EC 103–003

Problem Set 4

Prof. Santetti

Spring 2023

INSTRUCTIONS: Carefully read all problems.

Your answers for Problems 2—4 must be **handwritten**, scanned (you may use a phone app such as *CamScanner*), and submitted in a single PDF file with your *first name* (mine would be `marcio.pdf`). You can convert images to PDF format `here`. Also, you can merge different PDF files `here`.

Submit your files via `theSpring`. In case you experience any issues, email them to `msantetti@skidmore.edu`.

`Assignment due April 29, before class`.
`Points Possible: 60`

- You have 2 weeks to complete this assignment. See our `course syllabus` for late submissions policies.
- Be honest. Don't cheat.
- As a Skidmore student, always recall your votes of academic integrity, and the **`Honor Code`** you have abided by:

> *"I hereby accept membership in the Skidmore College community and, with full realization of the responsibilities inherent in membership, do agree to adhere to honesty and integrity in all relationships, to be considerate of the rights of others, and to abide by the college regulations."*

Have fun!

Problem 1

For this first problem, you will work in **groups** one last time. Following a *similar* presentation approach to the previous group activity, 5 groups are asked to select and discuss one of the following **fiscal/monetary** policies adopted by the United States over time:

- The Inflation Reduction Act of 2022;
- Quantitative Easing (QE) after 2007;
- The "Volcker" Shock (1970s—1980s);
- "Reaganomics";
- The New Deal.

In addition to reading news articles and other web resources, each group is asked to consult at least **3 scientific/journal papers**, which you can access through `Google Scholar`. You will be able to access most papers through Skidmore's Library open access.

For your presentations, emphasize the **historical context** experienced by the U.S. when the policy was adopted; the main **measures** that each policy adopted; and the **main outcomes/projections** from these policies to the core macroeconomic variables we have been studying (inflation, unemployment, GDP growth, etc.).

Make sure to present the **bibliography** you have used to set up your presentations, and hopefully you will have a better understanding of the main fiscal/monetary policies adopted by the U.S. over the years.

- Submit your presentations through `theSpring` by **04/27**, 5:00 PM.
- Presentations on Friday, **04/28**.

Points possible: `22`

Problem 2

For the following 10 parts, evaluate whether the sentences are **true** or **false**. If **false**, give a brief explanation of why the sentence is incorrect.

(a) In an economy with government, the income that ultimately gets to households is known as *disposable* (after-tax) income. (*1 point*)

(b) In an economy with government, aggregate (private) investment still needs to be fully financed by aggregate (private) savings. (*1 point*)

(c) Whenever changing the level of government expenditures and the supply of money, the government is engaging in *fiscal* policy. (*1 point*)

(d) The government expenditures multiplier produces the same effect as the spending multiplier in a closed economy without government. (*1 point*)

(e) The tax multiplier is always greater than the government expenditures multiplier. (*1 point*)

(f) In an economy with no change in aggregate investment, any new government expenditures fully financed by taxes on consumers will generate a growth in output proportional to the change in government spending. (*1 point*)

(g) The *Inflation Reduction Act* of 2022 is an example of macroeconomic *monetary* policy. (*1 point*)

(h) COVID-19 era stimulus checks are an example of recent *fiscal* policy. (*1 point*)

(i) If an economy's marginal propensity to save (*MPS*) is 0.2, its government expenditures multiplier will be equal to 5. (*1 point*)

(j) If government purchases and taxes are increased by $100 billion simultaneously, equilibrium output will also be increased by $100 billion. (*1 point*)

Problem 3

Give brief answers to the following questions on money supply and demand:

(a) List the *three* main functions of money. (*2 points*)

(b) List the components of M1 money supply. (*2 points*)

(c) List the components of M2 money supply. (*2 points*)

(d) What is the current reserve requirement ratio determined by the US FED on commercial banks? (*2 points*)

(e) List the three motives for demanding money. (*2 points*)

Problem 4

Assume a closed economy with government, and you are given the following information:

- Households consume 75% of their disposable income (Y_d) on consumption, saving the rest;
- The amount of aggregate consumption that *does not* depend on the current level of disposable income is $160;
- Government expenditures: $G = \$200$;
- Net taxes on consumption: $T = \$200$;
- Planned Investment: $I = \$300$;
- Aggregate expenditures definition: $AE \equiv C + I + G$;
- In equilibrium, aggregate income (Y) must be equal to aggregate expenditures (AE).

Answer the following questions. (If you **do not** show your calculations, you will be given **no credit**.)

(a) Using the above information, write the expression for this economy's aggregate expenditures (AE), as a function of income (Y). (*2 points*)

(b) At what aggregate income level do aggregate expenditures exactly meet what is being currently produced in the economy? (*2 points*)

(c) Based on your answer to part (b), what is the level of aggregate savings (S) in this economy? (*2 points*)

(d) From your previous answers, show that the amount of *leakages* is compensated by the amount of *injections* in this economy. (*2 points*)

(e) Suppose you are this economy's policymaker, and need to stimulate the economy. In other words, the prime minister has given you the task of increasing aggregate output by $500. Show **3 ways** in which this goal can be achieved with fiscal policies. To get full credit, you need to give brief explanations and prove your story mathematically. *Obs*: Just using ready-made formulas is not enough to get full credit. (*10 points*)