

Econ 98 - Salazar Guide to Production Possibilities Frontier and Trade

For a given day Matt and Reggie can either make movie scripts or econ problems. If they spend all day on a particular task they can produce the following:

	Econ Problems	Movie Scripts
Matt	20	1
Reggie	8	4

Some simple information we, as economists would like to know is what the **opportunity cost** of each task is. For sake of simplification later in the problem we will assume the opportunity cost remains constant.

Let's start out with finding the opportunity cost of an econ problem.

Matt

We can solve this just using a simple proportion.

$$\frac{X \text{ movie scripts}}{1 \text{ econ problems}} = \frac{1 \text{ movie script}}{20 \text{ econ problems}}$$

The opportunity cost of 1 econ problem for Matt in terms of movie scripts is = 1/20 movie scripts.

Reggie

We can solve this the exact same way.

$$\frac{X \text{ movie scripts}}{1 \text{ econ problems}} = \frac{4 \text{ movie script}}{8 \text{ econ problems}}$$

The opportunity cost of 1 econ problem for Reggie in terms of movie scripts is = 1/2 movie scripts.

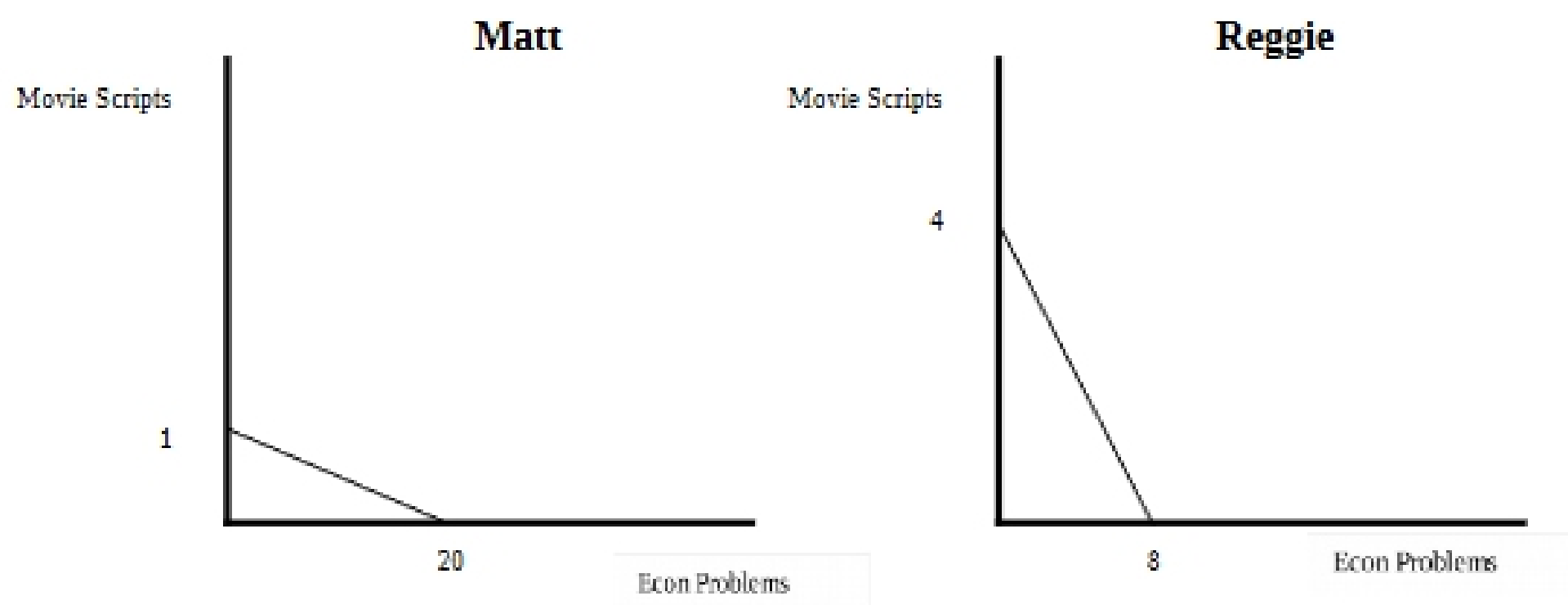
If we wanted to find the opportunity cost of Movie Scripts we would simply take the reciprocal.

The opportunity cost of 1 movie script for Matt in terms of econ problems = 20 econ problems.
The opportunity cost of 1 movie script for Reggie in terms of econ problems = 2 econ problems.

Production Possibilities Frontier

We can use the opportunity cost to plot the PPF for Matt and Reggie.

The slope of the PPF is simply the opportunity cost of the good on the Y axis in terms of the X axis.



Comparative Advantage

Comparative advantage is only concerned with opportunity cost. In a two task, two person economy, if one person has the comparative in a particular task, the other person **automatically has the comparative advantage in the other task.**

In this example **Matt has the comparative advantage in economics problems** because Matt's opportunity cost of 1 econ problem = $1/20$ movie script which is less than Reggie's opportunity cost of 1 econ problem = $1/2$ movie script.

Which means...

Reggie has the **comparative advantage in movie scripts** because:

Reggie's opportunity cost of 1 movie script = 2 econ problems which is less than Matt's opportunity cost of 1 movie script = 20 econ problems.

Absolute Advantage

Absolute advantage just means who can make more in a particular time frame. This **does not** take into account any opportunity costs. You may have the absolute advantage in both goods.

Matt has the absolute advantage in econ problems because the maximum he can make is 20 whereas Reggie can only make 8.

Reggie has the absolute advantage in movie scripts because the maximum he can make is 4 whereas Matt can only make 1.

Trade

**This topic is covered in the later chapters in the book but I will cover it now in part for completeness. This will probably be more heavily tested on the midterm after the later topics have been covered.

First off, we want to know if Matt and Reggie will trade.

Will they trade? **Yes**. Each person has a comparative advantage in a task and therefore their will be gains from trading with one another. Each person will specialize in what they have a comparative advantage in and will trade for the other good.

You should be saying, Prove it Matt. Well here I go.

First we need to set the terms of trade/world price. In other words, how many movie scripts is an econ problem worth.

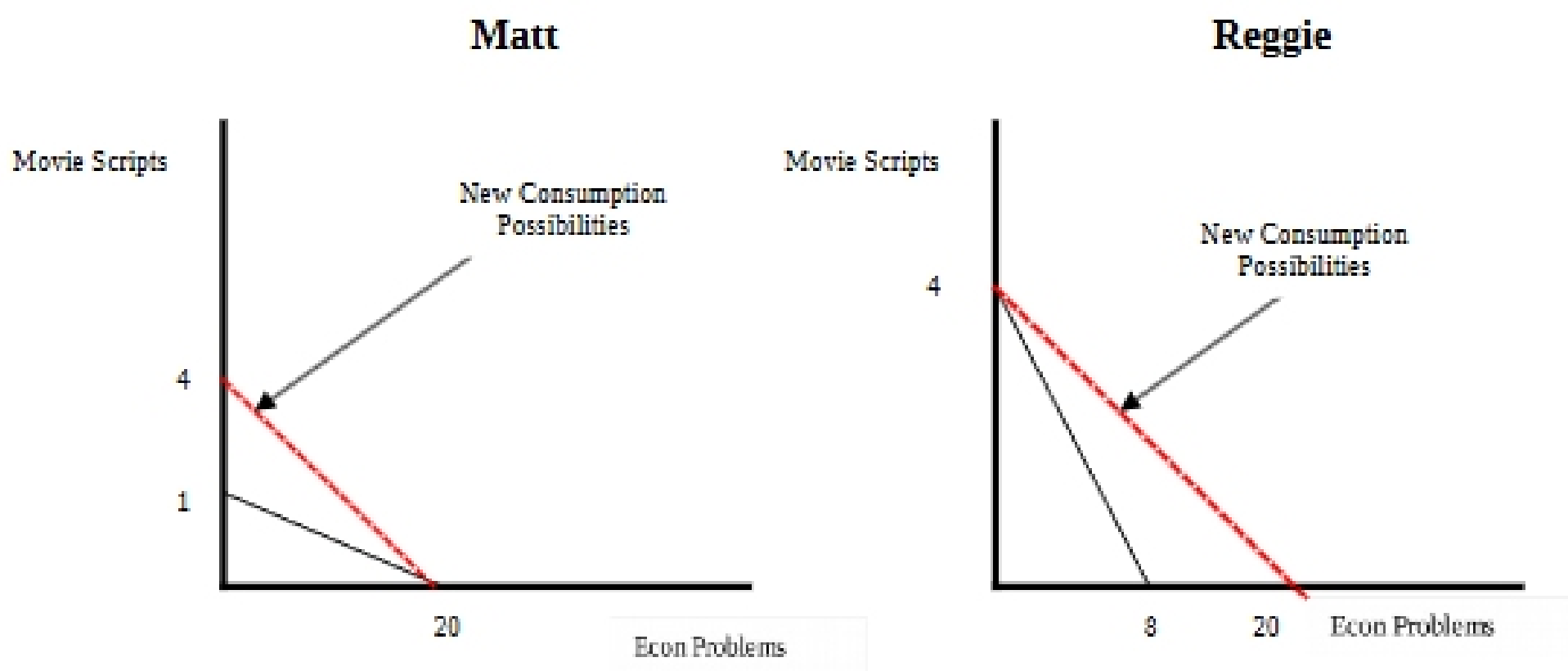
Lets just say they agree to a world price of 1 movie script = 5 econ problems.

(This is like saying the opportunity cost of 1 movie script = 5 econ problems and the opportunity cost of 1 econ problem = 1/5 movie script.)

Now what are Matt and Reggie's consumption possibilities after trade?

Well for Matt he make econ problems, so the most econ problems he can have is 20 (remember Reggie is making movie scripts.) If Matt trades all his econ problems away to Reggie, he can have 4 movie scripts.

For Reggie, he is making movie scripts, so the most movie scripts he can have is 4. If he trades away all of his movie scripts he could have 20 econ problems.



Remember these are **possibilities**. It is possible to be at any point on this line. Before we were only able to produce and consume at the original PPF. But now after trade, we specialize in production and trade, raising the consumption possibilities frontier which leaves everyone better off.