# MACROECONOMIC POLICY AS RESPONSE TO THE PANDEMIC COVID - 19

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***ABSTRACT***

*The financial crisis triggered by the pandemic of COVID-19 significantly curtailed the activities of world financial systems. With the onset of the crisis in 2020, there has been a deterioration in macroeconomic indicators: a drop in GDP, an increase in the unemployment rate and an increase in public debt. Unlike the previous, expected debt crisis of 2008, the sudden corona crisis was welcomed by financial systems with significantly higher liquidity and capitalization. Despite positive expectations based on better performance of financial systems, uncertainty and the need for financial stability were present. Therefore, the highest expectations were directed towards economic policymakers, regulation and supervision of the financial systems. The impact of the emerging crisis is particularly pronounced in small and open economies such as Republic of Croatia, where there is a strong dependence on international market trends and thus a sensitivity to crises and external shocks. With the onset of the COVID-19 crisis, Republic of Croatia faced the problem of depreciation pressure on the domestic currency. It was stopped rapidly by the interventions of the Croatian National Bank, which achieved monetary and macroeconomic stability and provided assistance to the economy. Although central banks and other financial system supervisors and regulators have played an important role in overcoming the crisis and supporting the economy, uncertainty about macroeconomic stability remains. Following the COVID-19 lockdown of economies and their reopening in mid-2021, demand for goods and services has increased, leading to rising prices and inflation in Europe and the United States of America. The aim of this paper is to present the effects of the crisis caused by COVID-19 and to analyze the measures introduced to financially stabilize and support the economy.*

***Keywords:*** *central bank, crisis, financial system, inflation*

## 1. INTRODUCTION

Despite the large number of historical financial crises, the crisis triggered by COVID-19 is different from all previous crises: it occurred unexpectedly, led to a decline in economic activity in a short period of time, and affected all economies of the world. To protect the health of people and spread of the virus, countries restricted the movement of their citizens, which affected the "freezing" of goods and services markets and labor markets, and thus the functioning of financial markets. The overall supply of goods and services declined as production was reduced, leading to lockdowns, social distancing, movement restrictions, and supply chain disruptions (Bekaert et al., 2020). In the United States, total industrial production fell 11.2% in April 2020 compared to March of the same year. While in the European Union, industrial production fell by around 8% in 2020 compared to 2019 (Eurostat).

According to the Croatian Bureau of Statistics, industrial production in Croatia declined in April 2020 as a result of lockdown and reduced activity. In that month, there was a decrease of 12.4% compared to the same month last year. In the observed period, the largest decline in industrial production in Croatia was recorded in August 2020.

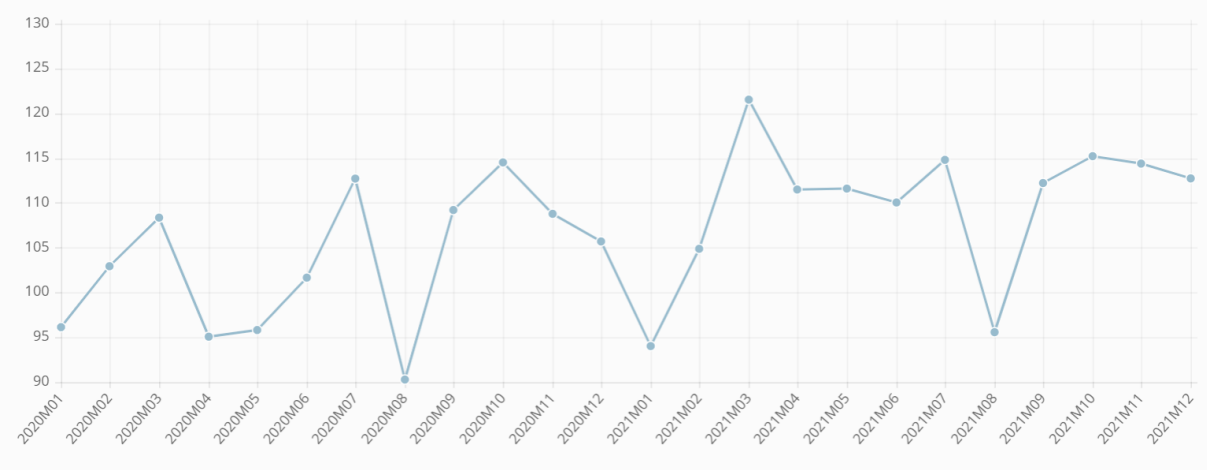


*Figure 1a: Industrial production volume index in Croatia, 2020 – 2021 (mountly) (Source: Croatian Bureau of Statistics)*

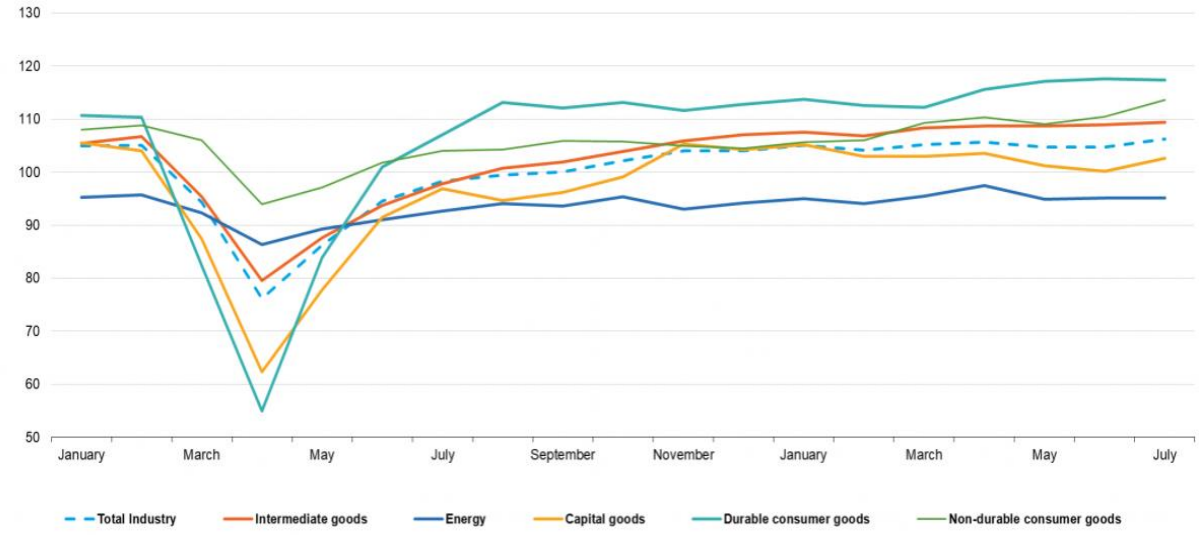


*Figure 1b: Industrial production in EU, 2020 – 2021(mountly) (Source: Eurostat)*

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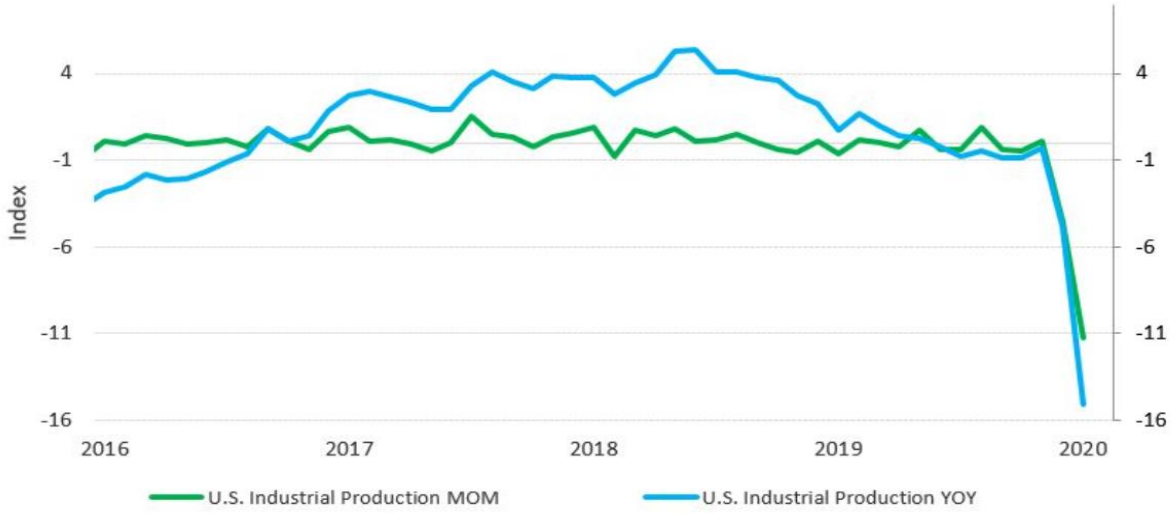


*Figure 1c: Industrial production in United States, 2016-2020*[1]
*(Source: RSM US, Bloomberg)*

The shock to external demand was particularly large in small and open economies with a lower share of trade in GDP (Addison et al., 2020). According to del Rio-Chanona et al. (2020), the pandemic also had a significant impact on citizens' consumption, in the form of reduced consumption (Figure 2a, b, c), but also in the form of targeted choices of certain products and services. In its estimates, OECD (2020) pointed out that the sectors most affected by COVID-19 accounted for between 30-40% of total output in most economies. It also noted that the closure and partial work of certain sectors during the pandemic can affect GDP by 20-25%.

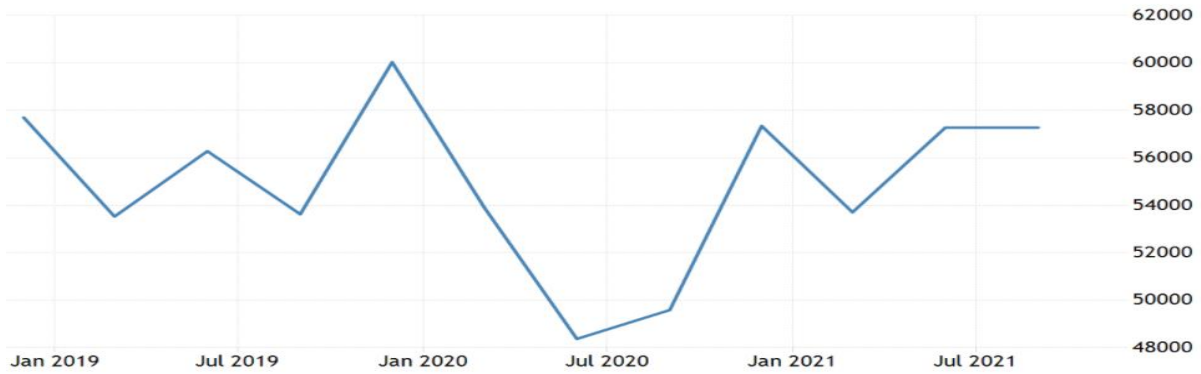


*Figure 2a: Croatian Consumer Spending (mln HRK)*
*(Source: Trading economics, 2022)*

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[1] MOM - Manufacturing operations management
YOY - Year-on-year

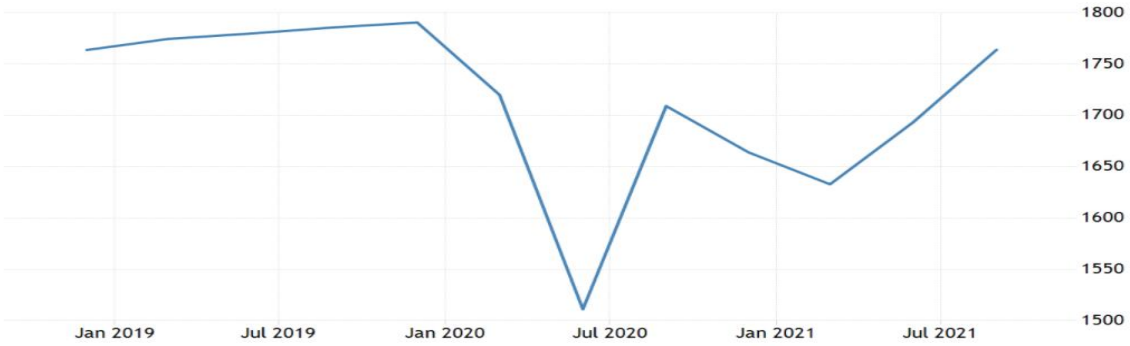


*Figure 2b: European Union Consumer Spending (bn EUR)*
*(Source: Trading economics, 2022)*

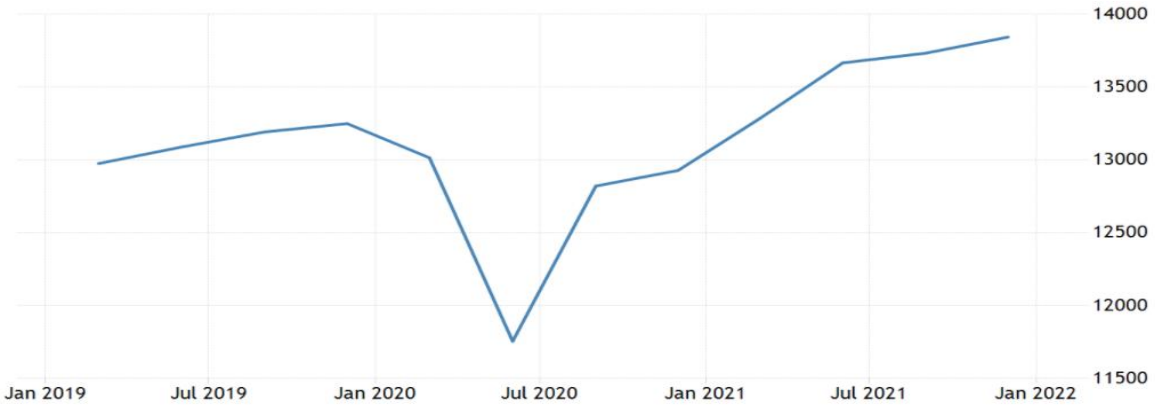


*Figure 2c: Unites States Consumer Spending (bn USD)*
*(Source: Trading economics, 2022)*

After the experience of the last crisis 2008 (Global Financial Crisis – GFC), strong institutional environment has led to better performance of banking systems (Ari et al., 2019; Suljić Nikolaj, 2020). Therefore, banks faced the COVID crisis better capitalized, and liquid than in GFC (EBA, 2020; FED, 2020). Banks' asset quality has also improved and the non-performing loan (NPL) ratios have decreased (Figure 3). The supply of liquidity and the generally improved performance of banking systems not only help banks to overcome the crisis, but also support citizens and companies in times of crisis. However, as expected, the COVID-19 pandemic and the accompanying isolation measures have led to a slight increase in non-performing loans (NPL), following a downward trend in recent years. Economists fear a further increase in NPLs due to banks' exposure to citizens, companies and vulnerable sectors (De Haan, 2021).

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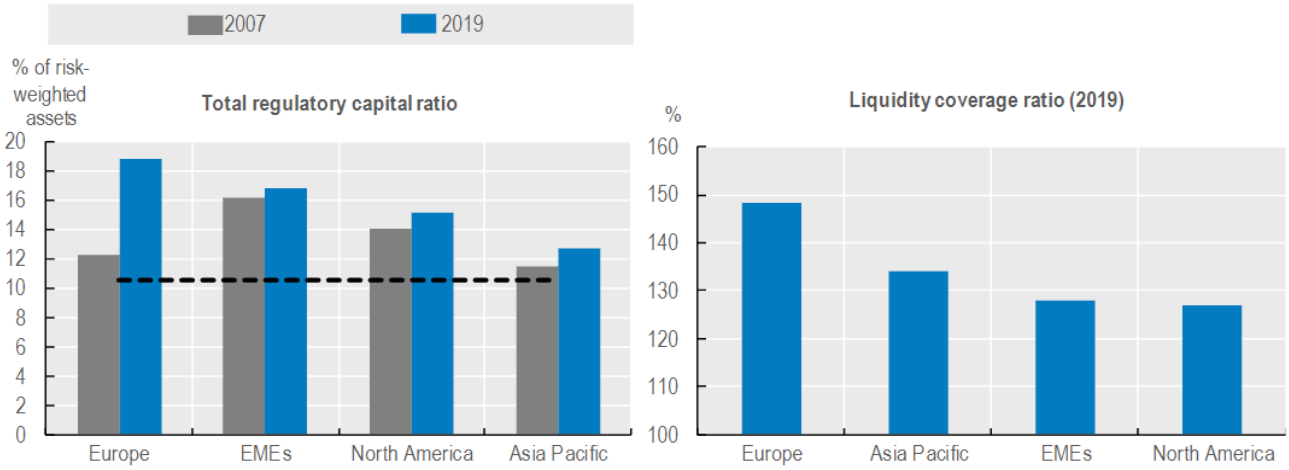


*Figure 3: Capitalization and liquidity of banks in 2007 and 2019*[2]
*(Source: OECD, 2021)*

The NPL rates for Croatia, the EU and the USA are shown below. The last financial crisis in Croatia lasted until 2016, which is longer than in the EU and the United States, where it lasted until 2012. According to the data presented in Figure 4, the share of NPLs in Croatia was highest in 2015. This is due to loan loss provisions, which were increased by the CNB during the crisis in order to maintain the stability of banks in case loans would be defaulted in the future (Suljić Nikolaj, 2018). Until the COVID-19, NPL rates in Croatia were declining.

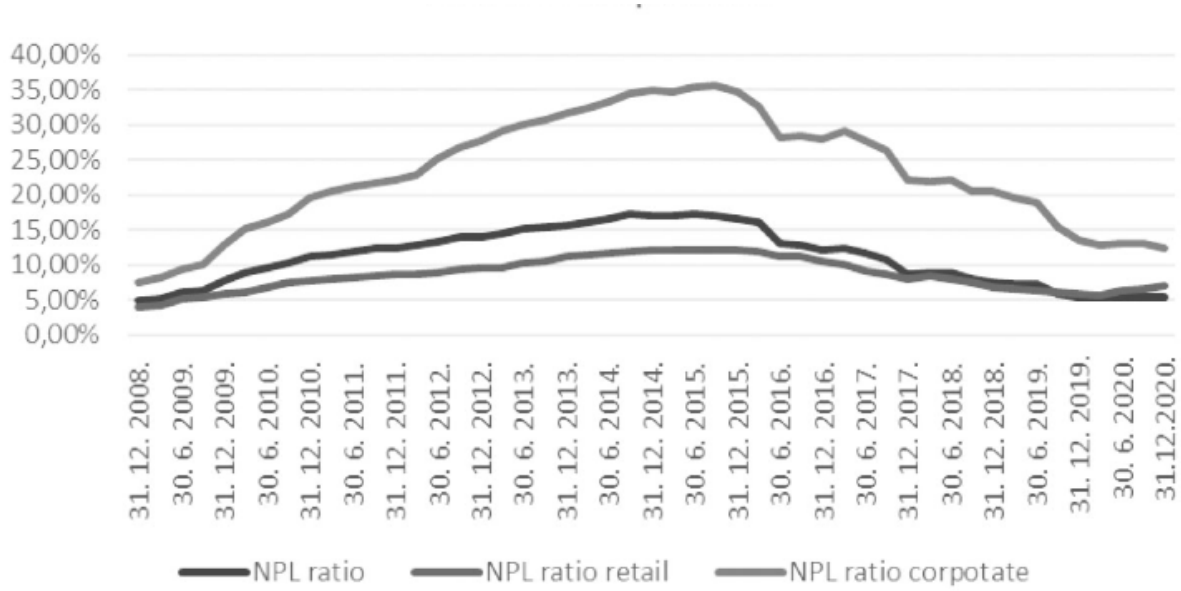


*Figure 4a: NPL ratio in Croatia, 2008 - 2020*
*(Source: Bošnjak et al., 2021)*

Data on NPLs in EU member states show that the highest percentage of NPLs in European banks was in 2015, which is due to the previous crisis. After 2015, the percentage of NPLs decreased until 2019, and in early 2020, with the emergence of the pandemic COVID-19, it increased by about 0.2%.

[2]EMEs - Emerging markets economies


*Figure 4b: NPL ratio in European Union, 2008 - 2020*
*(Source: ECB - Statistical Data Warehouse)*

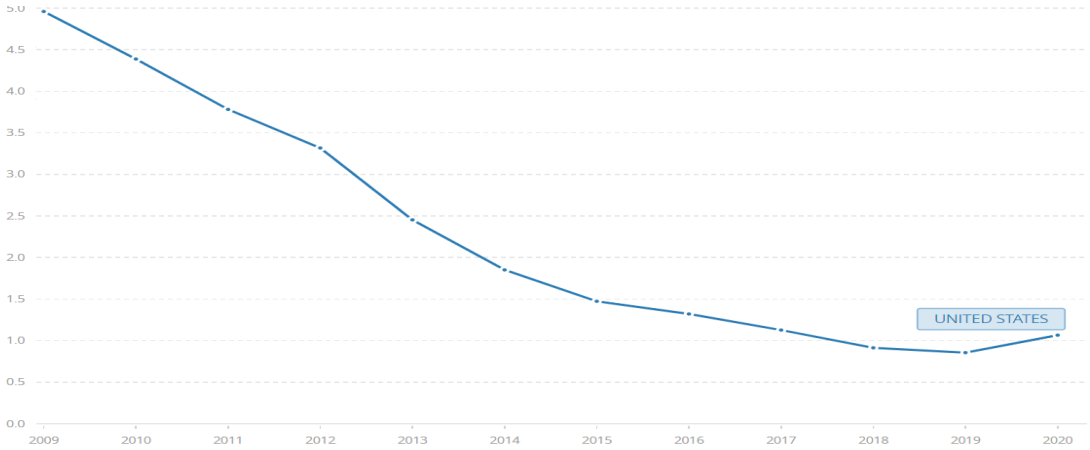


*Figure 4c: NPL ratio in United States, 2009 - 2020*
*(Source: World Bank)*

In contrast to the EU and Croatia, the U.S. experienced a decline in NPLs from 2009 to 2019. Thereafter, the emergence of COVID-19 led to milder growth in NPLs, as was the case in Europe.

## 2. MACROECONOMIC EFFECTS OF COVID-19

As mentioned above, the 2020 crisis had a negative impact on the macroeconomic indicators of each economy. Therefore, inflation, GDP, unemployment and public debt rates in Croatia, the EU and the euro area, and the United States are presented. The first reason for the emergence of inflation is considered to be the supply chain problems at the global level caused by the closure of economies due to the spread of the virus. During the lockdown, people saved money, and the reopening of economies led to an increase in demand for products and services, which created pressure on prices. Also influencing the growth of inflation are monetary policies and the greater amount of money provided by central banks in the form of aid to economies in the event of a pandemic. Finally, the rise in inflation is also influenced by the steady increase in energy prices. Inflation is highest in the United States, where it was below 2% at the beginning of 2021, exceeded 5% in May, and is currently more than 7%. In the EU and Euro area members exceeded 2.5% in July 2021 and 5% in September of the same year. Although inflation in Croatia was lower than the Euro area average in the years before the pandemic, a rising trend in inflation in Croatia is emerging for 2021. In November, inflation was 4.8% (CNB, 2021).

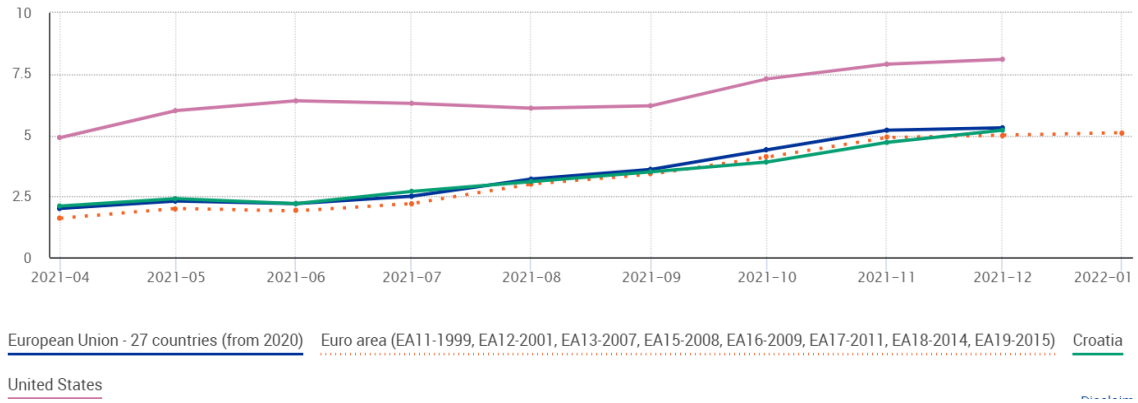


*Figure 5: Inflation rate - HICP - monthly data (annual rate of change) in European Union, Euro area, Croatia and United States*
*(Source: Eurostat)*

As a result of the crisis COVID-19, the sharpest decline in GDP was in the second quarter of 2020, when it fell by about 12% in Europe (EU and Euro area ) and 9% in the United States. In the third quarter of 2021, growth of about 2% was recorded in Europe and 0.5% in the United States (Figure 6b). According to the Croatian Bureau of Statistics (2021), the decline in GDP in Croatia in the first quarter of 2020 was higher than in the previous crisis (GFC) (Figure 6a).

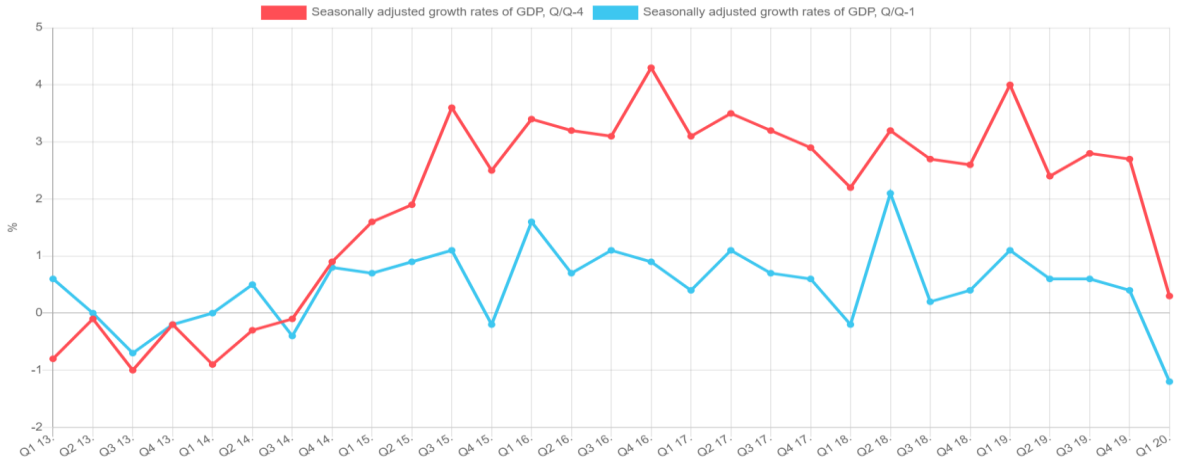


*Figure 6a: GDP growth rates in Croatia, 2013 -2020 (quarterly)*
*(Source: Croatian Bureau of Statistics, 2021)*

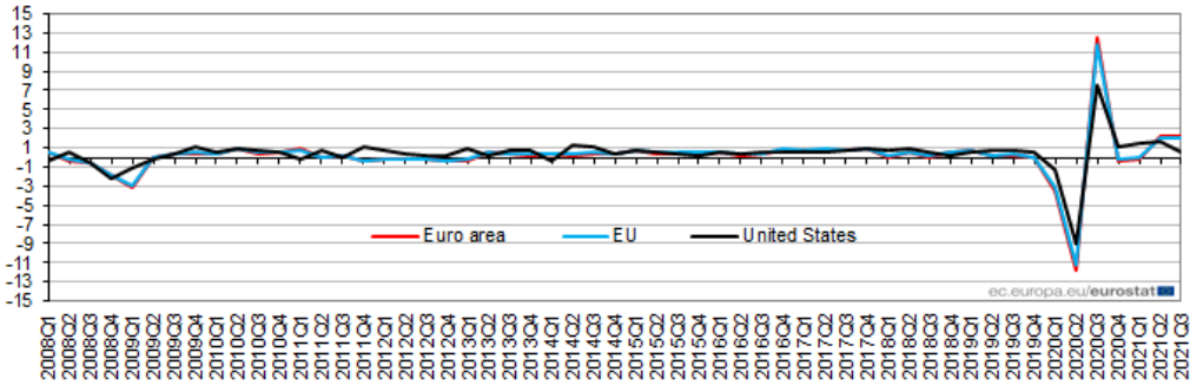


*Figure 6b: GDP growth rates in European Union, Euro area and U.S., 2008.- 2021. (quarterly)*
*(Source: Eurostat, 2022)*

Eurostat data on unemployment rates in Europe, Croatia, and the United States show that the United States had the largest increase in unemployment in March 2020. Croatia recorded the largest increase in its unemployment rate in May 2020, following the lockdown. While EU and Euro area members recorded the largest increase from July to September 2020.

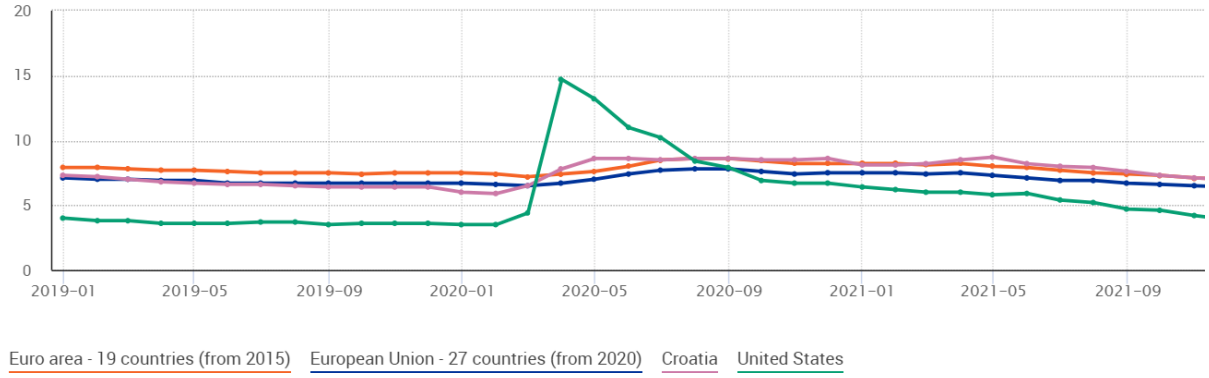


*Figure 7: Harmonised unemployment rates (%) in EU, Euro area, Croatiam U.S. (monthly data)*
*(Source: Eurostat)*

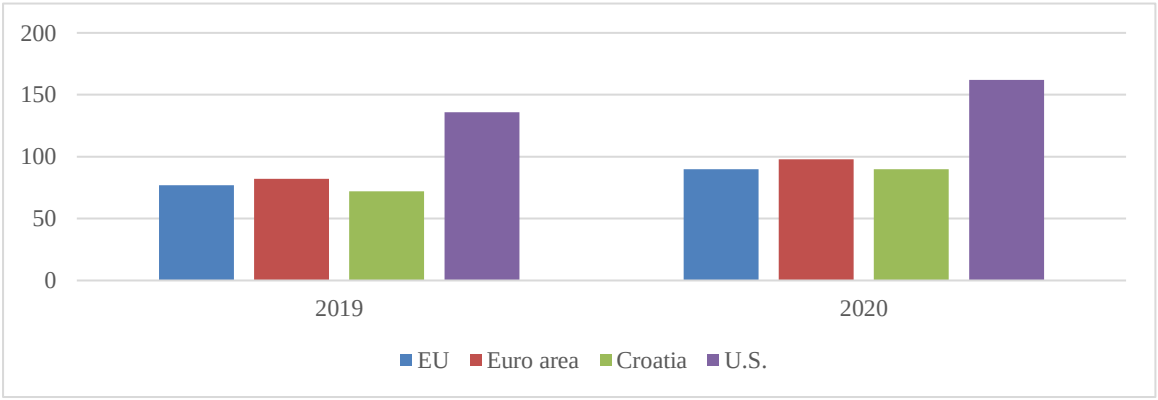


*Figure 8: General government consolidated gross debt, % of GDP in EU, Euro area and Croatia, 2019-2020*
*(Source: prepared by authors based on Eurostat and OECD)*

In line with the previous trend of deteriorating macroeconomic indicators due to the pandemic crisis, the data in the previous figure also confirm the increase in public debt in 2020 compared to 2019.

## 3. MACROECONOMIC POLICIES IN COVID-19 CRISIS

In the context of the COVID crisis, financial regulators have activated certain measures applied in GFC, but also introduced some new unconventional measures to safeguard financial stability. Capital outflows at the beginning of the current crisis were initially larger than in GFC. Therefore, central banks bolstered domestic currency liquidity through banks. In addition, credit lines with favorable conditions were made available to institutions and companies affected by the crisis (Feyen et al, 2020). The activities of the three central banks at the beginning of the pandemic: the CNB, the ECB, and the FED, are presented chronologically below. With the outbreak of the pandemic in Croatia, the greatest burden was on the CNB. In March 2020, there was depreciation pressure on the kuna, which the CNB quickly stopped in order to stabilize the exchange rate. It was necessary to provide additional liquidity in the financial market, which was done by lowering the reserve requirement from 12% to 9% and

reducing regulatory pressure on the banking system (CNB, 2020). Although the ECB and the FED also operated in the GFC, the CNB acted for the first time in this crisis by supporting the government bond market, thus directly contributing to the preservation of the financial system. Among the CNB's new activities was the agreed currency swap with ECB, which enabled Croatia to use euro liquidity in the amount of 2 billion euros.

| OBJECTIVES | MEASURES | DESCRIPTION |
|---|---|---|
| Stabilisation of the foreign exchange rate and provision of the foreign currency liquidity | Foreign exchange interventions | 9th – 17th March - four foreign exchange interventions in which a total of EUR 1.625 billion was sold to banks |
| | | The exchange rate stabilised at around 7.57 EUR/HRK |
| | | Level of international reserves (total reserves at EUR 19.2 bn; net reserves at EUR 16.9 bn, as of 16 March 2020) sufficient for further stabilisation |
| | | 31st March - CNB foreign exchange intervention by selling EUR 618.15mn of foreign exchange at average exchange rate of 7.608529 EUR/HRK. |
| Provision of kuna liquidity for the ongoing financing of the economy | Structural and regular operations | 16th March – regular and structural operations; creation of HRK 750m of short-term liquidity and HRK 3.8bn of long-term liquidity (5-year maturity at a fixed interest rate of 0.25%) |
| | | Daily liquidity surplus was HRK 32.8bn as at 16th March 2020 |
| | Reserve requirements | 23th March - reserve requirement rate reduced from 12% to 9% |
| Supporting the stability of the government bond market | Purchase of government bonds | 13th March - the first auction for the direct purchase of bonds of the Republic of Croatia - HRK 211.2 mn purchased |
| | | Following the decision of the CNB Council, the group of counterparties entitled to participate in the purchase and sale of securities was expanded to include pension funds, companies for the management of open-ended public offering (UCITS funds) and insurance companies |
| | | 18th March - as part of a fine-tuning operation, the CNB repurchased securities of the Republic of Croatia with a nominal value of HRK 4.075 bn<br>Announcement that auctions for the purchase of bonds will continue from 18 to 23 March, expected purchase of another HRK 1.6 billion |
| | | 28th April - in a fine-tuning operation, the CNB purchased securities of the Republic of Croatia with a nominal value of HRK 9.529 bn |
| | | 29th-30rd June - in a fine-tuning operation, the CNB purchased securities of the Republic of Croatia with a nominal value of HRK 4.069 bn |
| Provision of euro liquidity | Currency swap line | 15th April - CNB agreed upon establishing a precautionary currency swap line with the ECB, to be activated if needed in the amount of EUR 2bn |

*Table 1: Reaction of CNB to COVID-19 crisis*
*(Source: Olgić Draženović, Maradin, Suljić Nikolaj, 2021)*

Learning from the experience of the GFC, the ECB had prepared a package of measures in case of a new financial crisis. However, due to the specifics of the crisis caused by COVID-19, this package of measures was not sufficient and new measures had to be introduced. Measures taken by ECB during the pandemic to support the euro area economy include (ECB, 2022):

- helping the economy absorb the shock of the current crisis,
- keeping borrowing affordable,
- supporting access to credit for firms and households,
- ensuring short-term concerns do not prevent lending,
- increasing banks' lending capacity,
- preserving financial stability through international cooperation.

New measures include the Pandemic Emergency Purchase Program (PEPP) and Pandemic Emergency Longer - Term Refinancing Operations (PELTRO), while other existing measures have been increased or can be used indefinitely. The ECB agreed on currency swap lines with Denmark for 24 billion euros and with Bulgaria and Croatia for two billion euros (Gregory, 2020). During the pandemic, the ECB did not lower interest rates to reduce financing costs because interest rates in the Euro area were already negative. For an overview of the measures taken by ECB, is shown in the table below.

| OBJECTIVES | MEASURES | DESCRIPTION |
|---|---|---|
| Provision of bank liquidity and money market | Targeted Longer-Term Refinancing Operation III (TLTROs)<br><br>Longer-Term Refinancing Operations (LTROs) | 12th March – additional long-term refinancing operations (LTRO) providing liquidity support to banks and protecting money markets.<br>TLTRO III is a measure of targeted operations long-term financing of the total fund of € 1.200 bn was mitigated. Interest rates were reduced rate to the level of 50 basis points less than the average interest rate on major operations refinancing of the Eurosystem in the period from June 2020 to June 2021 |
| Provision of securities market and price stability | Asset Purchase Program (APP) | 12th March – Asset Purchase Program (APP) (monthly level of € 20 bn) has been increased by € 120 bn in total at least until the end of the year or until needed |
| Mitigation of monetary policy and a favorable impact on financing conditions | Pandemic Emergency Purchase Programme (PEPP) | 18th March - measure initially amounted to € 750 bn.<br>4th June – it was increased by another € 600 bn, which is in total € 1.350 bn. |
| Establish an effective liquidity protection mechanism | Pandemic Emergency Longer-Term Refinancing Operations (PELTROs) | 30rd April - Distributions of the full amount of liquidity at auctions with immutable interest rate of 25 basis points less than average |
| Foreign exchange measures – provision of euro liquidity | EUR swap lines | 20th March – The ECB agreed a currency swap line with Denmark in the amount of € 24 bn<br>15th April - The ECB agreed a currency swap line with Croatia and Bulgaria in the amount of € 2 bn |

*Table 2: Reaction of ECB to COVID-19 crisis*
*(Source: ECB, BIS)*

Like the ECB, FED had some measures ready in the face of the new crisis. Among the Fed's initial responses to the pandemic crisis were interest rates of -1.5% to lower borrowing costs and support aggregate demand. The Fed's responses to the COVID crisis are listed and explained below.

| OBJECTIVES | MEASURES | DESCRIPTION |
|---|---|---|
| Stability of financial markets | Repurchase agreement (ROs) | 9th March - New York Federal Reserve Bank undertook to increase its daily offer of repurchase agreements |
| Provision of bank liquidity | Discount window (DW) | 15th March - facilitating lending for commercial banks by FED |
| Provision of maximum employment and price stability | System Open Market Account holdings (SOMA) | 15th March – unlimited amount of funds available in conducting operations on open market and foreign exchange interventions |
| Maintaining the liquidity of the financial system | Primary Dealer Credit Facility (PDCF) | 17th March - short-term instrument for providing overnight loans to issuers of securities through their clearing banks in exchange for acceptable collateral |
| Improve the functioning of the credit market by lending directly to subjects | Commercial Paper Funding Facility (CPFF) | 17th March – $ 10 bn in taxpayer funds have been allocated to mitigate the economic impact of the coronavirus |
| Provision of financial market liquidity | Money Market Mutual Fund Liquidity Facility (MMLF) | 18th March - Liquidity instrument for money market investment funds |
| Provision of secondary market liquidity | Term Asset-Backed Securities Loan Facility (TALF) | 23rd March - in addition to the USD 10 bn in fiscal support, $ 100 bn is provided |
| Provision assistance to the business sector | Main Street Lending Program (MSLP) | 23rd March - support lending to small and medium-sized businesses that were in good financial condition prior to the pandemic. The value of the program is $ 600 mn and fiscal support at BIS (2020) is $ 75 bn |
| Provision of liquidity of the corporate sector on the primary market | Primary Market Corporate Credit Facility (PMCCF) | 23rd March - approved lending activity of the corporate sector in the amount of $ 500 bn |
| Provision of liquidity of the corporate sector on the secondary market | Secondary Market Corporate Credit Facility (SMCCF) | 23rd March – approved lending activity of the corporate sector in the amount of $ 250 bn |
| Provision of liquidity financial institutions | Paycheck Protection Program Liquidity Facility (PPPLF) | 6th April - FED has established this program with the value of $ 659 bn, which is the amount of qualified/acceptable collateral |
| Provision of state and local governments for the purpose of better money management flows | Municipal Liquidity Facility (MLF) | 9th April - FED has set up a fund to buy municipal bonds<br>The size of the fund is $ 500 bn, and fiscal support under the BIS (2020) - $ 35 bn |
| Foreign exchange measures – provision of dollar liquidity | USD swap line (USD SL 1, 2)<br><br>USD repo facility (FIMA RF) | 15th March CA, CH, EA, GB, JP<br>19th March – 30rd September AU, BR, DK, KR, MX, NO, NZ, SG, SE $ 30bn – 60bn<br><br>31st March – 30rd September FIMA account holders |

*Table 3: Reaction of FED to COVID-19 crisis*
*(Source: FED, BIS)*

The FED's new measures include (Cavallino, De Fiore, 2020; Clarida et al., 2021):

- Municipal Liquidity Facility (MLF) to help state and local governments manage cash flows
- Paycheck Protection Liquidity Facility Program (PPPLF) to improve the effectiveness of small business payroll protection programs
- Primary Market (PMCCF) and Secondary Market Corporate Credit Facility (SMCCF) for lending to businesses through primary and secondary financial markets
- Money Market Mutual Fund Liquidity Facility (MMLF) which is a liquidity tool for money market mutual funds designed to increase liquidity and improve the functioning of financial markets to support the economy
- An agreed unlimited currency swap with the Canada, Switzerland, ECB, United Kingdom, and Japan. While the currency swap agreements with Australia, Brazil, Denmark, the Republic of Korea, Mexico, Norway, New Zealand, Singapore and Sweden were available until September 30, 2020.

## 4. CONCLUSION

The crisis triggered by the pandemic COVID-19 differed in its characteristics from previous financial crises. But its effects were sudden and severe for all economies of the world. This is confirmed by data on macroeconomic indicators: inflation, GDP, unemployment rate, the share of public debt, which were disrupted during the pandemic crisis. Based on the experience of the previous debt crisis in 2008, banking systems welcomed the 2020 better prepared with more capital and liquidity. This made it possible to provide assistance to the households and companies most affected by the pandemic and the lockdown. Nevertheless, the sudden appearance of the virus that triggered the global crisis created a strong pressure on financial markets and their need for protection. Therefore, it was important that central banks act swiftly in their monetary and regulatory measures to prevent first shocks and provide protection for the financial system. In March 2020, the CNB intervened during the kuna depreciation and reduced regulatory pressure on the banking system with lowered the reserve requirement. Unlike ECB and the FED, which directly helped the financial market in the previous crisis, the CNB did so for the first time in 2020 when purchased government bonds. Also in this crisis, the CNB has arranged a swap line with ECB, which creates the possibility of obtaining euro liquidity when needed. During the COVID crisis, the ECB and the FED activated some of the measures used in the previous crisis, but also implemented new measures to protect the financial system and provide liquidity.

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