

Assignment 2 EE312 (Semester 2/2019)

1. Due Feb 13th, 2020 (before 11.30 pm. Submit your work on the BE Moodle.)
2. For question 1, even-numbered groups are assigned to do even-numbered sub questions.
3. Question 2 is required for every group.

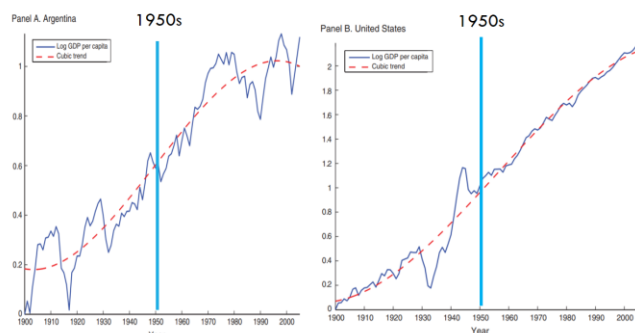
Question 1:

- 1.1) Explain why the classical supply curve is vertical. What are the mechanisms that ensure continued full employment of labor in the classical case?
- 1.2) How does the Keynesian aggregate supply curve differ from the classical one? Is one of these specifications more appropriate than the other? Explain, being careful to state the time horizon to which your answer applies.
- 1.3) Within the core AD-AS model (4 diagrams), analyze the effects of a loss of confidence in risky stocks and bonds such as occurred in the 2007–09 financial crisis. What would likely be happening to output, interest rate, price, employment, consumption and investment?
- 1.4) Within the AD-AS model (4 diagrams), analyze the effects of fiscal expansion that is accompanied by a monetary accommodation. Is the size of fiscal multiplier large under the situation?

Question 2: *Synthesizing your knowledge on business cycles*

Emerging market economies (EMEs) are typically claimed to have more unstable macroeconomic performances than those in advanced economy (AE). Plotted in the Exhibit A below are the series of real GDP per capita (measured in log scale) of Argentina (EM) and USA (AE). In each figure, the counterparts long-term trend of log real GDP per capita for each country are also included, where the cyclical deviations could be visually observed as the gap between the solid line and the dashed line. From your eyeball observation, it is fair to conclude that business cycle volatilities in the Argentina are way stronger than those in the USA, especially after the post-World War II periods.

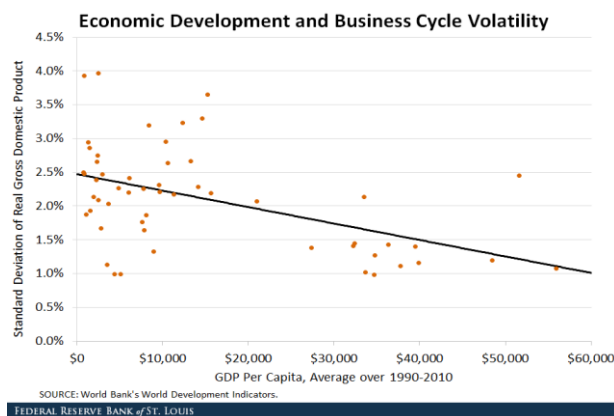
Exhibit A: US and Argentina business cycles



To reiterate the validity of this claim, one can generalize the analysis into larger sets of sampled countries. Plotted in the exhibit 2 below is the scattered points diagram that displays the linkage

between the level of economic development (the average of annual real GDP per capita between 1990-2010) and the level of business cycles volatilities measured by the S.D. of the cyclical component of real GDP (measured under annual frequency). From the exhibit, the relationship between the two variables appears to be negative; the higher level of economic development, the less volatile business cycle fluctuations. In the other words, advanced economy tends to have lower business cycle volatilities than emerging market economies.

Exhibit B: Business cycle volatilities and economic development



Studies using quarterly data have shown some similar patterns of business cycle volatilities as reported in the studies using annual data. For example, Uribe and Schmitt-Grohe' (2017) documented the stylized business cycle facts of 28 countries, eleven of which are classified as emerging market economies. They found that the average SD of emerging market business cycles are roughly 3 times higher than that of advanced economies.

Business-Cycle Statistic	Emerging	Rich
σ_y	8.7%	3.3%

Rich Countries: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Italy, Japan, Netherlands, Norway, Sweden, Switzerland, United Kingdom, United States.

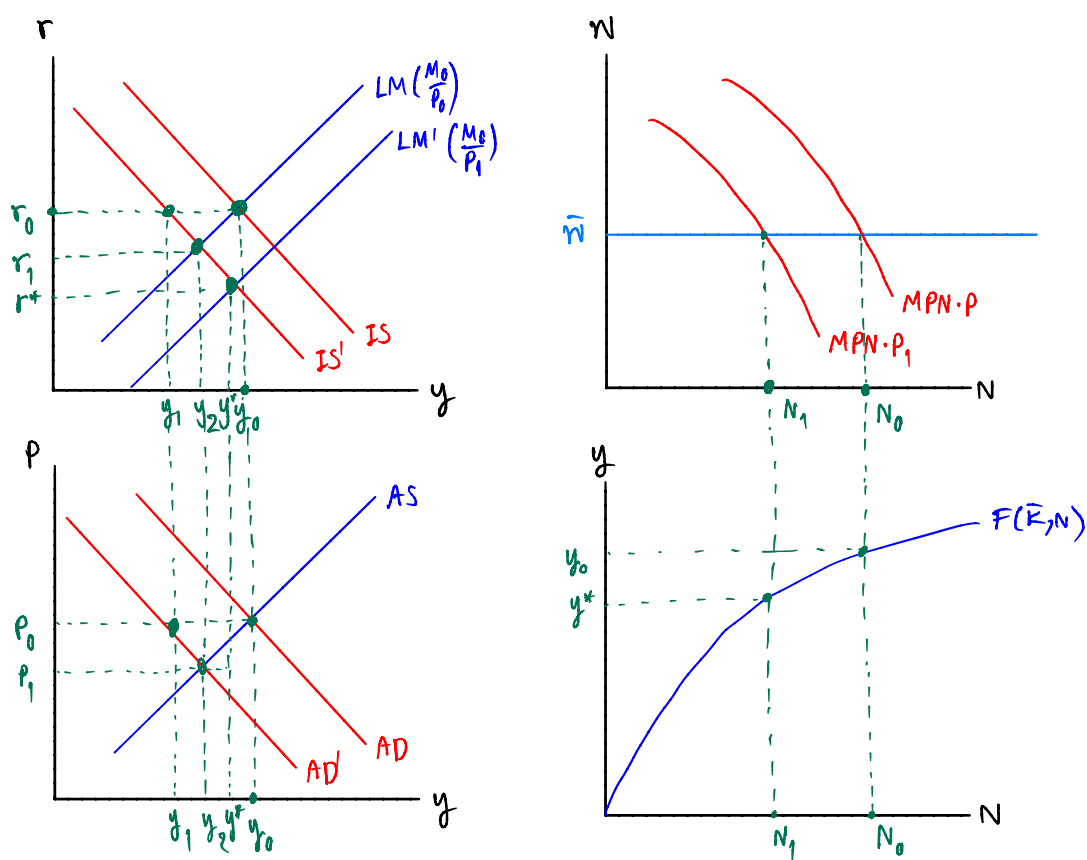
Emerging Countries: Argentina, Israel, South Korea, Mexico, New Zealand, Peru, Portugal, South Africa, Spain, Turkey, and Uruguay.

Question Against the backdrop of the information provided above, economists attempt to seek for possible reasons that account for the cross-country empirical regularities. In lights of the discussion we had in class about the theory of business cycle fluctuations, explain the possible reasons that could account for the observed differences of business cycle volatilities.

Question 1:

1.1) The Classical Aggregate Supply Curve is vertical because it shows that the economy is at full employment level and the resources is being used at full capacity which mean that firms can't hire more workers and expand the production. Additionally, the mechanisms which ensure continued full-employment rate are wages and prices. In the Classical model, the wages and prices are freely adjust according to the change in demand over time, when times are good, wages and prices quickly go up, and when times are bad, wages and prices quickly go down.

1.3)



Initially, the economy is now operating at r_0, P_0, y_0, N_0 . We know that there is a loss confidence in risky stocks and bonds which makes people concern about their future and their decisions making when spending their wealth. Consequently, people will consume less which makes IS curve to shift left from IS to IS' . The interest rate adjusted itself by decreasing from r_0 to r_1 in order to attract investors and maintain the level of output from y_1 to y_2 . Moreover, due to the change in the equilibrium of IS-LM model, AD will shift to the left from AD to AD' which makes the price drops from P_0 to P_1 . The decrease in price level causes LM to shift to the right as real money supply increases from LM to LM' which makes interest rate decrease from r_1 to r^* and output to rise from y_2 to y^* . Furthermore, at P_1 , the value of product per labor is decrease, shift to the left which makes the employment rate to decrease from N_0 to N_1 given the wage is fixed at $\bar{w}$.

2. Emerging market economies produce more commodities than they consume whereas advanced economies produce and consume in relatively the same proportion. So if price increases in an emerging market economy, the value of share of commodities in production is greater than that of those being consumed so there would be an economic boom. Higher value of commodities means more ability to accumulate capital and increase consumption and returns to capital and labor hiring. Big impact so more volatile. But in advanced economies, an increase in price has a much smaller impact on production and the economy as a whole. Smaller impact so less volatile.