MIT OpenCourseWare

14.74 Foundations of Development Policy
Spring 2009
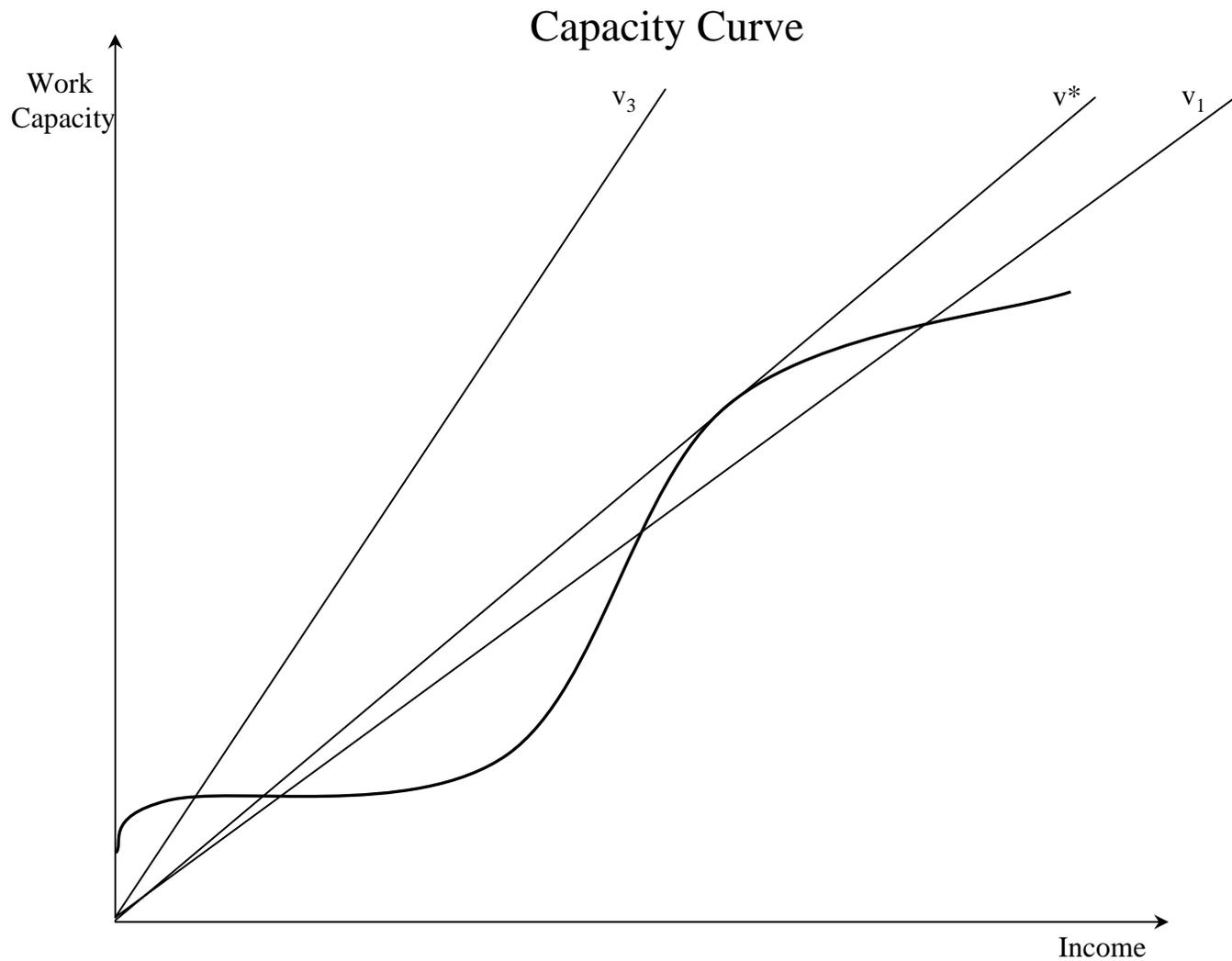
Capacity Curve

Figure 1: The Capacity Curve
The Piece Rate

Aggregate labor supply

Piece
Rate

Aggregate
Labor Supply

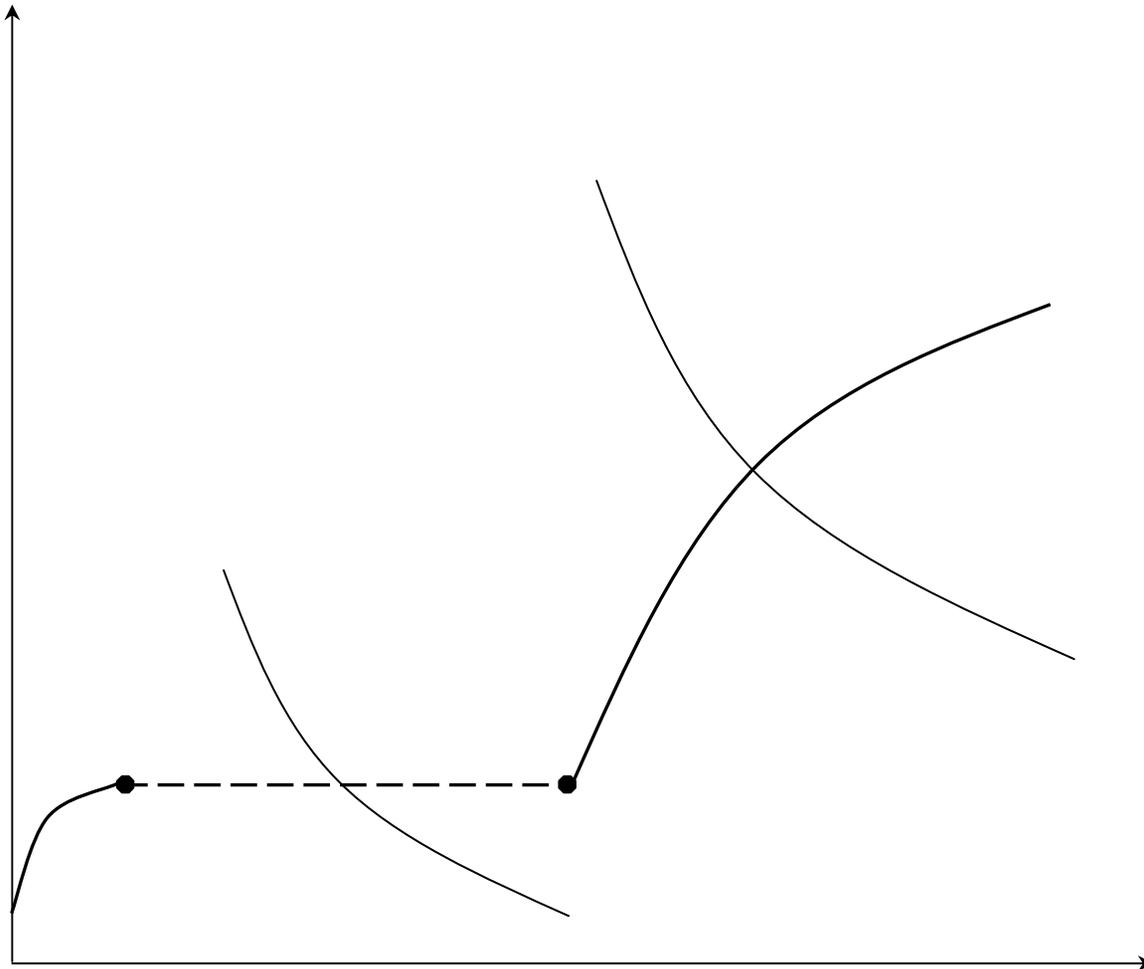Figure 2: Labor Supply
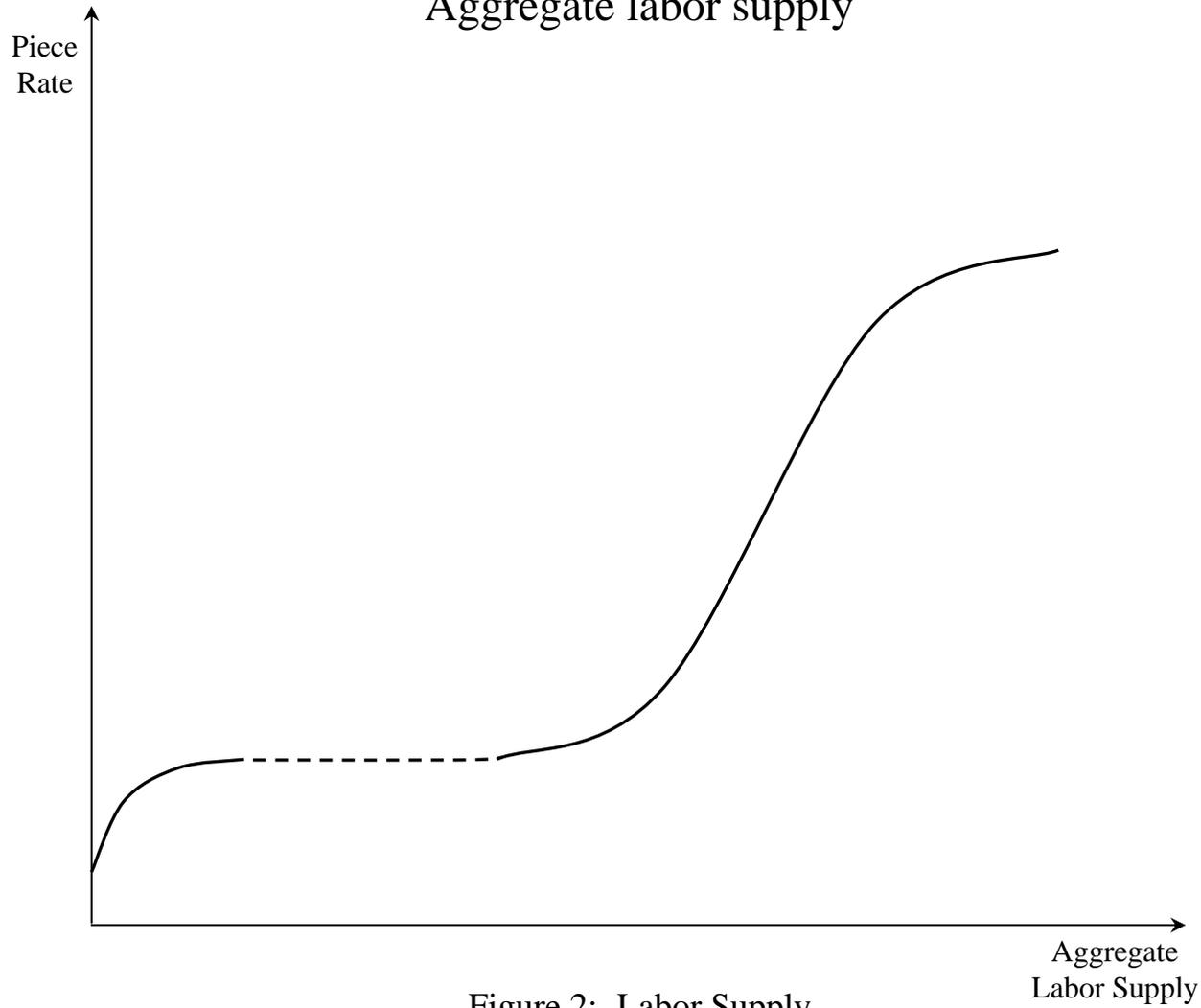
Possible equilibria

Figure 3: Possible Equilibria

The effect of non-labor income

Employment Income
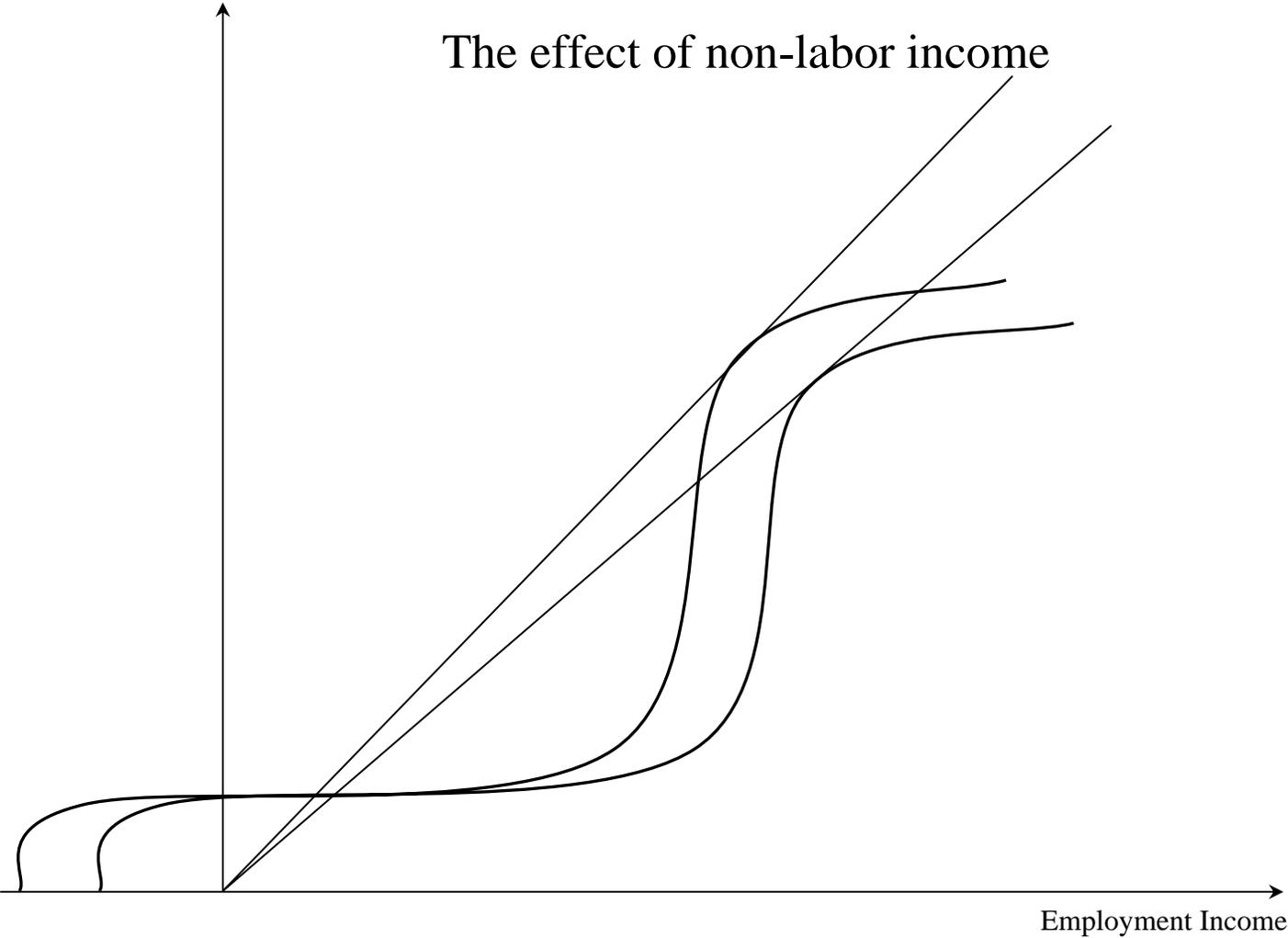
Figure 4: Effect of Non-Labor
            Income on the Capacity Curve
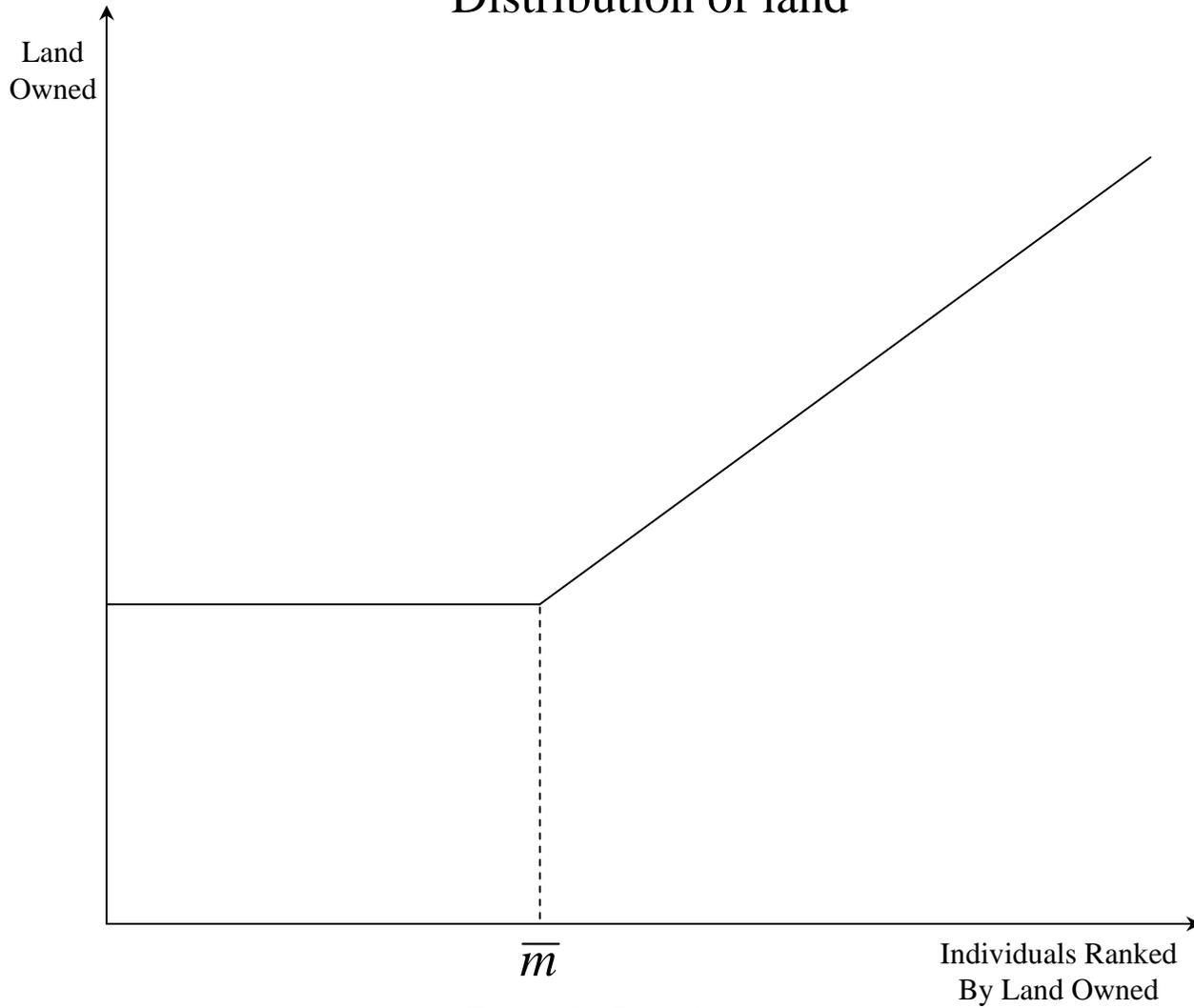
Distribution of land

Land
Owned

$\overline{m}$

Individuals Ranked
By Land Owned

Figure 5: Distribution of
Land

Labor supply as function of land owned

Piece
Rate

Individuals Ranked
By Land Owned
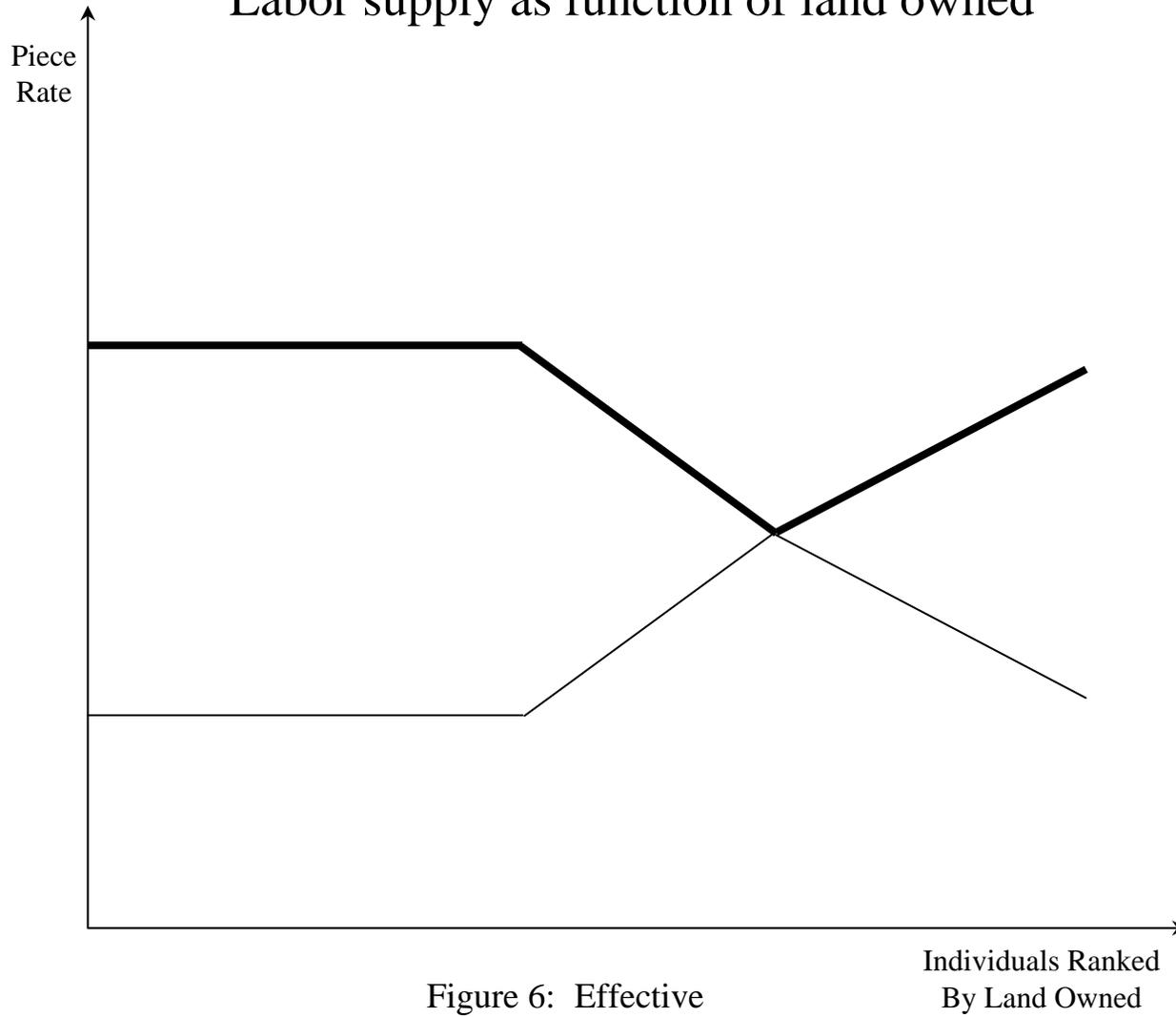
Figure 6: Effective
Reservation Wage

Different types of equibria

Piece
Rate

Piece
Rate

Individuals Ranked
By Land Owned

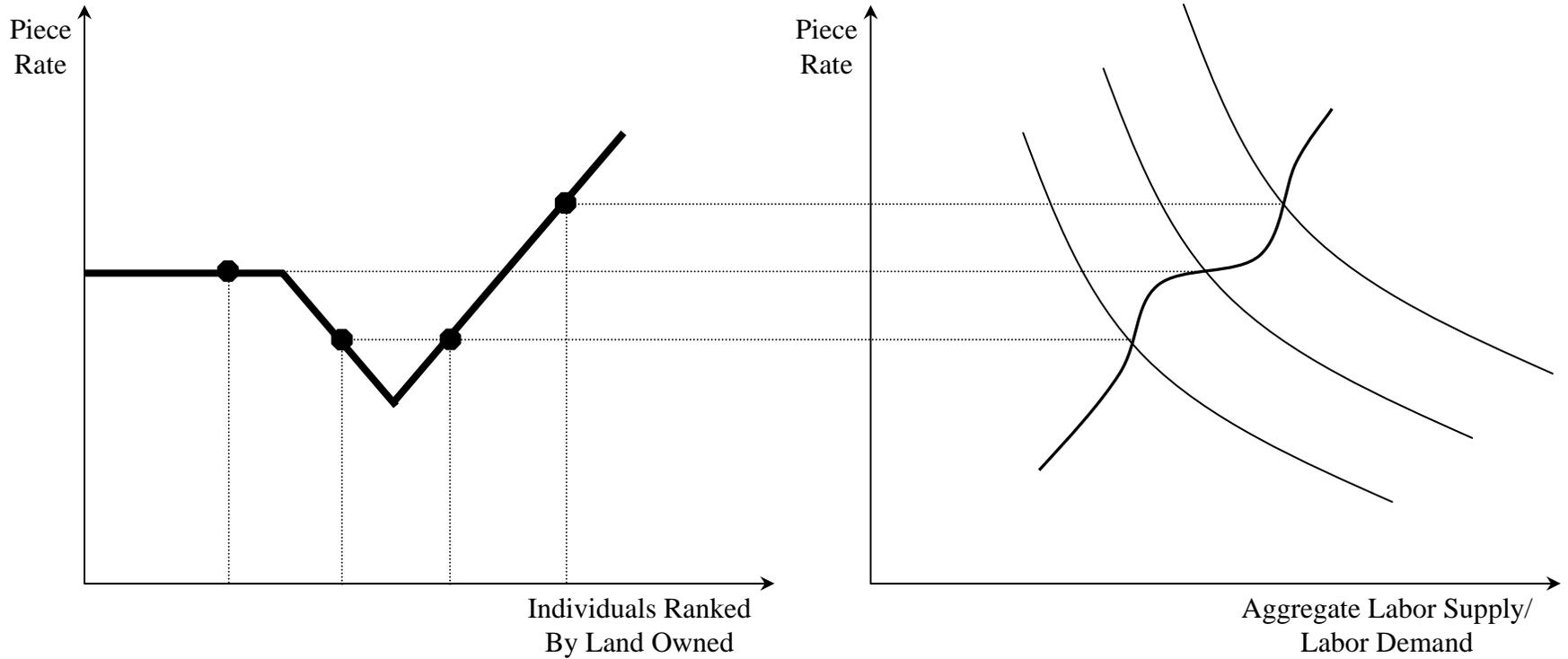Aggregate Labor Supply/
Labor Demand

Figure 7: Type of Equilibria

Policy experiments

Dynamic versions of capacity curve

Dynamic version of the capacity curve

- Capacity curve:
  - Health affects income $$y_{t+1} = g(h_t)$$

  - Income affects health $$g(h_t) = f(y_t)$$

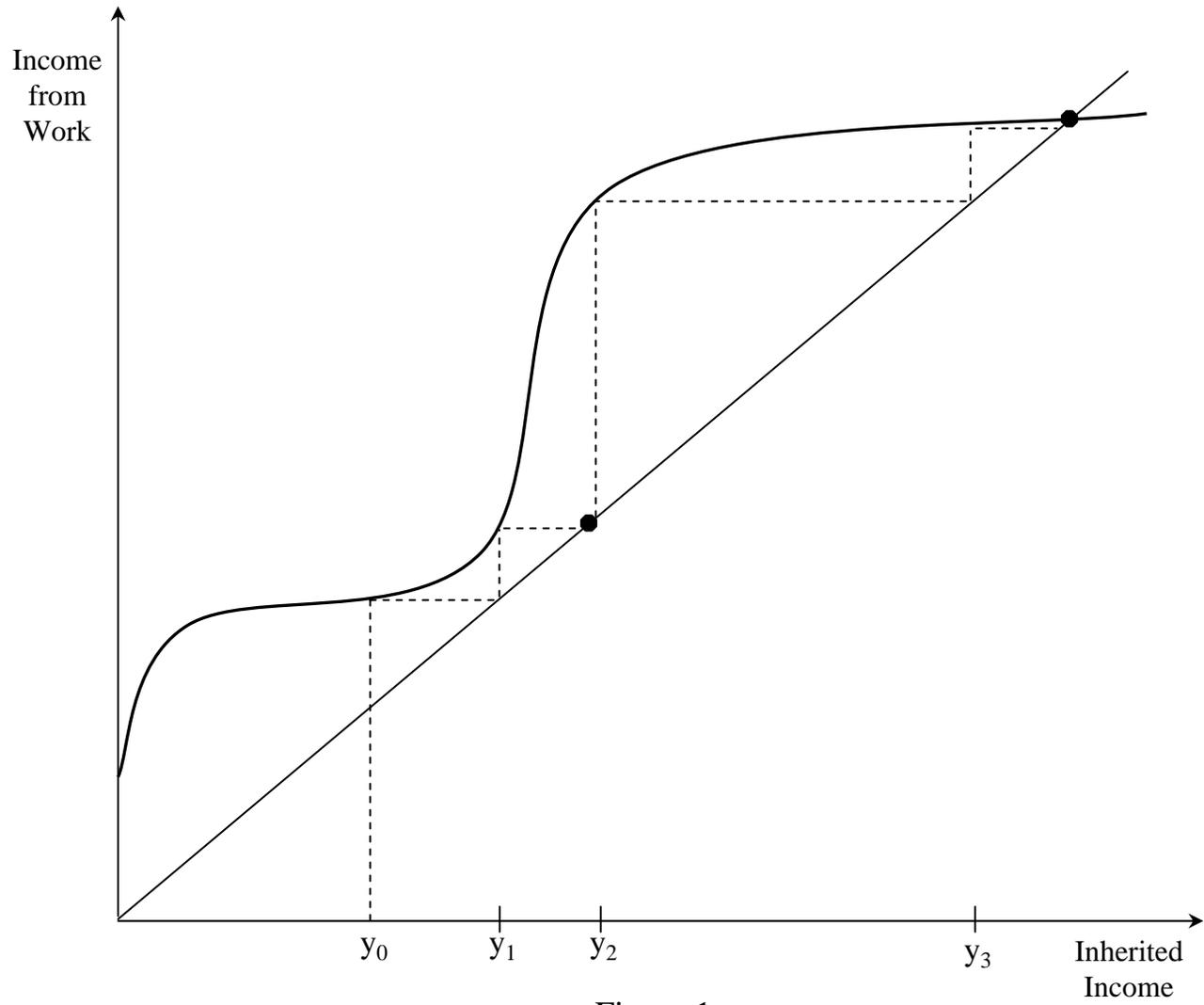 $$y_{t+1} = g(f(y_t))$$

- Capacity curve:
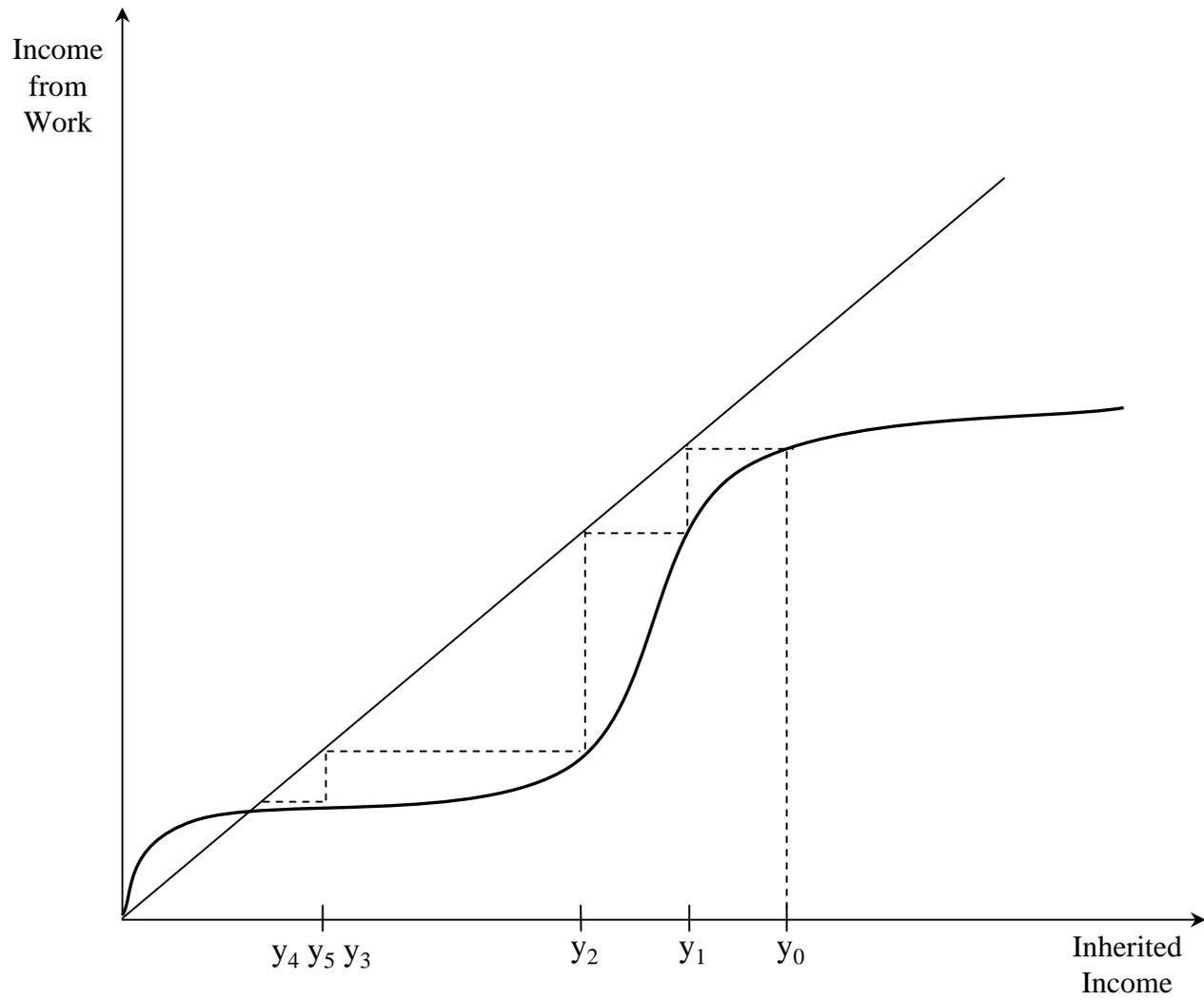
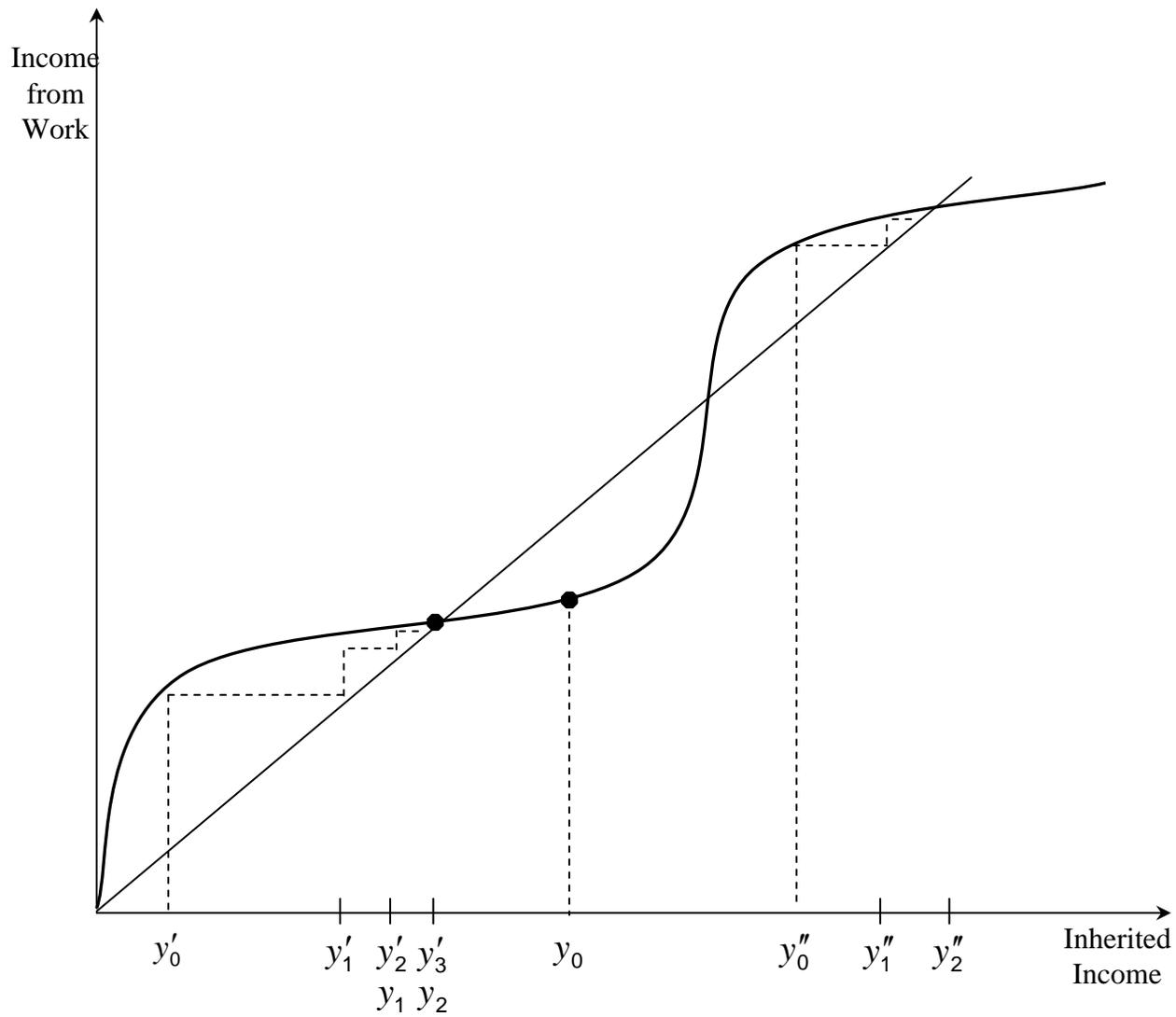Figure 1

Figure 2

Figure 3

When will a property trap emerge?

- Capacity curve:
  - Health affects income

    $$y_{t+1} = g(h_t)$$

  - Income affects health

    $$g(h_t) = f(y_t)$$

- Capacity curve:

  $$y_{t+1} = g(f(y_t))$$

- Multiple equilibria (usually interpreted as poverty trap) will arise iff the capacity curve intersects the 45 degree line from below

Conditions for capacity curve to intersect 45 degree line from below

- Let $y*$ be the point at which the capacity curve intersect the 45 degrees line. At this point, the derivative $((g(f(y*)))' > 1$

- Now: $(g(f(y*)))' = g'(f(y*)) * f'(y*)$

$$= \frac{g'(f(y*))f(y*)}{g(f(y*))} \frac{f'(y*)y*}{f(y*)}$$

- Because $g(f(y*)) = y*$

- $\dfrac{g'(f(y*))f(y*)}{g(f(y*))}$ is the elasticity of *g* with respect to *h* (income with respect to health)

- $\dfrac{f'(y*)y*}{f(y*)}$ is the elasticity of *f* with respect to *y* (health with respect to income)

- By continuity, over some range, the product of the elasticities must be greater than one.

- A very general point, which we will now explore in the case of health

Caveats

- What is a period? (one day? One life time? One year?)
- What is health?
- What is income?