Econ 101 framework to think about surge of inflation

- AD-AS curves
- Impact of combination of demand and supply shocks

Provide reading list

- Some academic papers that I find especially useful
- Some of my own Fed publications and ones that helped shape my interpretation

Review some of the main facts

- Focus mainly on U.S. but some cross-country evidence
U.S. Saw A Large Surge in Inflation After The Pandemic

CPI and PCEPI Inflation
Monthly observations; seasonally adjusted; 12-month inflation rates

Source: Bureau of Labor Statistics and Bureau of Economic Analysis
Inflation Well Above The Fed’s Objective

**Headline and Core PCE inflation**
Monthly observations; seasonally adjusted; 12-month inflation rates

- **PCE - total**
- **PCE - excl. food and energy (core)**
- **FOMC 2 percent target**

Source: Bureau of Economic Analysis
Post-Pandemic Spike in Inflation Widespread

Inflation by OECD country - before and after pandemic

12-month inflation rates; CPI all items; percent

Source: OECD

Hobijn et al. (2022)
Consider Inflation Surge in Stylized AD-(SR)AS Framework
Demand-Driven Fluctuations in Unemployment over Business Cycle

**Unemployment rate** ($u$)

**Inflation rate** ($\pi$)

2 percent

**SRAS**

**AD**

Positive demand shock

Negative demand shock

Drivers of Inflation Amid a Global Surge Hobijn May 18, 2023 NONCONFIDENTIAL // EXTERNAL
Phillips Curve Driven by Demand Fluctuations

- **SRAS**: Short-Run Aggregate Supply
- **AD**: Aggregate Demand

Positive demand shock leads to an increase in inflation and a decrease in unemployment, moving the economy along a higher SRAS curve. Conversely, a negative demand shock decreases inflation and increases unemployment, moving the economy along a lower SRAS curve.

2 percent inflation rate

Generates negative relationship between inflation and unemployment (Phillips Curve)
Monetary Policy Stabilizes Demand-Driven Fluctuations

Unemployment rate ($u$)

Inflation rate ($\pi$)

SRAS

AD

Negative demand shock

Monetary contraction

Positive demand shock

Monetary expansion

2 percent

(Edge and Gurkaynak, 2010; McLeay and Tenreyro, 2020)
Seen a Steepening of the Phillips Curve Across Countries

A. United States

B. United Kingdom

C. France

Hobijn et al. (2023)
But Supply Shocks also Important...

Unemployment rate ($u$)

Inflation rate ($\pi$)

2 percent

SRAS

AD

Negative supply shock

Positive supply shock

“Supply-Side Origins” of inflation: Hobijn (2020)
Energy CPI inflation - before pandemic and now

12-month inflation rates; CPI energy; percent

Before pandemic (May 2019)

Recovery (Feb 2023)

Source: OECD
Contributions of non-core, food, and energy to acceleration

Change in contribution to 12-month inflation rates between 2019/5 and 2023/2; percentage point;

Source: OECD
Large Joint Negative Supply and Demand Shocks During Pandemic

Unemployment rate ($u$)

Inflation rate ($\pi$)

2 percent

SRAS

Negative supply shock

AD

Negative demand shock

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Inflation Declined In Depth of Pandemic

Headline and Core PCE inflation

Monthly observations; seasonally adjusted; 12-month inflation rates

- PCE - total
- PCE - excl. food and energy (core)
- FOMC 2 percent target

Source: Bureau of Economic Analysis
Fast Recovery in Demand

Unemployment rate \( (u) \)

Inflation rate \( (\pi) \)

2 percent

SRAS

AD

Fast
Recovery
in demand
Consumption Bounced Back to Trend in Spring 2021

Real Personal Consumption Expenditures
Monthly observations; seasonally adjusted; percent of Feb-2020 level; Feb-2015 - Feb-2020 trend

Drivers of Inflation Amid a Global Surge
Hobijn
May 18, 2023
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Non-Linearities in Supply Curve Due to Disruptions

Unemployment rate ($u$)

Inflation rate ($\pi$)

2 percent

SRAS

AD

Non-linearities due to supply constraints

Boehm and Pandalai-Nayar (2022)
Motor Vehicle Price Increased Due to Chips Shortage

New Motor Vehicle Inflation
Monthly observations; seasonally adjusted; 12-month inflation rates, Consumer Price Index

Source: Bureau of Labor Statistics
Alleviation of Supply Constraints Has Reduced Inflation

Unemployment rate ($u$)

Inflation rate ($\pi$)

2 percent

SRAS

Resolution of supply constraints and recovery of supply

AD
Recovery of Labor Supply Alleviated Labor Shortages

**Labor Force Participation Rate**

Monthly observations; seasonally adjusted; share of the population

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(Hobijn and Şahin, 2021; Abraham and Rendell, 2023; Hobijn and Şahin, 2022)
But Strength in Demand Puts Upward Pressure on Inflation

Unemployment rate ($u$)

Inflation rate ($\pi$)

2 percent

SRAS

AD

Further recovery in supply

Strength in demand post COVID
Excess Savings Support Discretionary Spending

**Personal Savings and Pre-Covid Trend**

Monthly observations; seasonally adjusted; annualized monthly rate

Accumulations: 2.2T

Drawdowns: 1.4T

**Calculation similar to Abdelrahman and Oliveira (2023)**
Result is Low Unemployment and Elevated Wage Growth

U.S. Wage Phillips Curve: 1986-Now
Monthly observations; seasonally adjusted; Avg growth across measures

Source: Bureau of Labor Statistics

We have returned to the Wage Phillips curve! Gali (2011)
References


HOBIJN, BART, MILES, RUSSELL, ROYAL, JAMES, AND ZHANG, JING. 2023. The Recent Steepening of Phillips Curves. Chicago fed letter, 0(January).
