Homework #1

Professor: Alex Houtz
Due: September 9, 2026

Problem 1 (The Pillars of Economics).

Recall the five pillars of economics from class.

(a) Examine your own life. Find an example of each pillar in your own decision making that we did not cover in class.

(b) Go to a major newspaper (Wall Street Journal, New York Times, The Economist, etc). Find a story on policy or in the financial section where these five pillars are evident. Provide a quick summary of the article, then explain how each pillar operates in this story. Include a link to the story.

Problem 2 (Comparative Advantage).

The Nobel prize winning economist Paul Samuelson remarked that:

> "[O]ur subject puts its best foot forward when it speaks out on international trade. This was brought home to me years ago when I was in the Society of Fellows at Harvard along with the mathematician Stanislaw Ulam. Ulam, who was to become an originator of the Monte Carlo method and co-discoverer of the hydrogen bomb, was already at a tender age a world famous topologist. And he was a delightful conversationalist, wandering lazily over all domains of knowledge. He used to tease me by saying, 'Name me one proposition in all of the social sciences which is both true and non-trivial.' This was a test that I always failed. But now, some thirty years later, on the staircase so to speak, an appropriate answer occurs to me: The Ricardian theory of comparative advantage; the demonstration that trade is mutually profitable even when one country is absolutely more – or less – productive in terms of every commodity. That it is logically true need not be argued before a mathematician; that it is not trivial is attested by the thousands of important and intelligent men who have never been able to grasp the doctrine for themselves or to believe it after it was explained to them."

(a) Explain comparative advantage in words. Compare to absolute advantage.

(b) How does comparative advantage relate to international trade (market exchanges across country lines)

(c) Why might many smart people reject the theory (or more specifically, the implications) of comparative advantage? Are there factors our PPF model in class does not consider? Cite these views in news articles or reports.

Problem 3 (Production Possibilities Frontier 1).

Suppose that Holland, MI can produce two goods: tulips and wooden clogs. Holland can produce 100 tulips or 20 clogs. Suppose that Amsterdam, the Netherlands can produce 300 tulips or 500 clogs.

(a) What is the opportunity cost of producing clogs for each city?

(b) If each city specialized in a product, which product should they specialize in?

(c) What range of prices would each city agree to trade within? Why?

Problem 4 (Production Possibilities Frontier 2).

Suppose that Holland, MI can produce 100 tulips or 20 clogs. Draw the PPF assuming constant opportunity costs.

(a) Holland experiences an influx of people that can work in either industry. Draw a new PPF, PPF_a demonstrating what happens when more workers enter the area.

(b) Holland experiences severe weather and many clog machines break, but tulips are unaffected. Draw another PPF, PPF_b, reflecting this situation.

(c) Holland discovers a new strain of tulip bulbs that doubles the number of tulips produced each spring. Draw a last PPF, PPF_c, for this situation.

Problem 5 (Production Possibilities Frontier 3).

Draw a PPF that demonstrates increasing opportunity costs. Why does your PPF demonstrate increasing opportunity costs?