perspectives come from individuals based in Morocco, there is also a meaningful international component. The presence of respondents living abroad provides comparative insights, revealing how inflation is perceived not only by households within Morocco but also by Moroccans and others living in different economic contexts. This international diversity adds depth to the analysis by allowing for reflections on whether inflation is understood primarily as a domestic issue or as part of broader global trends.

FIGURE 17 EDUCATION LEVEL OF RESPONDENTS

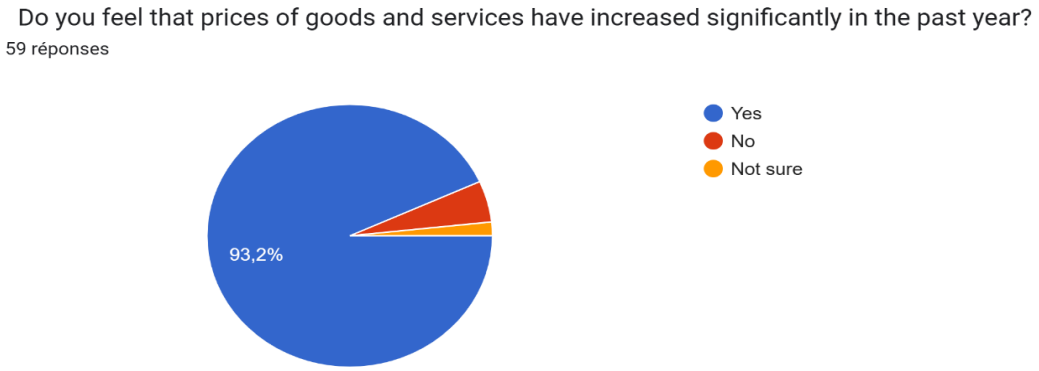


Source: Own research

The results in Figure 17 reveal that nearly half of the participants, 47.5%, reported holding a bachelor's degree, making this the largest educational group in the sample. Respondents with a master's degree or higher accounted for 27.1%, while 25.4% completed high school. No respondents indicated only primary or secondary schooling.

This distribution indicates that the survey participants are generally well educated, with the majority having completed higher education. Such a profile suggests that respondents are likely to be more informed about economic issues and more attentive to changes in the cost of living. Their perspectives therefore provide useful insights into how educated segments of Moroccan society perceive inflation, its drivers, and its broader effects on household budgets and trust in monetary policy.

FIGURE 18 RESPONDENTS' PERCEPTIONS OF PRICE INCREASES

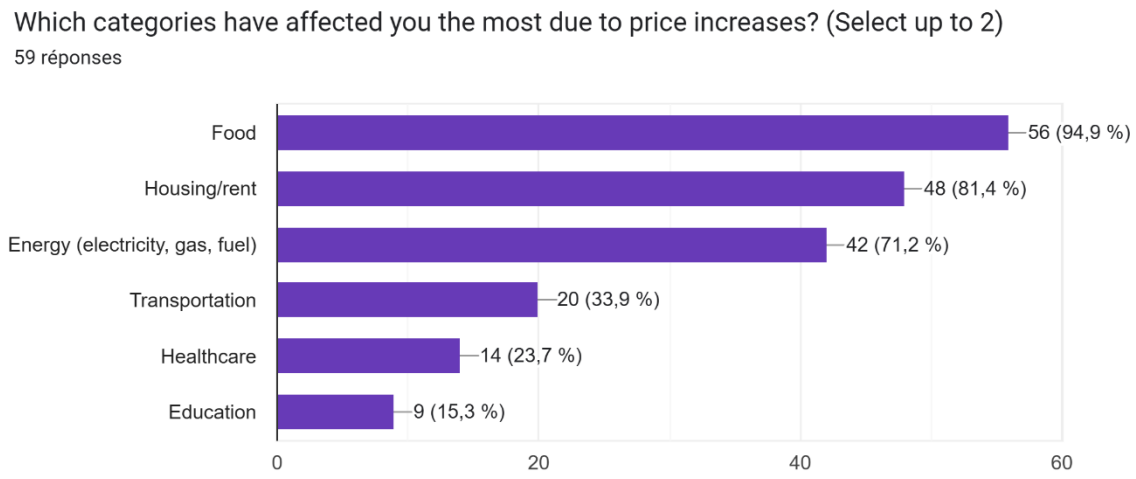


Source: Own research

As illustrated in Figure 18, the overwhelming majority of respondents, 93.2%, reported that they believe the prices of goods and services have increased significantly over the past year. In contrast, only 5.1% answered "No," while 1.7% were uncertain.

This strong consensus indicates that inflation is widely felt across the population and is not merely a statistical phenomenon reported in official data. The perception of rising prices at such a high level demonstrates that inflation has become a lived reality for households, influencing their daily financial decisions. The results also underline the social salience of inflation in Morocco, as nearly all participants recognize its impact, which may in turn affect confidence in institutions and expectations about future economic stability.

FIGURE 19: CATEGORIES MOST AFFECTED BY PRICE INCREASES

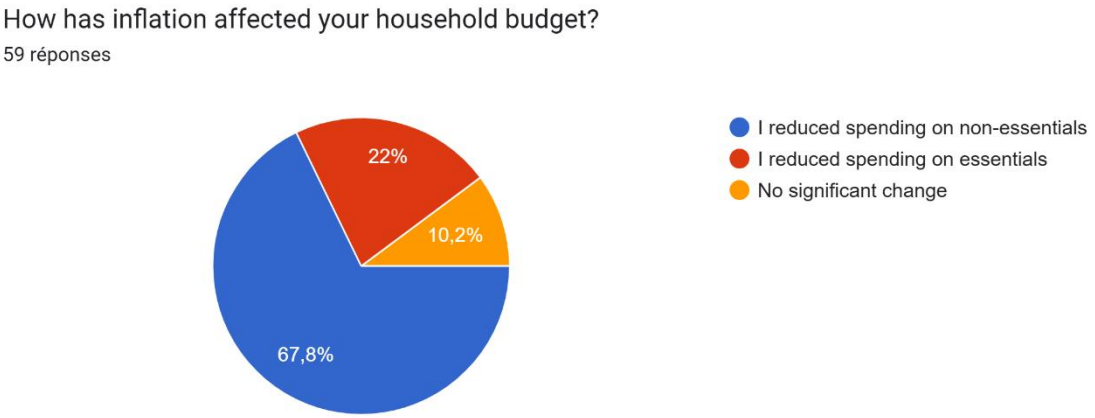


Source: Own research

Figure 19 shows which categories respondents identified as being most affected by inflation. The vast majority, 94.9%, selected food, highlighting it as the sector where households feel price pressures most strongly. This was followed by housing and rent (81.4%) and energy costs such as electricity, gas, and fuel (71.2%). Other categories were cited less frequently: transportation (33.9%), healthcare (23.7%), and education (15.3%).

These results demonstrate that inflation in Morocco is perceived as particularly severe in areas that directly affect everyday life and basic living standards. Rising food and housing costs place a significant burden on households, especially those with limited disposable income. The prominence of energy also reflects the broader global context of volatile fuel and electricity prices. In contrast, sectors like healthcare and education, though important, were not viewed as being under the same immediate inflationary pressure by most respondents.

FIGURE 20 IMPACT OF INFLATION ON HOUSEHOLD BUDGETS

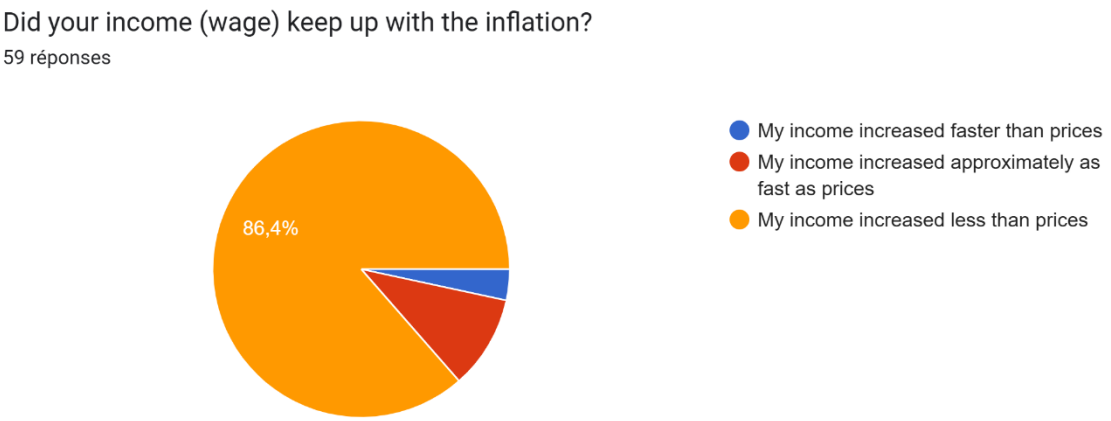


Source: Own research

As shown in Figure 20, the majority of respondents, 67.8%, reported that they reduced spending on non-essential items in response to inflation. A significant portion, 22%, stated that they were forced to cut back on essential goods and services, reflecting the severity of financial pressure experienced by some households. Meanwhile, only 10.2% indicated that inflation had caused no significant change to their household budgets.

These findings suggest that inflation has had a widespread and tangible impact on Moroccan households, influencing consumption behavior and forcing many families to adjust their spending priorities. While most respondents managed by reducing non-essential expenditures, the fact that more than one-fifth had to cut essential spending points to a deeper level of vulnerability. This highlights how inflation disproportionately affects lower- and middle-income households, who have less flexibility to absorb rising costs without compromising basic needs.

FIGURE 21 DID HOUSEHOLD INCOME KEEP UP WITH INFLATION?

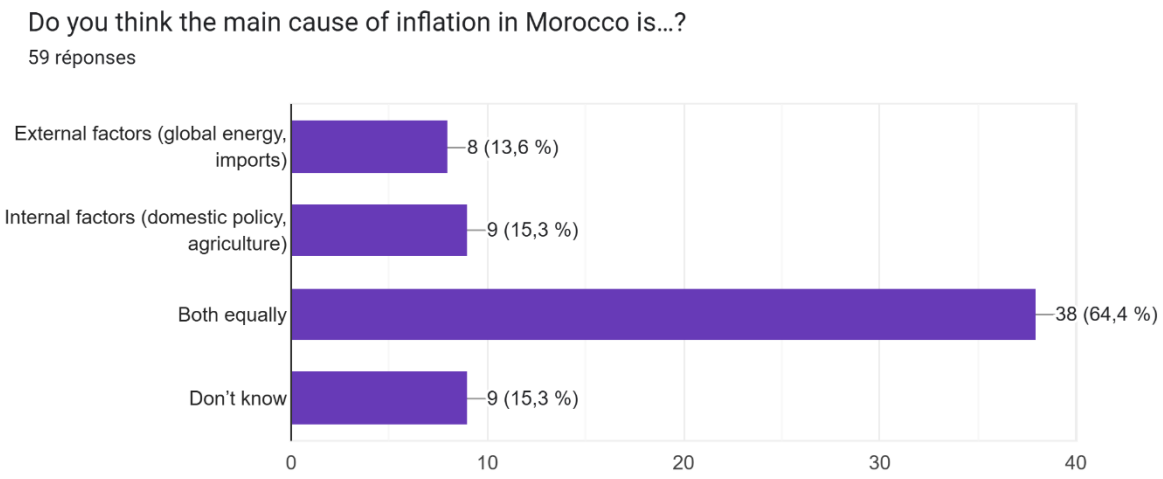


Source: Own research

The results presented in Figure 21 show that an overwhelming majority of respondents, 86.4%, stated that their income increased less than prices, meaning their purchasing power has declined. A smaller share, 10.2%, reported that their income increased at roughly the same pace as inflation, while only 3.4% indicated that their income rose faster than prices.

These findings highlight the income–inflation gap that households in Morocco are facing. For most respondents, wages have not been able to keep up with rising prices, forcing adjustments in consumption and savings. This erosion of purchasing power is a critical issue because it not only reduces living standards but may also weaken confidence in economic stability and monetary policy. The very small proportion of individuals whose income outpaced inflation underscores the unequal impact of rising prices, with most households experiencing financial strain.

FIGURE 22 PERCEIVED CAUSES OF INFLATION IN MOROCCO

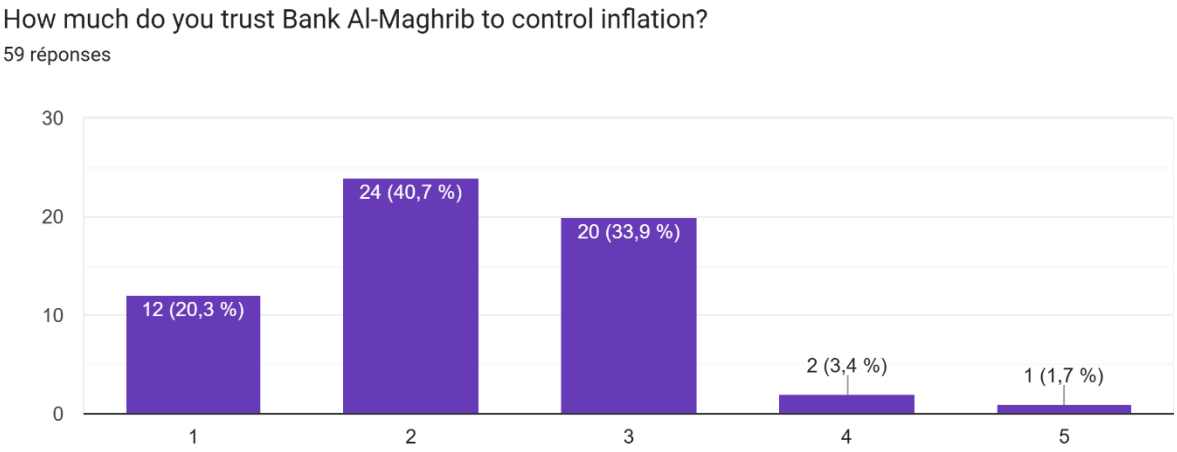


Source: Own research

As shown in Figure 22, the majority of respondents, 64.4%, believe that inflation in Morocco is driven by both internal and external factors equally. A smaller share, 15.3%, attributed inflation mainly to internal causes such as domestic policies or agricultural challenges, while 13.6% identified external factors, including global energy prices and import costs, as the primary source. An additional 15.3% of participants reported that they were uncertain about the causes.

These results indicate that most respondents view inflation as a multifaceted issue rather than one with a single cause. The prominence of both domestic and international explanations reflects an awareness of Morocco's economic openness and vulnerability to global market fluctuations, as well as the role of domestic policies in shaping price stability. The presence of uncertainty among some respondents also suggests that the complexity of inflation makes it difficult for the general public to identify its exact drivers, which may have implications for trust in economic institutions and policy communication.

FIGURE 23 PUBLIC TRUST IN BANK AL-MAGHRIB TO CONTROL INFLATION

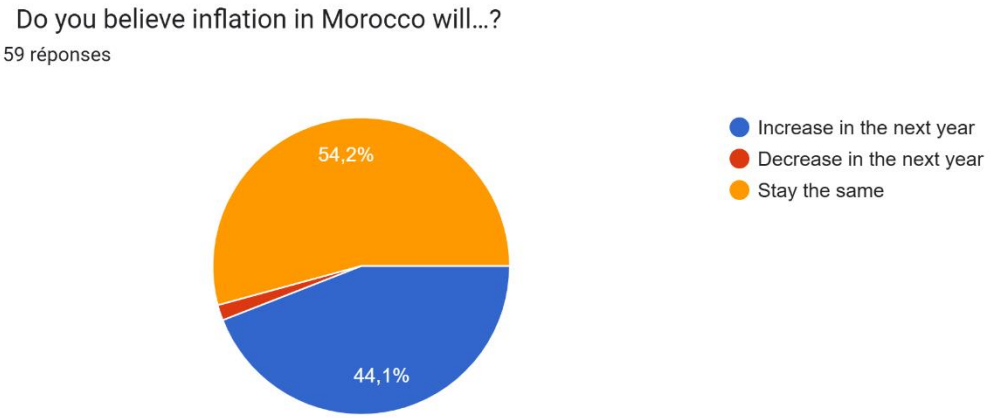


Source: Own research

Figure 23 illustrates the level of public trust in Bank Al-Maghrib's ability to manage inflation. The largest proportion of respondents, 40.7%, rated their trust at 2 out of 5, suggesting low confidence. This was followed by 33.9% who selected a neutral score of 3, and 20.3% who gave the lowest possible score of 1, indicating a clear lack of trust. Only a very small minority expressed higher confidence, with 3.4% rating their trust at 4 and just 1.7% giving the highest rating of 5.

These findings reveal that the majority of participants hold skeptical or limited trust in the central bank's capacity to contain inflation. The clustering of responses around the lower end of the scale reflects public frustration with persistent price increases and may signal a communication gap between monetary authorities and households. Strengthening transparency and explaining policy measures more effectively could help rebuild confidence in Bank Al-Maghrib's role as a stabilizing institution.

FIGURE 24 EXPECTATIONS ABOUT FUTURE INFLATION IN MOROCCO



Source: Own research

As shown in Figure 24, respondents expressed mixed views on the future trajectory of inflation in Morocco. A slight majority, 54.2%, believed that inflation will remain at its current level over the next year. Meanwhile, 44.1% expected inflation to increase further, and only a very small proportion, 1.7%, anticipated that it would decrease.

These findings reveal a cautious public outlook, where most individuals expect continued inflationary pressure or, at best, stability rather than improvement. The near absence of optimism regarding a decrease highlights limited confidence in the short-term effectiveness of policy measures. Such expectations are significant because they can reinforce inflationary dynamics: when households anticipate higher or persistent prices, they may adjust consumption and savings behavior in ways that perpetuate inflationary trends.

VI.2. Open-Ended Responses: Suggestions for Government Action

In addition to structured survey questions, participants were invited to share their views on how the government should address inflation in Morocco. The responses varied in detail and tone but revealed several recurring themes that reflect public expectations and concerns.

1. Price Controls and Subsidies

A large share of comments emphasized the importance of keeping essential goods affordable through subsidies and price regulation. Respondents particularly highlighted food, fuel, and energy as priority areas. As one participant explained, “Government should focus on keeping essential goods affordable, like food and energy, while managing its spending more carefully.”

2. Investment in Agriculture and Renewable Energy

Several respondents linked inflation to Morocco’s dependence on imports, suggesting that greater investment in domestic agriculture and renewable energy could reduce vulnerability to global price shocks. One answer captured this view clearly: “Invest more in agriculture and renewable energy to reduce imports.”

3. Policy Coordination and Monetary Measures

Another recurring theme was the need for better coordination between monetary and fiscal policy. Some participants supported raising interest rates to control demand, while others suggested targeted fiscal measures to protect vulnerable households. One comment stated, “Controlling inflation in Morocco requires coordinated monetary and fiscal policies, resilient agriculture, and social protections for low-income populations.”

4. Support for Income and Wages

A number of participants stressed the need to address inflation by increasing wages and strengthening household income support. As one respondent simply put it, “Increase wages and support income.”

5. Structural Reforms and Investment

Beyond immediate relief, some answers focused on long-term structural solutions, including attracting foreign investment, improving supply chains, and supporting local production to stabilize prices sustainably. One participant advised, “Encourage more foreign investments into the country and increase production for goods and services.”

6. Critical and Skeptical Perspectives

A minority of respondents expressed skepticism regarding the role of government and Bank Al-Maghrib. One comment argued that “The strategy Bank Al-Maghrib is taking on this issue hasn’t helped to reduce the amplification of the issue, especially lending more money,” while another bluntly noted, “Expecting the government to cure inflation is like asking the arsonist to put out the fire.”

Taken together, these responses indicate that the public expects a dual approach: short-term relief through subsidies, wage support, and stronger policy coordination, alongside long-term reforms in agriculture, energy, and domestic production. The presence of critical voices also suggests that public trust in policy responses is uneven, reinforcing the importance of clear communication and visible action to restore confidence in economic management.

Conclusion

This thesis has explored the dynamics of inflation in Morocco from both a theoretical and practical perspective, combining academic literature, empirical analysis, and survey-based research to provide a comprehensive understanding of one of the most pressing economic challenges facing the country.

The first part of the thesis was devoted to the theoretical framework, where I reviewed the main concepts and schools of thought regarding inflation. Classical and Keynesian perspectives, the monetarist view, the Phillips Curve, and more recent approaches were analyzed to explain how inflation emerges, how it interacts with unemployment, and what role expectations play in shaping price dynamics. Special attention was given to the tools available to central banks, such as interest rate policy, open market operations, and money supply management. The discussion of the sacrifice ratio and historical examples like the Volcker disinflation in the United States illustrated the cost of stabilizing prices, while the section on inflation targeting demonstrated how transparency and credibility can anchor expectations. This theoretical foundation provided the basis for assessing Morocco's case in light of global best practices.

The second part turned to Morocco, analyzing inflation trends between 2019 and 2024. Before the pandemic, Morocco experienced relatively low and stable inflation. The COVID-19 crisis in 2020–2021 brought an unusual dynamic: reduced demand kept inflation subdued, while supply chain disruptions created selective pressures, especially on food and medical goods. The Ukraine war in 2022 then triggered Morocco's sharpest price surge in decades, as imported fuel, cereals, and fertilizers became prohibitively expensive, while drought further constrained domestic supply. Headline inflation reached 8.3%, the highest in over thirty years, exposing Morocco's structural vulnerabilities, such as dependence on imports and exposure to climate shocks. In 2023–2024, inflation moderated significantly thanks to easing global commodity prices, improved rainfall, government subsidies, and tighter monetary policy by Bank Al-Maghrib, eventually returning close to pre-pandemic levels. This trajectory highlighted the cyclical and externally driven nature of Moroccan inflation.

The thesis also examined the institutional role of Bank Al-Maghrib. Established as Morocco's central bank in 1959, it has gradually strengthened its independence, most notably after the 2006 reform. Its primary mandate remains ensuring price stability, but its responsibilities extend to financial system oversight and foreign reserve management. In recent years, Bank Al-

Maghrib has prepared for the adoption of an inflation-targeting regime, which would shift its implicit commitment to stability into an explicit, transparent framework. Compared to its regional peers, Bank Al-Maghrib stands out for its relative autonomy and credibility, though challenges remain due to Morocco's exposure to external shocks and fiscal pressures.

The empirical part of this research was based on a survey designed to capture public perceptions of inflation. Conducted through an online questionnaire, it gathered 100 valid responses from individuals in Morocco as well as Moroccans and others living abroad. The findings provided unique insights into how households experience and interpret inflation. The vast majority of respondents perceived prices as having increased significantly in the past year, particularly in essential categories such as food, housing, and energy. Inflation was shown to place heavy pressure on household budgets, with many reducing non-essential spending and a significant portion cutting even essential consumption. Importantly, most participants reported that their incomes had not kept up with inflation, pointing to an erosion of purchasing power.

The survey also revealed limited public trust in Bank Al-Maghrib, with most respondents rating their confidence at the lower end of the scale. This indicates a gap between institutional action and public perception, emphasizing the importance of communication and transparency in monetary policy. When asked about the causes of inflation, the majority attributed it to both external and internal factors, reflecting an awareness of Morocco's integration into global markets but also its domestic challenges. Expectations about the future were cautious: most believed inflation would remain the same or increase, with very few anticipating a decline. Finally, open-ended responses highlighted the public's priorities for government action: strengthening subsidies, increasing wages, investing in agriculture and renewable energy, improving coordination between fiscal and monetary policies, and encouraging structural reforms to reduce import dependence.

Taken together, the findings of this thesis suggest that inflation in Morocco is shaped by a combination of global shocks, structural vulnerabilities, and domestic policy responses. While Bank Al-Maghrib has acted decisively to moderate inflation, public trust remains fragile, and households continue to feel the burden of rising prices on their budgets. The survey results underline the human dimension of inflation: it is not merely a statistical measure but a daily reality that influences consumption, savings, and confidence in institutions.

In terms of policy implications, several recommendations emerge. In the short term, Morocco should continue targeted subsidies and income support to protect the most vulnerable

households from food and energy price shocks. Improved communication from Bank Al-Maghrib could also strengthen public trust in monetary policy. In the medium to long term, Morocco must reduce its structural dependence on imports by investing in domestic agriculture, renewable energy, and supply chain resilience. Supporting wage growth in line with productivity and inflation is also essential to protect living standards. Finally, preparing for the adoption of a formal inflation-targeting regime would enhance transparency, anchor expectations, and bring Morocco's monetary framework in line with international best practices.

Completing this thesis has also been a personal journey. Through the process of researching, analyzing data, and engaging with the realities of inflation, I have come to appreciate the complexity of economic policy and its direct impact on households. Inflation is not only about percentages and charts; it is about people's capacity to feed their families, pay rent, and secure a dignified life. This realization has deepened my motivation to pursue further work in economics and public policy, with the hope of contributing to solutions that balance stability with social justice.

Ultimately, this thesis shows that inflation management in Morocco requires both sound monetary policy and broader structural reforms. It demonstrates that effective policies must not only stabilize prices but also maintain public confidence and protect household welfare. My aspiration is that the findings and recommendations presented here will enrich the broader conversation about inflation in Morocco and contribute, however modestly, to building a more stable, resilient, and equitable economy.

Appendix

Questionnaire Questions

Public Perception of Inflation in Morocco

Public Perception of Inflation in Morocco , University Research Survey .

This survey is part of my university thesis on inflation in Morocco. All responses are anonymous and will be used for academic purposes only.

* Indique une question obligatoire

1. What is your age group? *

Une seule réponse possible.

- ◯ Under 20
- ◯ 20–29
- ◯ 30–39
- ◯ 40–49
- ◯ 50+

2. Where do you live? *

Source: Edited by the Author

3. What is your highest level of education? *

Une seule réponse possible.

- ◯ Primary or Secondary school
- ◯ High school graduate
- ◯ Bachelor's degree
- ◯ Master's degree or higher

4. Do you feel that prices of goods and services have increased significantly in the past year? *

Une seule réponse possible.

- ◯ Yes
- ◯ No
- ◯ Not sure

5. Which categories have affected you the most due to price increases? *(Select up to 2)* *

Plusieurs réponses possibles.

- ☐ Food
- ☐ Housing/rent
- ☐ Energy (electricity, gas, fuel)
- ☐ Transportation
- ☐ Healthcare
- ☐ Education
- ☐ Autre : _____

Source: Edited by the Author

6. How has inflation affected your household budget? *

Une seule réponse possible.

- ◯ I reduced spending on non-essentials
- ◯ I reduced spending on essentials
- ◯ No significant change

7. Did your income (wage) keep up with the inflation? *

Une seule réponse possible.

- ◯ My income increased faster than prices
- ◯ My income increased approximately as fast as prices
- ◯ My income increased less than prices

8. Do you think the main cause of inflation in Morocco is…? *

Plusieurs réponses possibles.

- ☐ External factors (global energy, imports)
- ☐ Internal factors (domestic policy, agriculture)
- ☐ Both equally
- ☐ Don't know

Source: Edited by the Author

9. How much do you trust Bank Al-Maghrib to control inflation? *

Une seule réponse possible.

Not trust	
1	◯
2	◯
3	◯
4	◯
5	◯
Full trust	

10. Do you believe inflation in Morocco will…? *

Une seule réponse possible.

- ◯ Increase in the next year
- ◯ Decrease in the next year
- ◯ Stay the same

Source: Edited by the Author

11. Any comments about how the government should address inflation?

Ce contenu n'est ni rédigé, ni cautionné par Google.

Google Forms

Source: Edited by the Author

List of Figures

List of Tables

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DECLARATION

Douae Elmhor (student Neptun code: CWDVOP) as a consultant, I declare that I have reviewed the thesis and that I have informed the student of the requirements, legal and ethical rules for the correct handling of literary sources.

I recommend / do not recommend[1] the final thesis to be defended in the final examination.

The thesis contains a state or official secret: yes no*[2]

Date: 30 October 2025

_____

insider consultant

[1] The appropriate one should be underlined.

[2] The appropriate one should be underlined.

MATE Organizational and Operational Regulations
III. Requirements for Students
III.1. Study and Examination Regulations
Appendix 6.13: The MATE Uniform Thesis /thesis / final thesis / portfolio guidelines
Annex 4.2: Declaration of public access and authenticity of the thesis/thesis/dissertation/portfolio

DECLARATION

the public access and authenticity of the thesis/dissertation/portfolio[1]

Student's name:	Douae Elmhor
Student's Neptun code:	CWDVOP
Title of thesis:	The Causes and Consequences of Inflation and Examining the Role of Central Banks in Achieving Price Stability.
Year of publication:	2025
Name of the consultant's institute:	Hungarian University of Agriculture and Life Sciences
Name of consultant's deparment:	*Institute of Agricultural and Food Economics, Department of Economics and Natural Resources*

I declare that the final thesis/thesis/dissertation/portfolio[2] submitted by me is an individual, original work of my own intellectual creation. I have clearly indicated the parts of my thesis or dissertation which I have taken from other authors' work and have included them in the bibliography. Furthermore, I declare that the artificial intelligence tools (e.g. text generation, linguistic correction, translation, data analysis) used during the preparation of the thesis did not substitute my own research and creative work; their use was indicated either in the list of sources or in the methodology section, and I acted in accordance with professional and ethical expectations.

If the above statement is untrue, I understand that I will be disqualified from the final examination by the final examination board and that I will have to take the final examination after writing a new thesis.

I do not allow editing of the submitted thesis, but I allow the viewing and printing, which is a PDF document.

I acknowledge that the use and exploitation of my thesis as an intellectual work is governed by the intellectual property management regulations of the Hungarian University of Agricultural and Life Sciences.

I acknowledge that the electronic version of my thesis will be uploaded to the library repository of the Hungarian University of Agricultural and Life Sciences. I acknowledge that the defended and

- not confidential thesis after the defence
- confidential thesis 5 years after the submission

will be available publicly and can be searched in the repository system of the University.

Date: 30 October 2025

Student's signature

[1] While keeping the appropriate thesis type, all other types are to be removed.
[2] While keeping the appropriate thesis type, all other types are to be removed.0

Declaration **of Students and Doctoral Candidates on the Use of Artificial Intelligence (AI)"**

1. general information:

Name of the student:	**Douae Elmhor**
Neptun ID:	**CWDVOP**
Level of program (mark with X):	☑ BSc/BA ☐ MSc/MA ☐ Doctoral School (PhD) ☐ Other: ……
Name and code of the subject*:	**Thesis**
Title of the work:	**The Causes and Consequences of Inflation and Examining the Role of Central Banks in Achieving Price Stability**

* Not required to be completed in the case of a doctoral dissertation.

2. Declaration on the Use of AI

I, the undersigned, fully aware of my ethical responsibility, make the following declaration:

(Please choose one of the options below!)

☐ A) I have not used any artificial intelligence system or service.

(If you selected this option, completing the subsequent tables is not required.)

☑ B) I have used an artificial intelligence system or service.

(Please fill in the relevant tables!)

3. Details of Artificial Intelligence Usage

TABLE I: Assistant or Minor Usage (e.g., translation, language proofreading, brainstorming, etc.)

(For these uses, attaching the specific prompts and responses is not required.)

Purpose of Use	**Name and Version of the AI Tool Used**	**Affected Section (if not applicable to the entire text)**
Language proofreading, rephrasing, brainstrorming,improving readability	ChatGPT, openAI,GPT5	General text, light wording and editing support

TABLE II: Significant Content Contribution (e.g., generating an entire figure or a longer text section)

(In these cases, documenting the key prompts used and the raw responses provided by the AI, and attaching them as an appendix to the work, is required.)

Purpose of Use	**Name, Version, and Access Information of the AI Tool Used**	**Exact Number of the Affected Chapter / Figure / Table**	**Entry Number of the Appendix Containing the Prompt Log**
Not applicable			

3/A. Additional Rules Prescribed by the Lecturer (if any)

If the instructor or supervisor of the course has established specific rules or expectations regarding the use of AI tools, please summarize them in the field below:

For example: prohibition of AI use for certain types of tasks; only specific tools are permitted; different citation requirements; documentation format, etc.

Rules Prescribed by the Lecturer or Supervisor

The supervisor emphasized the importance of maintaining originality in all parts of the thesis and strictly avoiding plagiarism or copy pasting. All ideas and materials were expected to be written in the students' own words and properly referenced according to academic standards. Artificial intelligence tools were used responsibly and only for minor purposes such as language improvement and idea organization, without generating original academic content.

4. Declaration Applicable to All Students:

I declare that I have critically reviewed, edited, and incorporated any content potentially generated by AI in all cases. I take full responsibility for every element of the submitted work, including its originality and scientific validity. I acknowledge that the Hungarian University of Agriculture and Life Sciences may check the submitted work with an artificial intelligence detector and may initiate proceedings if my declaration is found to be false or incomplete.

Place and Date: , 2025, November, 31

Dr István Dedák

....

Signature of the Student **Signature of the Advisor/Supervisor**