JHU ECON 602
MACROECONOMIC THEORY AND
POLICY
(Fall 2022)

Group Assignment 1 (50 points)

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Due by email (ploungani@imf.org) by 11 am on Tuesday, Sep. 20.

1. (5 points): On January 27, 2022, U.S. President Biden said: "**The GDP numbers for my first year** show that we are finally building an American economy for the 21st Century, with the fastest economic growth in nearly four decades … **And, for the first time in 20 years, our economy grew faster than China's. This is no accident. My economic strategy** is creating good jobs for Americans, rebuilding our manufacturing, and strengthening our supply chains here at home to help make our companies more competitive". Do you agree with President Biden's claim that the fast GDP growth in his first year (i.e., in 2021) is due to his economic strategy? Why or why not?
   https://www.whitehouse.gov/briefing-room/statements-releases/2022/01/27/president-biden-statement-on-first-year-gdp-growth/

   Largely disagree. The US economy growth was indeed promoted by strong hiring and better consumer spending as Biden claimed, nevertheless, factors such as the late pandemic recovery in the US and different data sources may have the reverse effects on the conclusion. Although the US economy gained a better GDP growth performance in the fourth quarter of year 2021 with a 6.9 percent than China with 4 percent, it was due to the low relative base previously and the later recovery from pandemic in the US. According to the World Bank (2022), the US's nominal economic growth in 2021 was 5.7 percent, while China was 8.1 percent, which is well above the US. Furthermore, the US economy suffered from a high inflation rate in 2021 which remains an essential threat to the US and world economy in the future.

World Bank (2022), https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=CN

2. (5 points): In this week's class, we will discuss the equation for long-run equilibrium in the labor market: $s*E = f*U$ (assuming that the labor force is fixed). Use this equation to show that

$$\left(\frac{U}{L}\right)* = \frac{s}{s+f}.$$

the equation for the natural rate of unemployment is .

The equation for the natural rate is

unemployment rate $u^* = \frac{s}{s+f}$ where s is the job separation and f is the job finding rate

Prove: Due to Unemployment rate $= \frac{U}{L} = \frac{U}{E+U}$ where U is number of unemployment people, E is the number of employed people

Besides, $SE = fu$ which suggests $U = \frac{SE}{f}$

Then $\log u = \frac{SE}{f}$ into $U = \frac{U}{E+U}$

$$u^* = \frac{SE/f}{E+SE/f} = \frac{s}{f+s}$$

3. (10 points): Continuing with the question above, use the equation for the natural rate to explain why European unemployment went up between 1975 and 2000. You should think about what might have happened to s and f that would lead to the increase in unemployment.

The rise in European Unemployment

Percent unemployed
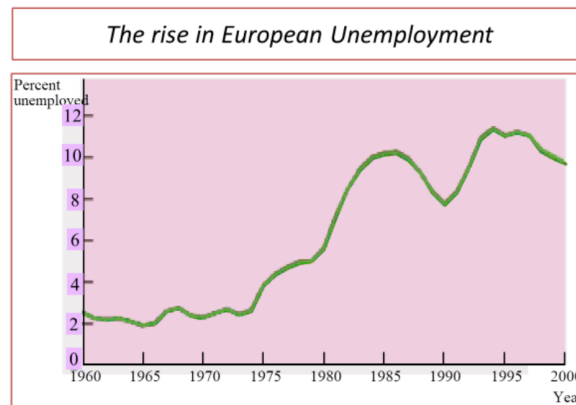
- The energy crisis of 1973-1974 led to the increase of global oil prices and the recession in the European economy. The raw material cost of Euro firms increased a lot and they had to cut costs by firing workers. As a result, the job separation rate (s) increases, the unemployment rate (U) keeps going up.

- Second, the EU implements the single monetary policy which indicates that member countries could hardly simulate the investment and adjust the unemployment by changing the interest and exchange rates. Besides, EU countries have strict wage regulations and it's difficult for the government to solve employment problems by adjusting wages. In this case, the job finding rate (f) decreased and U went up.

- After World War II, affected by the scientific and technological revolution, EU industry was transformed and upgraded. EU countries have relocated the traditional industry to developing countries which causes traditional workers to lose the job and unemployment rate increases.

- EU rich welfare policy made unemployed people lose incentive to find a job and led to a lower participation rate. Consequently, the job finding rate (f) decreases and the unemployment rate increases year by year.

- During 1973-1974, the population of Europe continued to grow which caused the increase of total labor force and the relative decrease of the job position and thereby increasing the job finding competition. Therefore, the f may decrease and the U increase.

4. (10 points): Download data from FRED (https://fred.stlouisfed.org/) on the U.S. inflation rate (CPIAUCSL) and the unemployment rate (UNRATE). Estimate the accelerationist Phillips Curve for the period 1970 to 1995 and the Phillips Curve from 1996 to 2018. Please copy the two charts into the Word documents (and attach a separate EXCEL sheet to show your work).

Phillips Curve for 1996-2018

Accelerationist Phillips Curve1970-1995
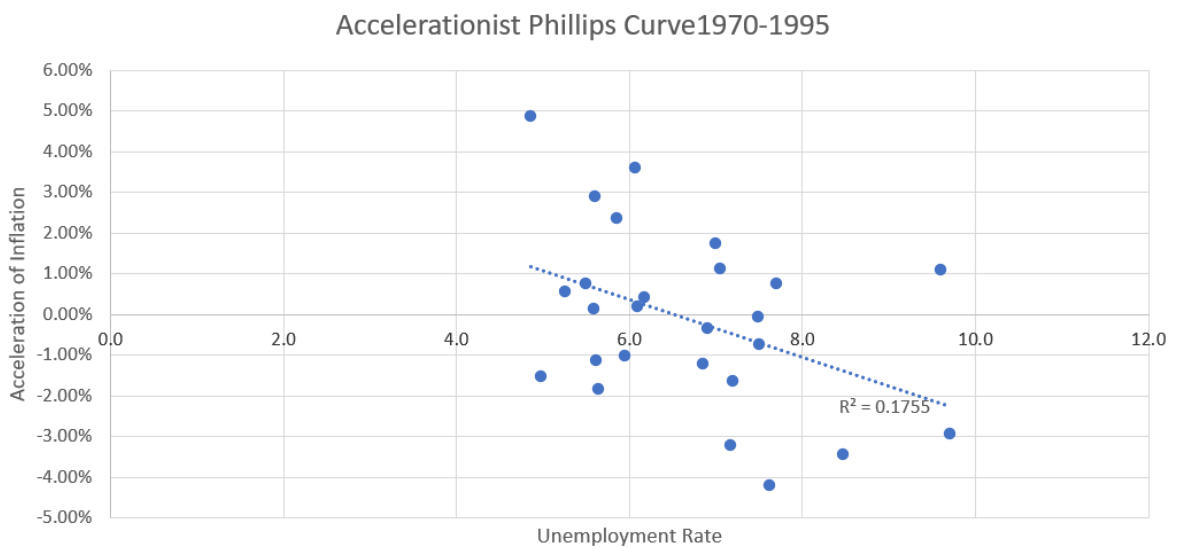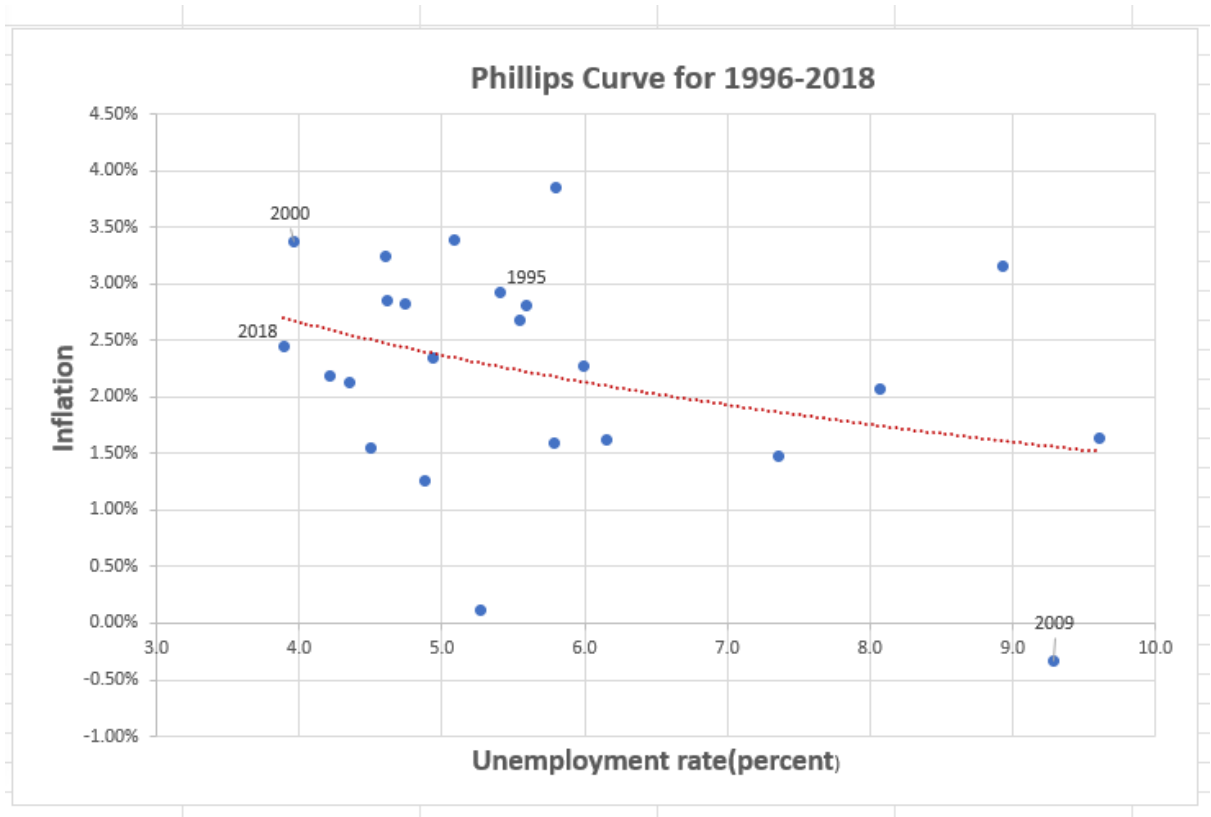
5. all (20 points): Draft the monetary policy decision that the U.S. Federal Reserve will release on Sep. 21, 2022. Your statement should look like this:
https://www.federalreserve.gov/newsevents/pressreleases/monetary20220727a.htm

September 17, 2022

Federal Reserve issues FOMC statement

As of September, the growth of non-agricultural employment in the United States slowed down in August but remained stable. However, the CPI is still higher than expected which reflects the problem of higher food and energy prices.

The Russian-Ukrainian conflict has triggered tight global energy and food supply, the mismatch between supply and demand in the labor market has exacerbated the "wage-price" spiral, and the combination of multiple factors has pushed inflation to continue to rise. The shutdown of the Nord Stream II gas supply in Russia and the onset of winter highly cause a greater energy price. In addition, the progress of the Taiwan Policy Act of 2022 which affects China-US relations is likely to exacerbate supply chain disruptions. The Committee is highly attentive to inflation risks.

The Committee seeks to achieve maximum employment and inflation at the rate of 2 percent over the longer run. In support of these goals, the Committee decided to raise the target range for the federal funds rate to 3 to 3.25 percent and anticipates that ongoing increases in the target range will be appropriate. In addition, the Committee will continue reducing its holdings of Treasury securities and agency debt, and agency mortgage-backed securities, as described in the Plans for Reducing the Size of the Federal Reserve's Balance Sheet that was issued in May. The Committee is strongly committed to returning inflation to its 2 percent objective.

In assessing the appropriate stance of monetary policy, the Committee will continue to monitor the implications of incoming information for the economic outlook. The Committee would be prepared to adjust the stance of monetary policy as appropriate if risks emerge that could impede the attainment of the Committee's goals. The Committee's assessments will take into account a wide range of information, including readings on public health, labor market conditions, inflation pressures and inflation expectations, and financial and international developments.

Voting for the monetary policy action were Menghang Liu, Kunming Zhang, Yi Lu, Yun Lin, Xiaohui Sun, and Xinyuan Ma.

Implementation Note issued September 17, 2022