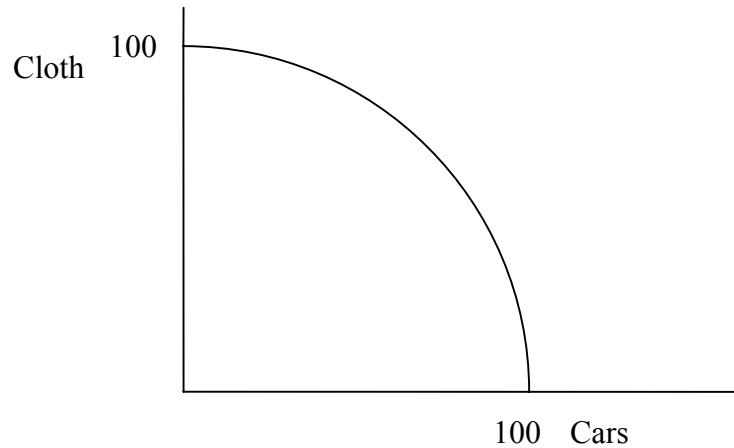


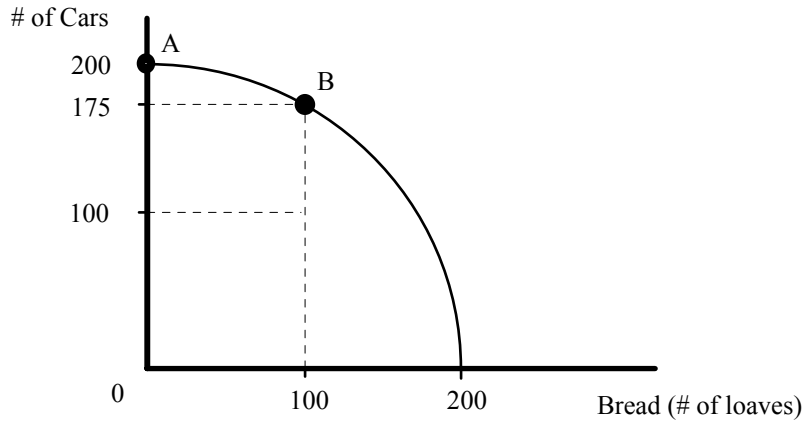
## Problem Set #2 - Economics 2106H, John L. Turner

1. Assume the following production possibilities frontier (PPF) exists for the United States:



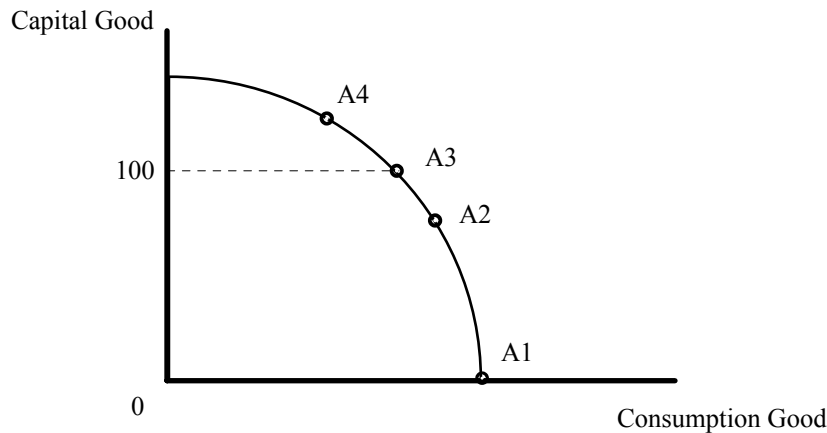
- (a) Label the efficient, inefficient and unattainable areas.
- (b) Give a brief explanation of why the PPF is “bowed out”. Make sure to use the Law of Increasing Opportunity Cost.
- (c) Graphically show what happens to the PPF due to the following events:
- 25 million Americans emigrate to warmer countries after this severe winter.
  - A famous engineer develops a machine that doubles the production of cloth. Would it matter if cloth were used in the production of cars?
  - An enormous supply of iron ore is discovered in South Dakota (assume iron is not used in the production of cloth.)
  - The United States goes into a severe recession.

2. Consider the following **Production Possibilities Frontier (PPF)** for an economy that only produces cars and bread:



- What is the meaning of moving from point A to B? What is the opportunity cost of such a move?
- Could this economy produce 100 cars and 100 loaves of bread? If so, are the resources of the economy being used efficiently at this point?
- Could this economy produce 200 cars and 200 loaves of bread?

3. Consider an economy described by the following PPF that produces two goods -- a consumption good (measured in number of units produced per year) and a capital good (measured in number of units produced per year). Each capital good can be used to produce additional capital and consumption goods for the future (following year). The amount of capital goods produced is considered investment. Also assume capital goods depreciate or wear out completely after they are used for 1 year, and that 100 units of capital goods are required to maintain the same PPF.



Consider four countries denoted by A1, A2, A3 and A4. They each have the same PPF, but choose different combinations of consumption and investment. Country A1 makes no investment for the future, A2 makes some small investment for the future, A3 makes more investment than A2 and A4 makes the most investment for the future. Draw their respective PPFs 1 year from now.

4. Redo problem 3 assuming depreciation is 50% instead of 100% (i.e., if 50 capital goods are used to produce consumption and additional capital goods instead of wearing out completely as in problem 3, there will remain 25 capital goods, which can be used the following year to produce even more consumption and capital goods.)