



## EVALUATION OF THE EFFECT OF EXPANSIONARY MONETARY POLICY IMPLEMENTED DURING COVID-19 ON THE TÜRKİYE, EU AND US ECONOMIES

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### Abstract

In this article, the effect of expansionary monetary policy implemented during the covid-19 on the Türkiye, the EU and the USA economies has been evaluated. The beginning of the pandemic covers the period between January 2020 and January 2024. The effects of the monthly percentage change in M3 money supply on unemployment, real economic growth and inflation are presented comparatively with graphs. As a result, while Türkiye was the country where the increase in M3 money supply increased inflation the most, the country where unemployment increased most rapidly at the initial phase of the pandemic was the USA. However, over time, the Fed managed to reduce unemployment to historical low levels with the measures it took. The consequence of the contractionary monetary policy after the pandemic, inflation has been brought under control and the option of reducing interest rates has recently come to the fore. Rising inflation in the EU was also taken under control, but unemployment still remained high.

**Keywords:** Covid-19, Inflation, Unemployment, M3 Monetary Expansion, Growth

**Jel Classification:** E42, E24, E52, E58

### COVID-19 DÖNEMİNDE UYGULANAN GENİŞLETİCİ PARA POLİTİKALARININ TÜRKİYE, AB VE ABD EKONOMİLERİNE ETKİSİNİN DEĞERLENDİRİLMESİ

### Öz

Bu makalede Covid-19 pandemi sürecinde uygulanan genişletici para politikasının Türkiye, AB ve ABD ekonomileri üzerine etkileri değerlendirilmiştir. Çalışmanın zaman aralığı pandeminin başlangıcı Ocak 2020 ile Ocak 2024 yılları arasını kapsamaktadır. M3 para arzındaki aylık yüzdelik değişimin işsizlik, reel ekonomik büyüme ve enflasyon üzerindeki Türkiye, AB ve ABD ülke ekonomilerine etkileri karşılaştırmalı olarak grafiklerle sunulmuştur. Makalenin sonuçlarına göre, M3 para arzındaki artışın enflasyonu en çok arttırdığı ülke Türkiye iken, pandemi başlangıcında işsizliğin en hızlı arttığı ülke ABD olmuştur. Ancak zaman içinde Fed aldığı sıkılaştırma tedbirleriyle işsizliği tarihi düşük seviyelere çekmeyi başarmıştır. Pandemi ardından uygulanan sıkı para politikası neticesinde enflasyon kontrol altına alınmış ve yakın tarihte faiz oranlarının düşürülmesi seçeneği gündeme gelmiştir. AB'de de yükselen enflasyon kontrol alınmış ancak işsizlik hala yüksek seyretmeye devam etmiştir.

**Anahtar Kelimeler:** Covid-19, Enflasyon, İşsizlik, M3 Parasal Genişleme, Büyüme

**Jel Sınıflandırması:** E42, E24, E52, E58

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## INTRODUCTION

Especially with the elimination of the obstacles to the worldwide circulation of goods one by one, the world has now become globalized and economies have become more interdependent than ever before in history. To summarize briefly, the essence of this globalization is that there is a flow of goods from developing countries to developed countries, while in return there is a flow of capital to developing countries. This situation carries with it many risks. As a matter of fact, economic crises can quickly cross country borders and turn into regional and even global crises. Indeed, the 2008 financial crisis, which started in the USA, quickly spread to Europe and then to all countries, and its negative effects were seen in varying degrees globally. Covid-19, which emerged as a type of respiratory failure in Wuhan, China, in December 2019, appeared with its first cases in Türkiye, Europe and the USA in March. In March 2020, the World Health Organization (WHO/WHO) declared this case as a pandemic and warned countries to take stricter measures against Covid-19 since there is no cure yet. Thus, mask wearing, social distance rules and then curfews came all over the world. Of course, this situation negatively affected production, inflation and unemployment.

In this study, since the Covid-19 infectious disease affects all countries on a global scale, the measures taken and the resulting economic consequences will be examined with graphics, as are the differences and similarities in the triangle of Türkiye, the EU and the USA. Indeed, in order to compensate for the income and job deprivation resulting from the closures, countries have adopted an almost singular code and implemented expansionary monetary and fiscal policies. However, the economic consequences have been different. The layout of the article is as follows. In the following section, the literature review will reveal the measures taken against Covid-19 in Türkiye, Europe and the USA and the expansionary monetary policies implemented. The data set covers January 2020 to January 2024. While M3 money supply, inflation and unemployment are monthly data, economic growth is taken quarterly. During this period, countries reduced interest rates and increased asset purchases and offered liquidity to the market. In the literature, the effects of expansionary policies during the pandemic period on the economy have been investigated and their effects have been revealed. The contribution of this study to the literature is to reveal the effects of the increase in M3 money supply on inflation, growth and unemployment comparatively for Türkiye, the EU and the USA.

## 1. LITERATURE REVIEW

The Covid-19 pandemic caught the world by surprise and had an incredible negative impact. Economies have been affected to an unprecedented extent, and the resulting uncertainty has brought with it desperation.

### 1.1. Monetary Policies Implemented by the CBRT in Türkiye

In the Morgan Stanley (2020) report, the CBRT currency board reduced the interest rate, Halk Bank postponed the principal and interest of the loans without interest for 3 months, the CBRT increased the government bond rate in its portfolio from 5% to 10%, and the BRSB increased the interest rate on credit cards. It says that it has reduced the lowest payment rate from 30% to 20%.

Kartal (2020) tested the effectiveness of the CBRT's monetary policies during Covid-19 in Türkiye. The data set is daily and covers 11/03/2020 to 07/08/2020. The amount of securities purchased by the CBRT, the weighted average funding cost, and the net funding

amount were selected as monetary policy instruments. The effects of these 3 policy instruments on the BIST100 index, USD exchange rate, and TLREF interest were analyzed using the Toda-Yamamoto method. It has been revealed that monetary policy tools had no effect on financial indicators in the selected period before the pandemic. It has been revealed that the size of government bonds purchased by the CBRT and the weighted funding cost have an impact on the dollar.

Adıgüzel (2020) estimated that the covid-19 pandemic caused a decrease in Türkiye's GDP between 400 and 675 billion TL. Eroğlu (2020) touched upon the inadequacy of the economic policies implemented in Türkiye and stated that unemployment and poverty will increase further in the long term.

In their study, Küçükbay, Uysal and Çırak (2021) examined the negativities caused by the covid-19 pandemic in the economy in European, Asian, American and Middle Eastern countries. Using the data they received from the IMF, they applied the T Test and Wilcoxon tests. While it had an impact on GDP before the pandemic (2019) and during the pandemic period (2020), no difference was found in the general level of prices.

Ünüvar and Aktaş (2022) looked at the effects of Covid-19 on economic growth, unemployment, foreign trade and inflation in Türkiye and the world. While the country where foreign trade was most affected was England, the countries where unemployment increased the most were the USA and Canada, respectively. Although Türkiye experienced a -10% economic contraction during the curfew, that is, lockdown, it started a process of economic growth again after the bans were lifted. The unemployment rate has increased slightly in the country, which is already high.

In his study, Danacı (2022) found that expansionary fiscal and monetary policies caused the exchange rate level to increase and therefore the country risk premium and inflation to increase. The study examining M3 money supply revealed that although production did not increase, inflationary pressure increased much more.

Sertkaya and Baş (2021), the ratio of the monetary contribution provided by the states to the national income was almost 7% in the USA, about 4.5% in Germany and around 3% in the UK. Additionally, Türkiye has taken measures against the pandemic under the name of Economic Stability Shield.

Indeed, Gür, Tatlıyer and Dilek (2020) stated in their article that Türkiye first raised 100 billion TL, then 200 billion TL and finally increased this figure to 240 billion TL in order to overcome the negativities caused by Covid-19.

Muratoğlu (2020) says that the CBRT has four main goals when using expansionary monetary policy: 1) Increasing predictability, 2) ensuring credit flow to loss-making companies, 3) Cash flow support to exporting companies, 4) strengthening the monetary transmission mechanism. Even though the CBRT did not change its inflation target and still kept it at 5%, there was no chance of this happening.

İleri (2022) emphasizes the fragility of the Turkish economy and states that the twin deficit creates chronic high inflation and the need for foreign currency is high. This situation indicated that the CBRT's monetary expansion would be insufficient. Because it is obvious that economic contraction and unemployment are inevitable while struggling with high inflation resulting from monetary expansion.

## **1.2. Monetary Policies of The European Central Bank**

With the Covid-19 epidemic appearing in Europe in March 2020 and deaths occurring, mask wearing, social distance obligations and bans on leaving the house began until a vaccine/treatment was found. The ECB resorted to expansionary monetary policies for the loss of income and unemployment in the economy. It kept interest rates, which were already very low, close to zero (0.25) and increased asset purchases. It purchased more than 1.4 billion Euros of assets from the market through the Pandemic Emergency Purchase Program (PEPP). Wyplosz (2020) warned about monetary expansions and stated that the ECB should engage in active inflation targeting, just like the Fed, while combating the high inflation that will arise. He argued that in this way, more contribution would be made to the ongoing program. He also warned against increasing public debts and said that they would remain on the ECB. In addition, the ECB also offered liquidity to the market by using long-term refinancing transactions (LTRO) and asset purchase program (APP) instruments.

Nelimarkka and Matti (2021) examined which of the ECB monetary policies has the most impact. They studied two different scenarios for this. In the first one, the monetary policies implemented while there was a pandemic were examined, and in the second one, calculations were made based on the argument of what the monetary policy would have been if the pandemic had not existed. According to their findings, the emergency purchase program (PEPP) is the most beneficial. Indeed, according to their calculations, it prevented the fall in GDP by 4% and reduced the fall in the general price level by 1%. Long-term refinancing transactions (LTRO) have been the second most beneficial policy. According to calculations, while it prevented the fall in GDP by 1% until the end of 2021, it also prevented the fall in the general level of prices by 0.5%.

## **1.3. Us Federal Reserve (FED) Monetary Policy**

After the Covid-19 respiratory disease was declared an epidemic by the World Health Organization (WHO) in March 2020, the Fed started to implement an expansionary monetary policy as a result of the decrease in production and output and the extreme increase in unemployment as a result of the closures. Congress has authorized spending up to \$500 billion thanks to the Coronavirus Aid and Economic Security Act (CARES). Labonte (2021)

The Fed has followed a monetary policy that prioritizes economic and financial stability. As with other central banks, it reduced interest rates and offered liquidity to the market. It allowed banks to access cheap loans by using its status as the last resort for borrowing. So much so that it paved the way for foreign banks to borrow from it through swaps. Additionally, the Fed reduced interest rates to the 0-0.25 band in March 2020. However, when the effect of the interest rate cut was limited, it resorted to quantitative easing (QE), which it learned from the 2008 financial crisis. The Fed purchased more than \$1.2 trillion in assets in April alone, and the value of the assets it held on its balance sheet exceeded \$7 trillion in May 2020.

Bhar and Malliaris (2021) tried to model the measures taken by the Fed against the devastating economic effects of Covid-19. They set out based on Milton Friedman's Presidential speech, in which he explained the limits and power of monetary policy in achieving certain goals. Monetary policy modeling was done with the Markow switching econometric method for quantitative easing (QE), which targets extremely high unemployment caused by the pandemic between 2012 and 2020. In conclusion, the authors have proven that the experience and knowledge gained from the 2008 financial crisis are effective in preventing the economic destruction caused by the Covid-19 pandemic.

## 2. DATA

M3 money supply and inflation data for Türkiye were taken from the CBRT, real economic growth and unemployment data were taken from the TUIK web pages. EU data was obtained from the European Central Bank (ECB) website. US data was downloaded from the St. Louis Fed website. While M3 money supply, unemployment and inflation data are monthly, real economic growth is evaluated quarterly. Our data set covers the period between January 2020 and January 2024, when the Covid-19 pandemic began to be felt all over the world. While the real economic growth data consists of 16 observations, the other three data consist of 49 data.

**Table 1: Data Set Used in Analysis**

Variables	Explanation	Period 01/2020- 01/2024	Number of Observation	Obtained from
M3 Money Supply	Percentage change month to month	Monthly	49	CBRT, ECB, St. Louis FED
Unemployment	Monthly percentage	Monthly	49	TUIK, ECB, St. Louis FED
Inflation	Monthly percentage	Monthly	49	CBRT, ECB, St. Louis FED
Real Economic Growth	Quarterly percentage	Quarterly	16	TUIK, ECB, St. Louis FED

Table 1 explains details about the data. It gives the number of observations and where they come from. Real economic growth is the only quarterly data, the rest is monthly data.

**Table 2: Descriptive Statistics**

	Unemployment	Inflation	Real Growth	M3 (%)
<b>Maximum</b>	14.8	13.57	22.7	4.16
<b>Minimum</b>	3.4	-0.78	-14.1	-1.14
<b>Medium</b>	7.9	2.55	2.47	1.57
<b>Median</b>	7.4	1.2	1.60	0.73
<b>Standard Deviation</b>	3.10	6.44	5,78	2.44

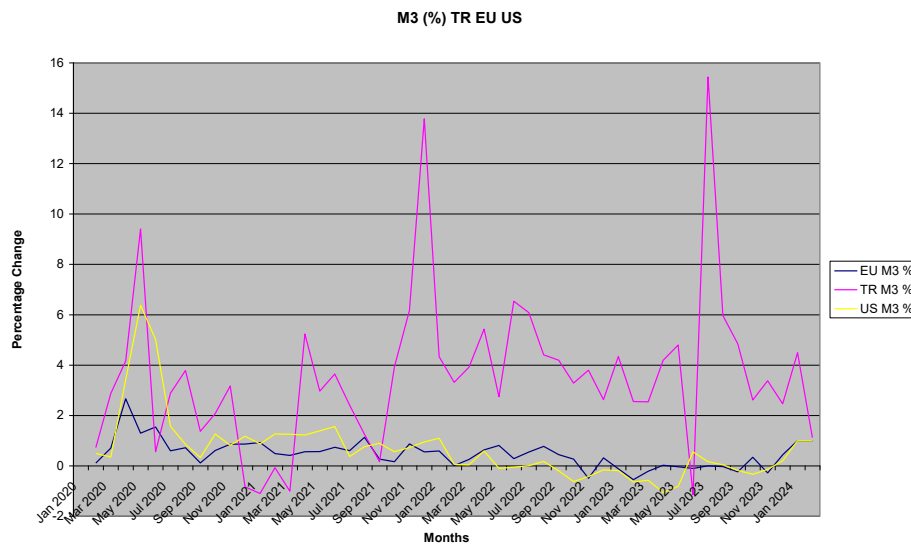
Table 2 gives the descriptive statistics of the variables. All the data are in percentage. The monthly inflation had the highest standard deviation.

### 3. EVALUATION AND INTERPRETATION OF DATA

Each data set will be analyzed separately for Türkiye, European Union and the United States of America. The data will reveal that the higher the money supply is, the higher the economic growth, lower the unemployment rate but the higher the inflation rate will be.

#### 3.1. Money Supply (M3) between January 2020 and January 2024 Türkiye, EU and USA

In order to prevent the economic devastation caused by Covid-19 and at least reduce its negative impact, central banks have resorted to expansionary monetary policy.



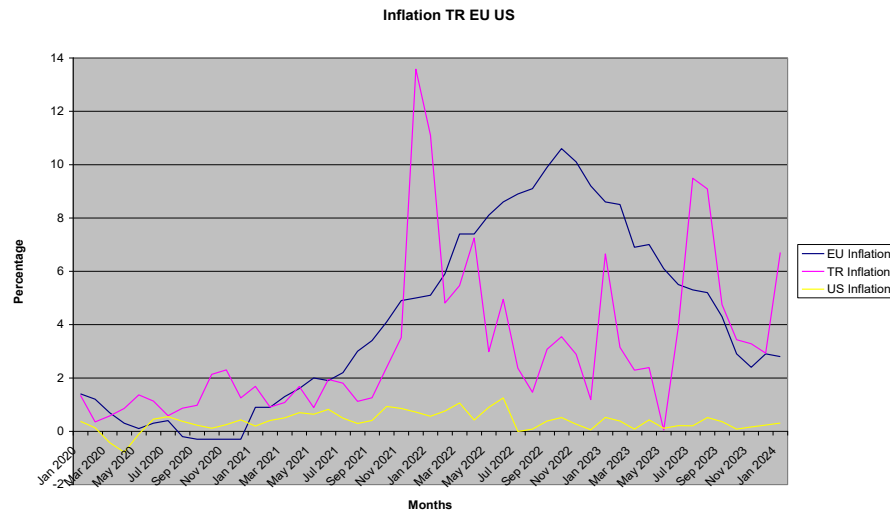
**Figure 1: Percentage Change in M3 Money Supply in Türkiye, EU and USA**

Source: (St. Louis Fed, CBRT data set).

The Figure 1 shows the monthly percentage change in M3 money supply between January 1, 2020 and January 2024 for Türkiye, the EU and the USA. M3 is the broadest definition of money supply and covers all of the money definitions M0, M1 and M2. The majority of monetary expansions occur in the form of changes in the balance sheets of central and commercial banks. Therefore, M3 money supply is the most accurate form of measurement. The highest increases in M3 money supply were observed in March-April 2020, which was the beginning of the pandemic. The highest increase among the three countries is the M3 monetary expansion created by the CBRT, at 9.4%. The Fed's M3 monetary expansion is 6.3%, the second and lowest increase is the EU's 2.66%. As the impact of the pandemic began to decrease, both the Fed and the ECB took the increase in M3 monetary expansion under control and reduced it to around 0%. Unfortunately, the volatility in Türkiye's M3 money supply is large and its monthly increases are also extremely high. In the mentioned period, the largest increase of 13.5% in M3 money supply in June 2023 was again seen in Türkiye. According to the argument of the Monetarist school, which says that inflation is caused by monetary expansion, it seems inevitable that inflation will rise in Türkiye.

### 3.2. Inflation between January 2020 – January 2024 Türkiye, EU and USA

The thesis that "inflation is a monetary phenomenon everywhere and always", on which the monetarist approach establishes its theory, would manifest itself in the pandemic and the following periods. As a matter of fact, it happened and inflation started to rise both in the world and in the three countries that are the subject of this study. Both the Fed and the ECB took inflation under control by rapidly reducing M3 monetary expansion. However, although the CBRT initially reduced M3 monetary expansion in percentage increases, it continued M3 monetary expansion in the following periods and increased by 13.5 percent, which is the highest percentage increase in June 2023, is the most important reason for the rise in inflation in Türkiye.



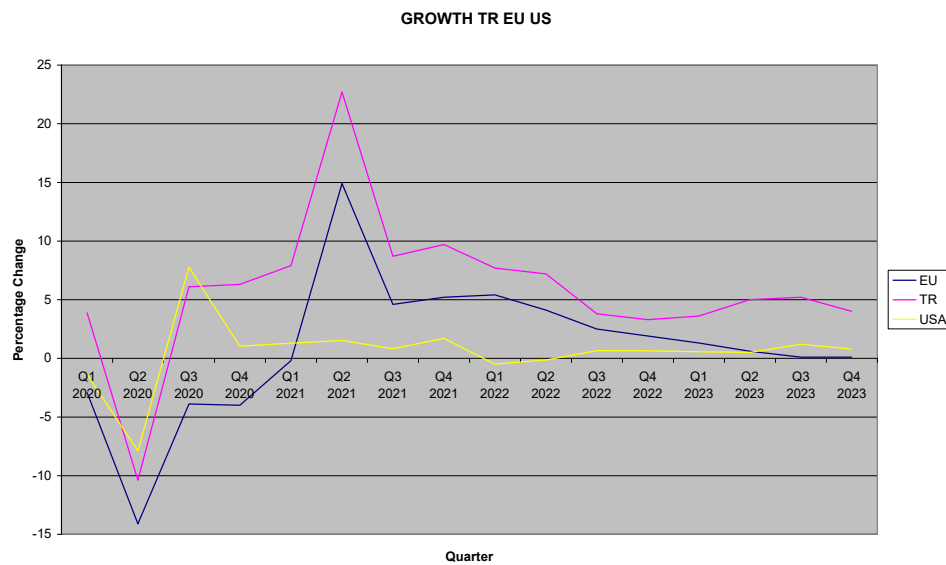
**Figure 2: Inflation in Türkiye, EU and USA 2020-2024**

Source: (St. Louis Fed, CBRT data set).

Figure 2 shows the path of the inflation rate in Türkiye, the EU and the USA between 01/2020 and 01/2024. While the most volatile inflation course is experienced in Türkiye, the inflation course in the USA is quite stable. The EU inflation rate remained low at first, but the effect of monetary expansion showed its effect on inflation with a delay. So much so that the highest inflation rate went up to 10.6 in November 2022. With the measures taken after this date, it decreased rapidly and reached 2.8 in January 2020. The country experiencing the highest monthly inflation and volatility is Türkiye. From a historical perspective, chronic high inflation has existed in Türkiye for decades. Türkiye has experienced much higher inflation figures on a monthly basis than others have experienced annually. From time to time, triple-digit inflation figures have also been observed in the economy. It seems that this trend continues during and after the pandemic period. Indeed, monthly inflation reached its highest value of 13.6 percent in December 2021, followed by zigzags, although it entered a downward trend. Starting from December 2023, monthly inflation started to rise rapidly again. The most important reason for this is excessive monetary expansion, as seen in Figure 1.

### 3.3. Real Economic Growth between January 2020 and January 2024 Türkiye, EU and USA

As a result of the curfews and other restrictions taken to prevent the spread of the Covid-19 virus, production has either stopped or been largely disrupted. There has been a contraction in the economy during and after the pandemic. Real growth rates are quarterly data.



**Figure 3: Quarterly Real Economic Growth in Türkiye, EU and USA 2020-2024**

Source: (St. Louis Fed, CBRT data set).

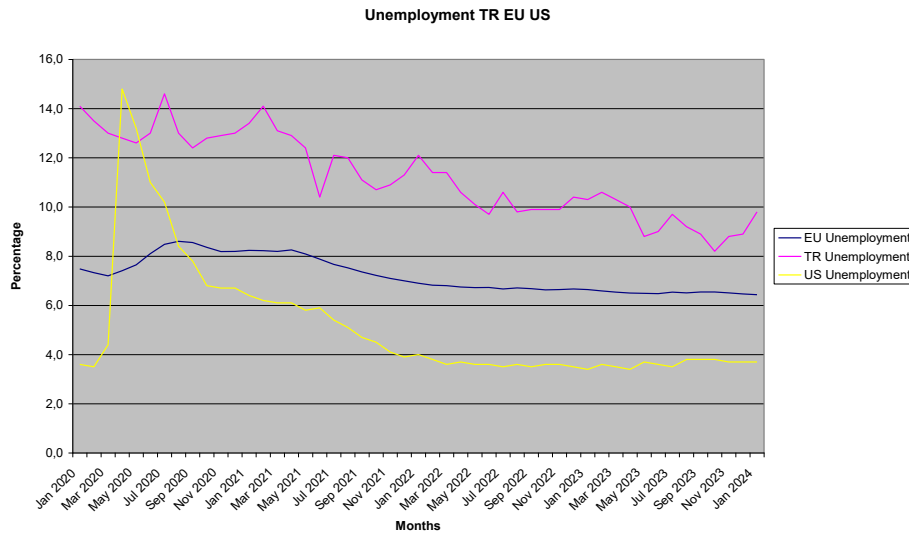
Figure 3 shows the real growth rates for Türkiye, the EU and the USA. The net impact of the negative developments experienced in early 2020, when Covid-19 started and was declared a pandemic, on the economy is clearly seen in the second quarter of 2020. There were sharp declines in growth rates for the three countries subject to research. While the largest decrease was seen in the EU with -14.1%, Türkiye ranked second with 10.4%. US contraction remained at -7.89%. The fact that the economic contraction in Türkiye is so high is due to the extreme contraction experienced by the EU, to which approximately half of its exports are made. However, after the discovery of a vaccine and treatment for Covid-19, the economy entered a rapid recovery again. Türkiye showed the best performance. The EU and the USA respectively took their place in this recovery. While Türkiye has been able to maintain its positive economic growth over time, the quarterly economic growth rates of both the EU and the USA have remained low and even approached zero.

### 3.4. Unemployment between January 2020 and January 2024 Türkiye, EU and USA

As a result of the panic created by the pandemic and the measures taken to protect human life, production and working life in the world have been disrupted. As can be understood, this situation also negatively affected economic growth. As a result of workplace closures, workers' inability to go to work has created a deprivation of wage and salary income. During this period, employers laid off many workers because their workplaces were closed. Therefore, it is expected that unemployment will be high in this period. However,



states did not remain silent and took some measures to increase employment and income. Two different methods attract attention in the fight against unemployment. The method followed by the USA is to not interfere with companies laying off workers, but to pay direct income (pay-check) to those who are unemployed. In the EU and Türkiye, employment support policies for companies have come into force. Instead of laying off workers, workplaces continued to employ them, but a certain part of the wages and salaries were paid by the state to the employer and then to the worker. In this way, excessive rise in unemployment was prevented.



**Figure 4: Unemployment in Türkiye, EU and USA 2020-2024**

Source: (St. Louis Fed, CBRT data set).

Figure 4 shows the course of unemployment in Türkiye, the EU and the USA between January 2020 and January 2024. It is seen that US unemployment jumped from 3.5% to 14.8% since March 2020, when the pandemic started. The reason for this, as explained above, is that the employment policy followed by the USA is different. The unemployment rate in Türkiye has already been in double digits for a long time. With the impact of the pandemic, the unemployment rate increased further, reaching 14.6%. When we look at the European Union, although there was a slight increase in the initial level of the pandemic, it fell below 8% thanks to the measures taken. Unemployment in Türkiye started to decrease as the pandemic wore off, but it still continued to follow a fluctuating course. The most successful country in terms of unemployment is the USA. The measures taken over time showed their effect and the unemployment rate fell below 4%, reaching historical low levels.

## CONCLUSION AND EVALUATION

In this article, the negative effects of the Covid-19 pandemic on economies were examined for Türkiye, the EU and the USA. In this context, in order to reduce the negative effects of the pandemic, expansionary monetary policies focused on employment and economic growth at the expense of inflation began to be implemented in the economy. The effects of these expansionary policies show differences and similarities between countries. The factors used for this are the effects of M3 money supply expansion on economic growth, employment and inflation. While Türkiye was the country where the expansionary monetary

policy increased inflation the most, both the EU and the USA prevented inflation from getting out of control with rapid measures. Similarly, while unemployment showed the fastest increase in the USA at the beginning of the pandemic, thanks to the measures taken, it fell rapidly and a historically low unemployment rate was achieved. Türkiye and the EU did not experience a rapid increase in unemployment during the pandemic period. Because the employment-oriented policy was followed, work and employment were largely protected. Türkiye showed the best performance in terms of economic growth. The country with the best growth rates was Türkiye. Others have generally remained at or below 1% in quarterly data on economic growth. This study shows that Türkiye had to live with high rates of inflation because it did not take adequate measures to combat inflation. As can be clearly seen in the graphs, the fact that inflation is getting out of control in Türkiye necessitates an urgent return to tight monetary policy and raising interest rates above inflation.

### **Statement of Research and Publication Ethics**

This study has been prepared in accordance with the rules of scientific research and publication ethics.

### **Authors' Contribution Rates**

The author's contribution to the article is 100%.

### **Declaration of Interest**

There is no conflict of interest arising from the study from the point of view of the author or from the point of view of third parties.

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