

KIA Fresh Graduates Program - Economics

Case Study: Analyzing the Impact of COVID-19 on the US Economy using the AD-AS Model

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Introduction

The COVID-19 pandemic has had significant effects on economies worldwide. The US economy experienced substantial disruptions in aggregate demand and supply, resulting in changes in output and inflation. This case study uses the Aggregate Demand-Aggregate Supply (AD-AS) model to analyze these impacts.

Background

Before the pandemic, the US economy was operating near its potential output with stable inflation. The onset of COVID-19 led to lockdowns, reduced consumer spending, supply chain disruptions, and unprecedented fiscal and monetary responses. As a result, both aggregate demand (AD) and aggregate supply (AS) were affected.

Data and Economic Context

The four panels in Figure 1 below depict the evolution of quarterly real GDP growth, CPI inflation rate and unemployment over the last 5 years:

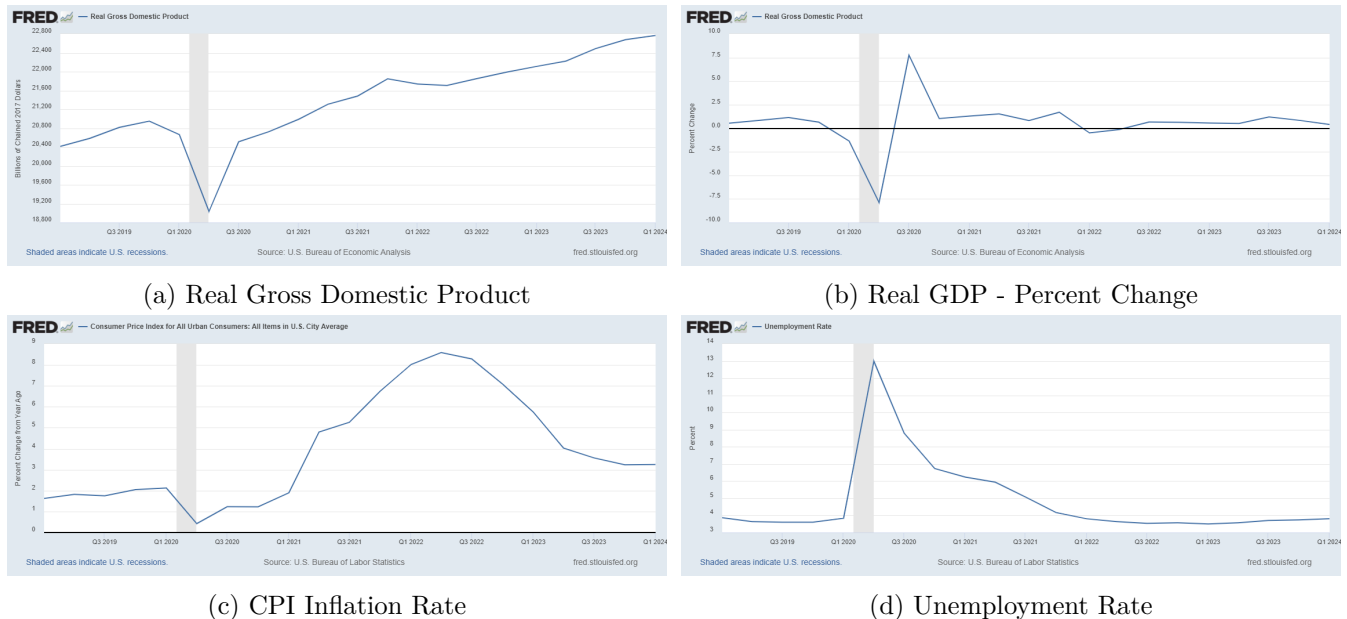


Figure 1: US Economic Indicators During and After COVID-19

During the COVID-19 pandemic, the US government and the Federal Reserve implemented several policies to mitigate the economic impact:

- **Fiscal Policies:**

- The government passed multiple stimulus packages totaling over \$5 trillion, including direct payments to individuals, enhanced unemployment benefits, and support for businesses through loans and grants.
- Significant increases in government spending on healthcare, infrastructure, and other critical areas.

- **Monetary Policies:**

- The Federal Reserve cut interest rates from 1.5-1.75% to near zero (0-0.25%) to encourage borrowing and investment.
- Large-scale asset purchases (quantitative easing) amounting to over \$3 trillion to provide liquidity to financial markets.
- Emergency lending programs to support businesses and financial institutions.

Questions

Using the AD-AS model, analyze the impact of COVID-19 on the US economy in terms of output and inflation.

1. Initial Impact of the Pandemic

Discuss how aggregate demand and aggregate supply were affected during the onset of the pandemic. Using the AD-AS diagram, illustrate the shift in AD and AS and explain the resulting changes in output and inflation.

2. Policy Reactions to the Pandemic

Explain how the fiscal and monetary policies implemented shifted the aggregate demand curve. Illustrate this shift using the AD-AS diagram and discuss the short-term effects of these policies in terms of output and prices.

3. Post-Pandemic Recovery, Supply Constraints and Inflation Surge

What factors contributed to the increase in aggregate demand during the recovery phase? How did supply chain disruptions and labor shortages affect aggregate supply? Illustrate the shifts in AD and AS during the recovery using the AD-AS diagram.

4. Policy Reaction to the Inflation Surge

In response to rising inflation, the Federal Reserve started raising interest rates and tapering its asset purchases, reducing the amount of liquidity being injected into the financial system. Illustrate the shifts in AD and AS during the recovery using the AD-AS model and discuss the consequences in terms of output and prices.

5. Easing Supply Constraints and Ongoing Disinflation

Finally, supply chain disruptions and labor market conditions started improving. Illustrate the impact on aggregate supply using the AD-AS model and discuss the consequences in terms of output and prices.