

1 Buying/Selling

Exogeneous- Determined outside of the model.

Endogenous- Affected by things in the model.

1.1 Budget

Move from exogenous income m to exogenous **endowments** (of stuff) and let income be determined by the value of the endowment.

(ω_1, ω_2)

x_1 is apples and x_2 is crusts.

Farmer starts the model with 100 apples:

$$(\omega_1, \omega_2) = (100, 0)$$

Baker starts the model with 50 crusts:

$$(\omega_1, \omega_2) = (0, 50)$$

Budget: "What bundles can I afford given the prices and my endowment?"

$$p_1x_1 + p_2x_2 \leq p_1\omega_1 + p_2\omega_2$$

Budget line:

$$p_1x_1 + p_2x_2 = p_1\omega_1 + p_2\omega_2$$

This is a line with slope of $-\frac{p_1}{p_2}$ that goes through the endowment.

1.2 Gross/Net Demand

Gross demand: x_1, x_2 (the amount of x_1 and x_2 that consumer wants).

Net demands: difference between demand and endowment.

$$x_1 - \omega_1$$

$$x_2 - \omega_2$$

Suppose endowment is $(50, 50)$

But consumer wants $(75, 25)$ (gross demand)

Net demand:

$$(25, -25)$$

Buy 25 units of good 1 and sell 25 units of good 2 to meet their gross demand.

This consumer is a **buyer** of good 1 and a **seller** of good 2.

1.3 Better-off?

For a consumer who is a net buyer of a good, if the price of that good goes down, they will **remain a buyer and the will be better off**.

For a consumer who is a net seller of a good, if the price of that good goes up, they will **remain a seller and the will be better off**.

$$\frac{4(2) + 2(2)}{p_1}$$