Extra Credit Assignment

ECON 304 – Intermediate Macroeconomics

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Department of Economics • Fall 2025

2025-10-16

Assignment Information

Due Date: November 17, 2025
Total Points: 6
Student Name: _____
Instructions: This extra credit assignment explores an alternative formulation of the 3-equation model from a post-Keynesian perspective. Show all work clearly. Partial credit may be awarded for correct methodology even if the final answer is incorrect.

Submission Instructions

1. Show all mathematical work clearly
2. Include graphs where requested
3. Explain economic intuition behind your answers
4. Submit by **November 17, 2025** at 11:59 PM via Canvas

Office Hours: Wednesday, 12:00-2:00 PM; Friday, 12:00-1:00 PM; or by appointment

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Problem 1: Post-Keynesian 3-Equation Model with Wage Share

Points: 6.0

In the standard 3-equation model, distribution is typically ignored or assumed neutral for aggregate demand. In this alternative post-Keynesian framework, we examine how the distribution of income between wages and profits affects macroeconomic outcomes.

Question 1.1: The IS Curve with Wage Share

Points: 1.0

Derive an IS curve where aggregate demand depends on the wage share. Assume:

- Investment depends negatively on the real interest rate: $I = I_0 - \alpha r$
- Consumption depends on both wage income and profit income, with different propensities to consume: $C = c_w WL + c_\pi \Pi$, where $c_w > c_\pi$ and Π represents aggregate profits (not to be confused with inflation π)
- The wage share is defined as $\omega = \frac{WL}{PY}$, implying profit share is $(1 - \omega)$

Derive the IS relation in terms of output Y, the real interest rate r, and the wage share ω.

Question 1.2: The Phillips Curve with Distributional Conflict

Points: 1.5

In the post-Keynesian framework, inflation arises from distributional conflict between workers and firms. Consider a Phillips curve of the form:

$$\pi = \pi^e + \beta(Y - Y_n) + \gamma(\omega - \omega^T)$$

where ω^T is the target wage share of workers and $\gamma > 0$.

a) Explain the economic intuition behind this specification. Why does the wage share appear in the Phillips curve?

b) What happens to inflation when the actual wage share exceeds the target wage share ω^T?

Question 1.3: Wage-Led vs. Profit-Led Demand Regimes

Points: 2.0

Using the IS curve you derived in Question 1.1, analyze how changes in the wage share affect aggregate demand and output.

a) Take the partial derivative of output with respect to the wage share ($\frac{\partial Y}{\partial \omega}$) from your IS equation. Under what conditions is this derivative positive? Under what conditions is it negative?

b) An economy is **wage-led** if an increase in the wage share increases output, and **profit-led** if an increase in the wage share reduces output. Based on your answer to part (a), explain the economic conditions that determine whether an economy is wage-led or profit-led.

c) Discuss the policy implications: If an economy is wage-led, what does this suggest about policies that redistribute income toward workers (higher minimum wages, stronger unions, etc.)? How does this differ from the standard model where distribution is assumed to be neutral for aggregate demand?

Question 1.4: Policy Analysis

Points: 1.5

Consider a negative demand shock (decrease in I_0) in a wage-led economy.

a) Trace through the effects on output, the interest rate, and the wage share in the short run using the IS curve you derived in Question 1.1.

b) In a wage-led economy, would policies that protect the wage share during recessions (such as automatic wage indexation or strong unemployment insurance) help stabilize output? Explain your reasoning.