Development Economics

Slides 6

Debraj Ray, NYU

Too Little Convergence in the Data

Too little convergence, unless we keep conditioning ...

- ...savings rates, human capital
- political variables such as democracy
- cultural variables such as corruption or work ethic
- religious variables ...

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- ...savings rates, human capital
- political variables such as democracy
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- religious variables ...
- Insufficient emphasis on the **process:**
- endogenous variable $\longrightarrow$ economics $\longrightarrow$ endogenous variable

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- Past history of actions influences future outcomes
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Divergence, or Development Traps

Divergence:

- Past history of actions influences future outcomes
- **As opposed to convergence**, where the influence of history vanishes
- Must be careful not to swing to either extreme
- e.g., Remember leapfrogging example in problem set
- Or recent signs of unconditional convergence

Congestion: An Example of Convergence

A Tale of Two Highways

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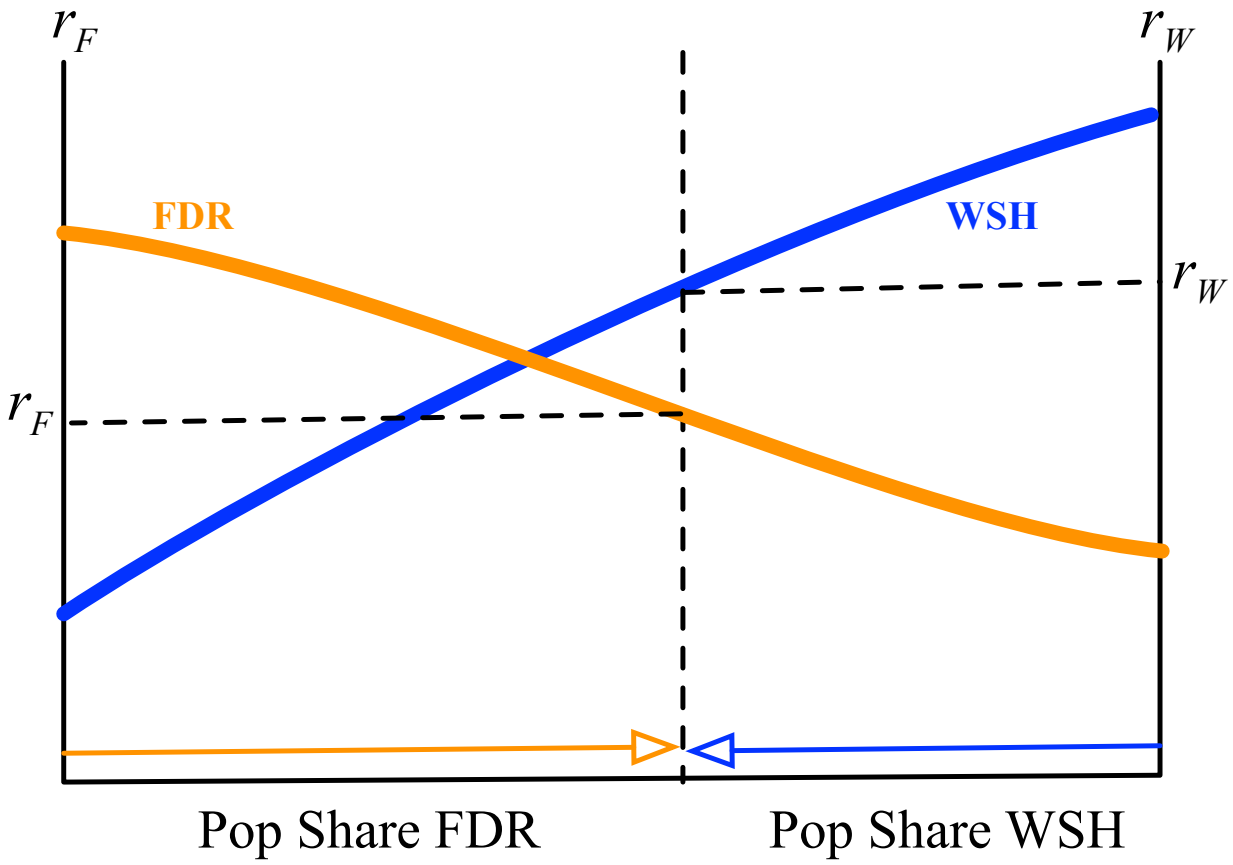
A Tale of Two Highways



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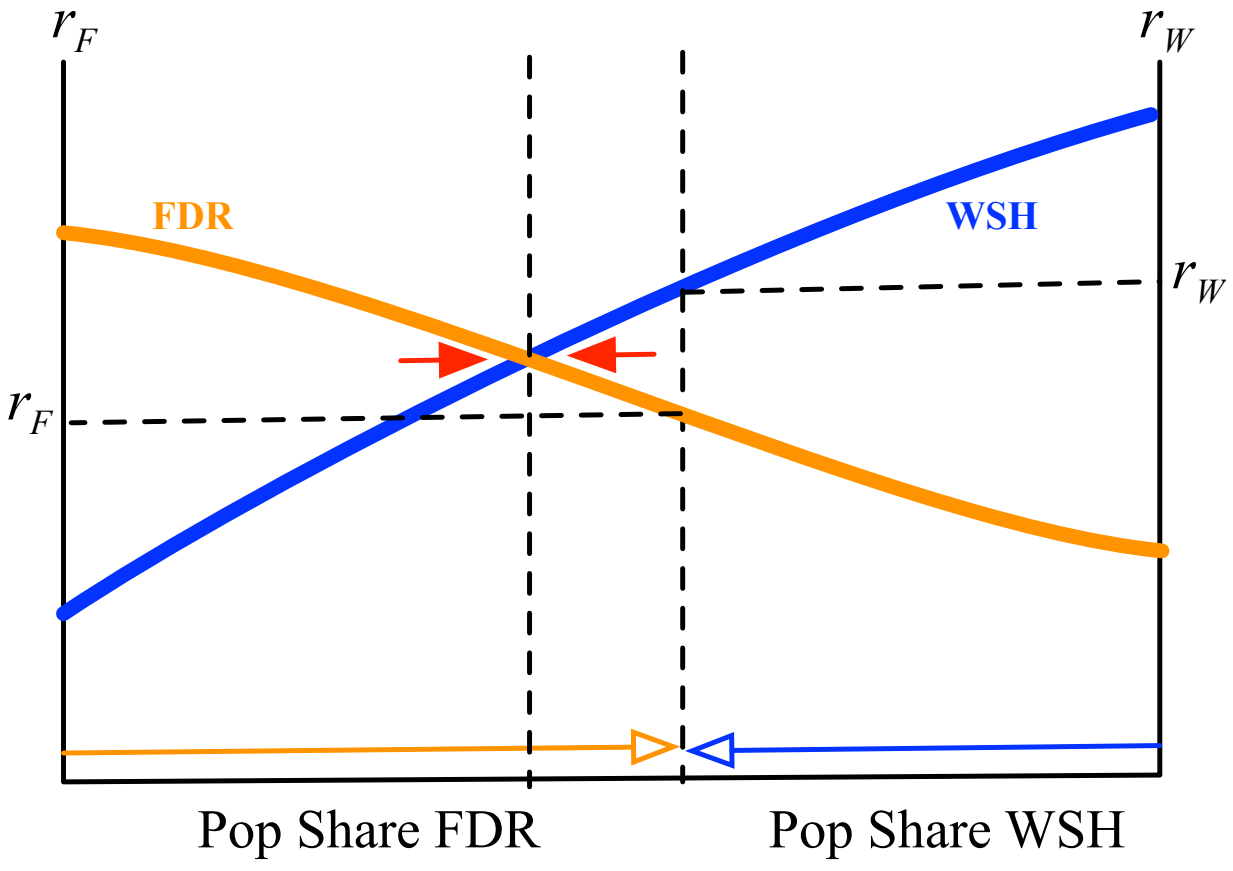

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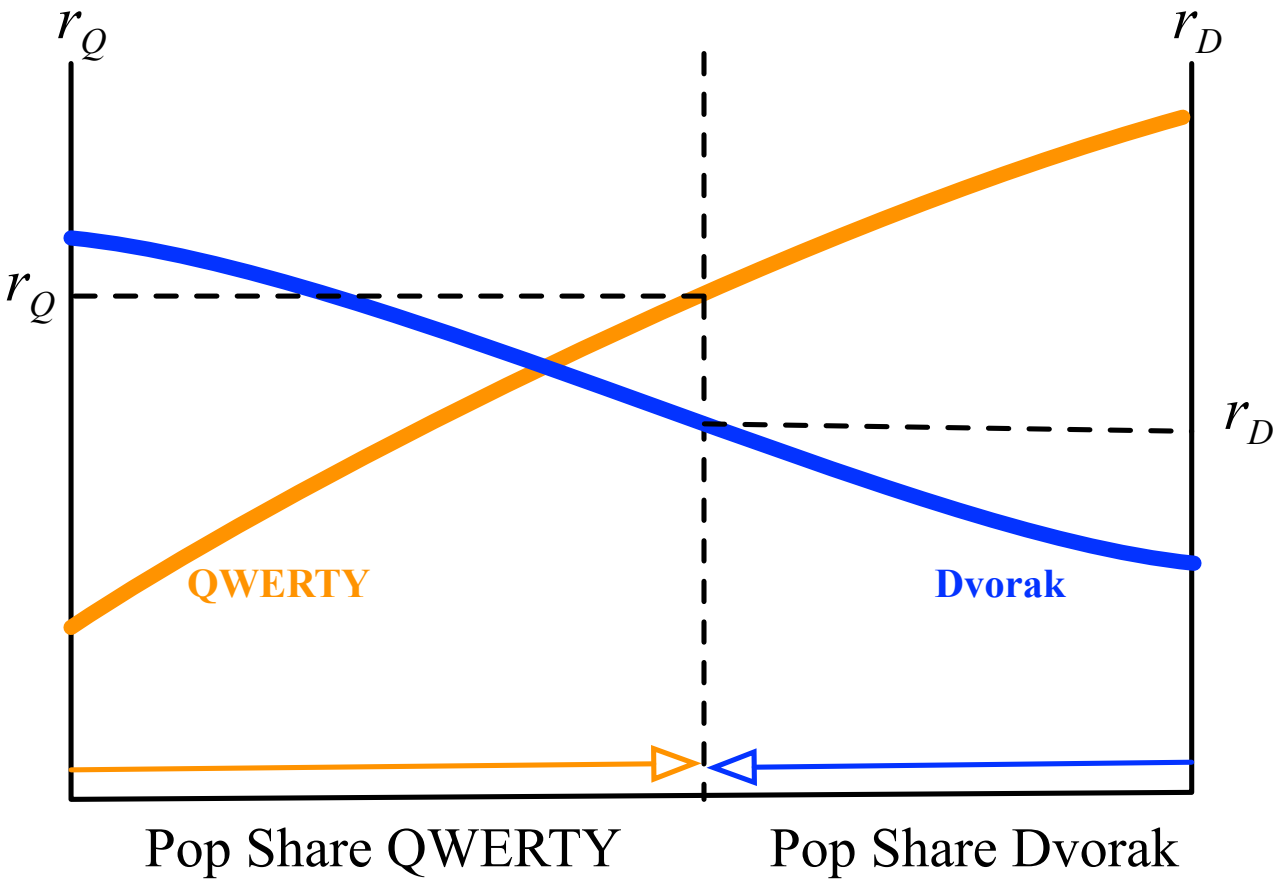

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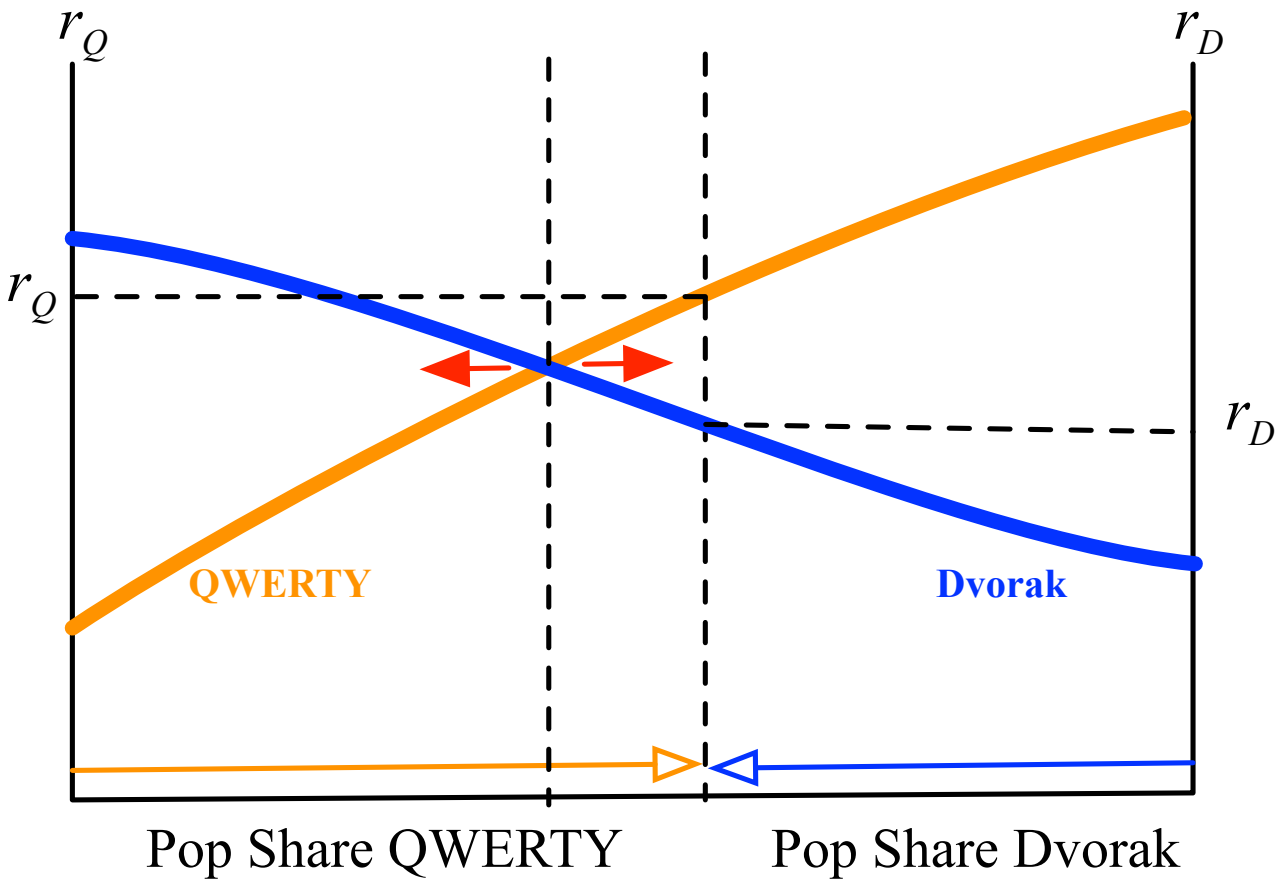

Complementarities

Basic Setup:

- Two actions: call them **Up** and **Down**.
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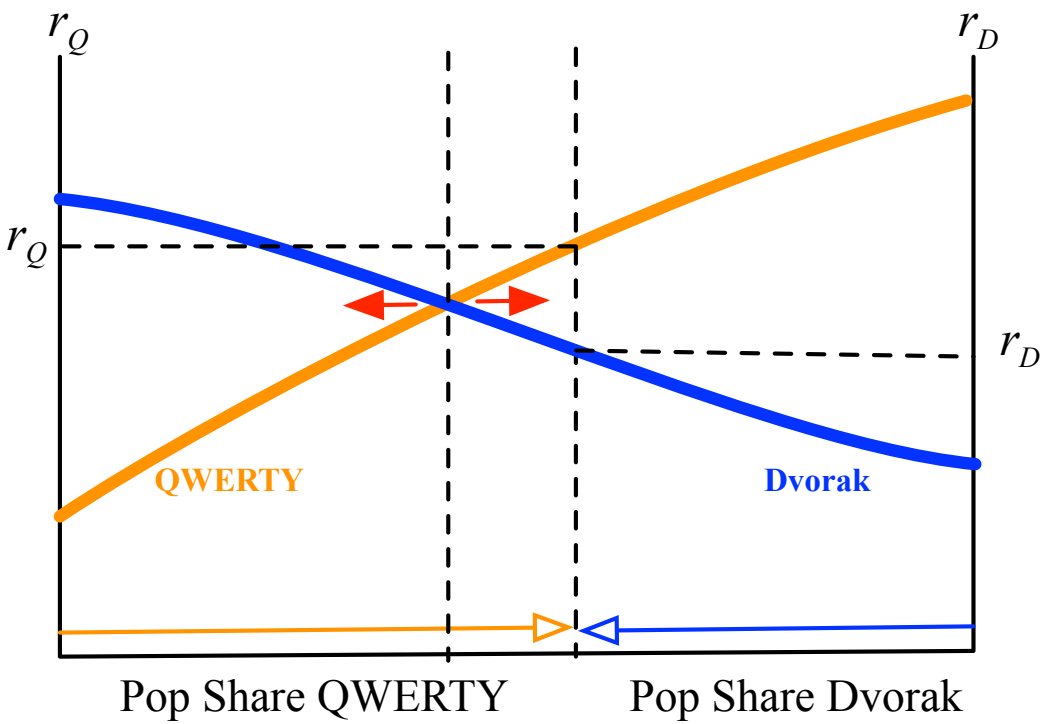
Complementarity: $x(n)$ is an increasing function.

- Can generalize this idea to intensity of actions, not just binary.

QWERTY Revisited



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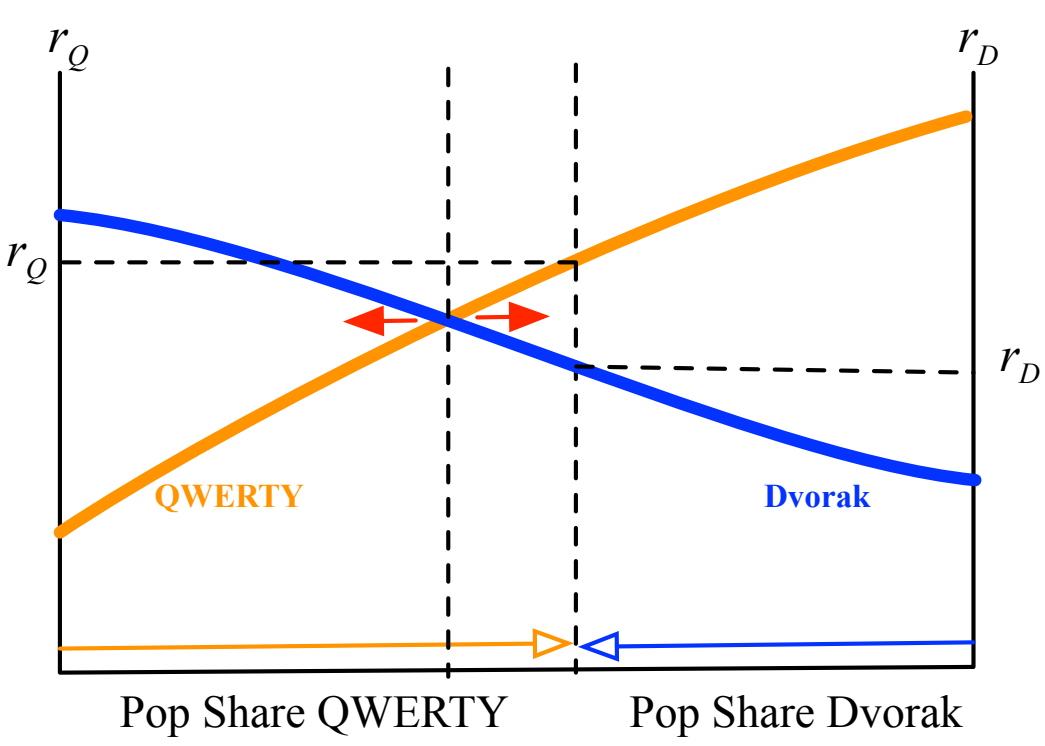
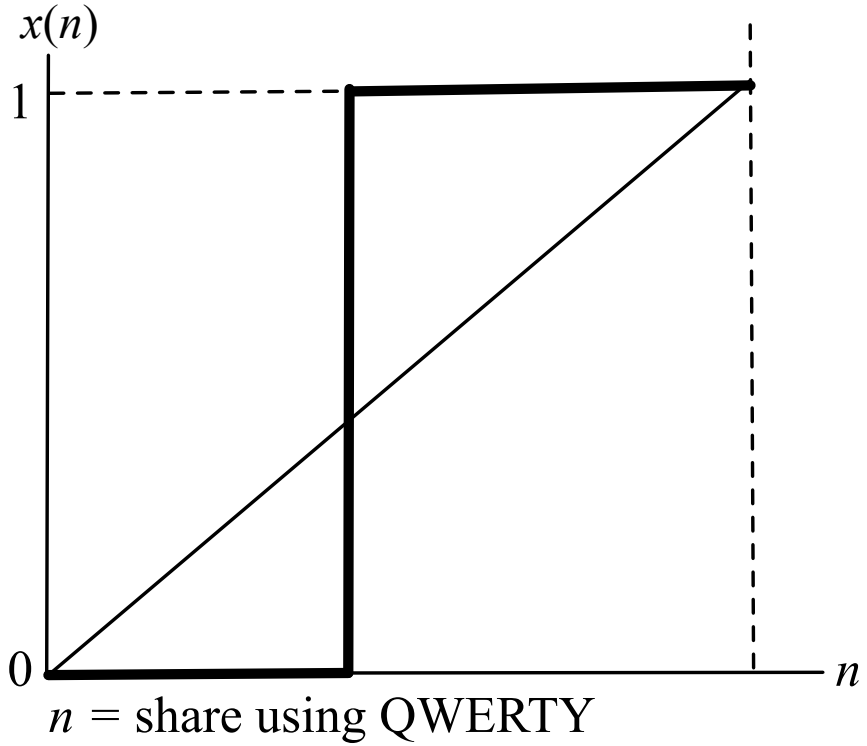
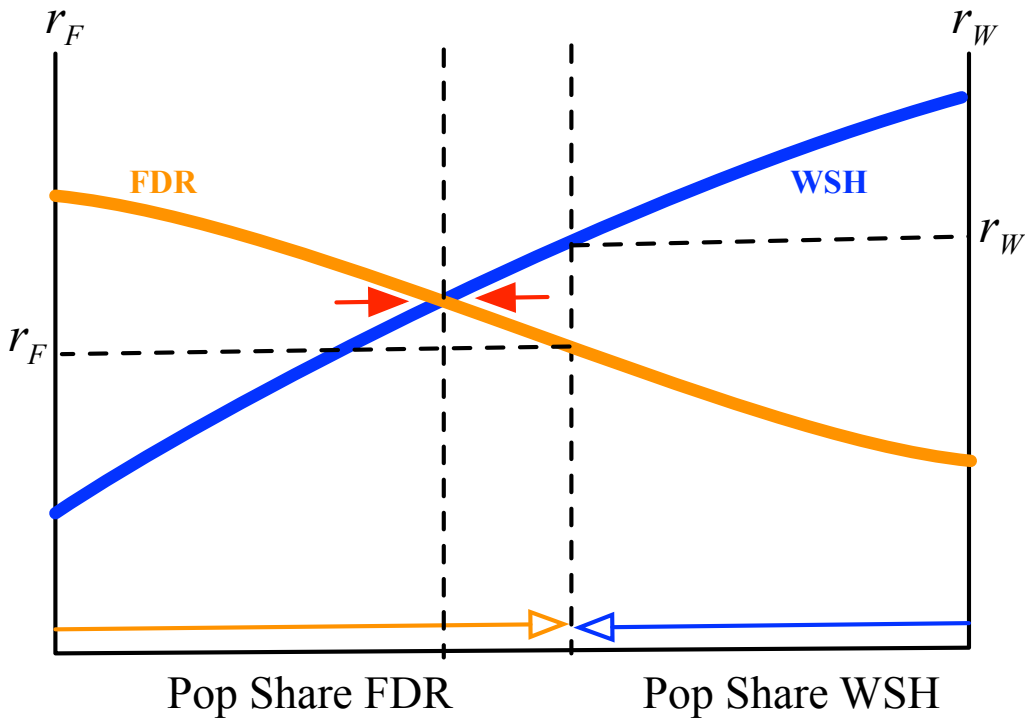




FDR Revisited



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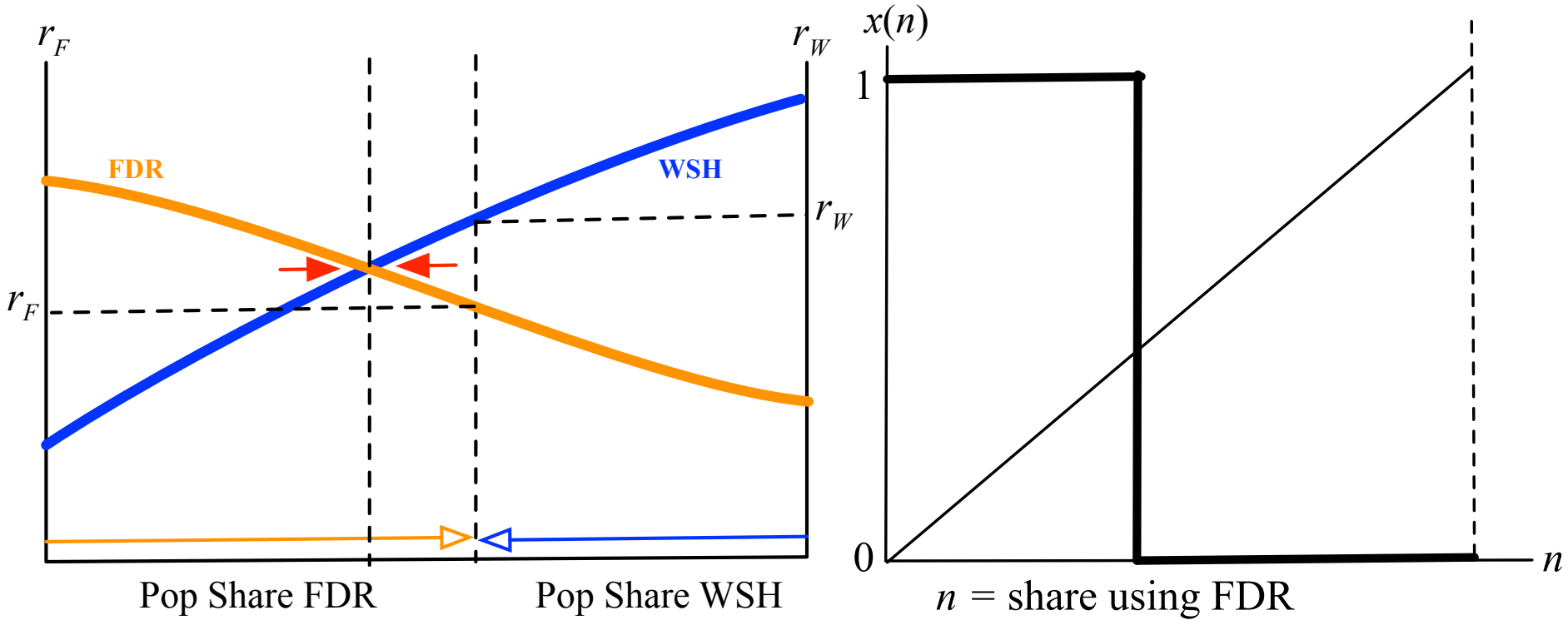

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Social Capital. Migration destroys traditional social networks.

- Feeds back to increase migration.

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Statistical Discrimination.

- Discriminated groups don't "invest", discrimination continues.

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Examples:

- Expectations: Currency crises, sudden looting, fashion....
- History: Social capital, network externalities, discrimination...

But generally a mix of history and expectations in all examples.

The Complementarity Map

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- Upward-sloping for complementarities:
- As in all of our examples so far, except . . . ?

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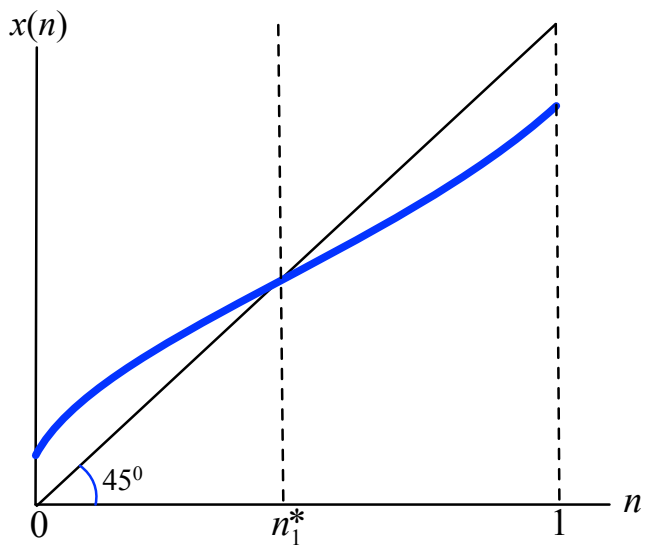

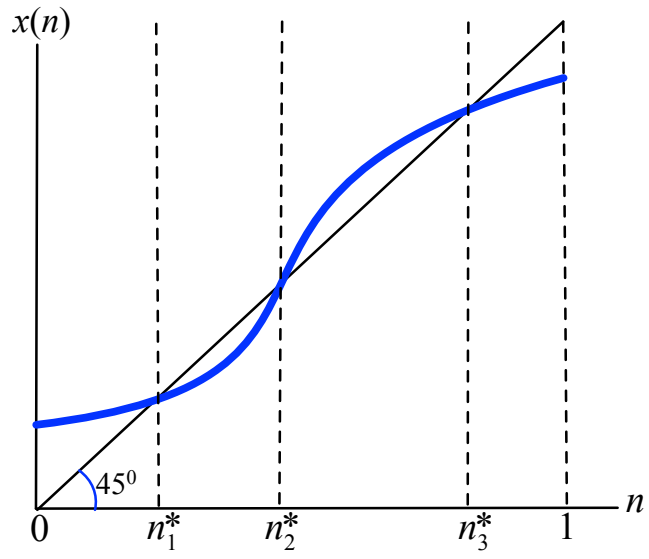

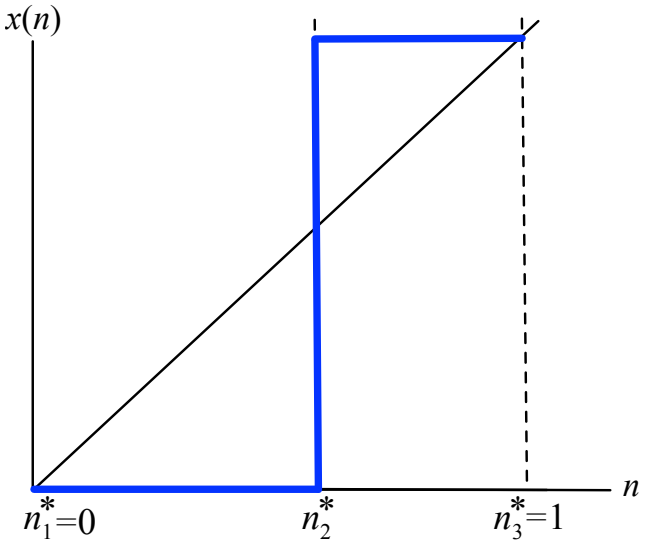

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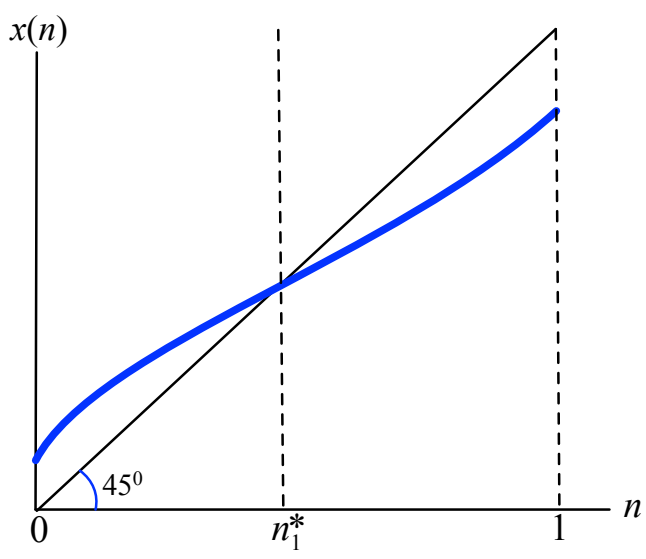

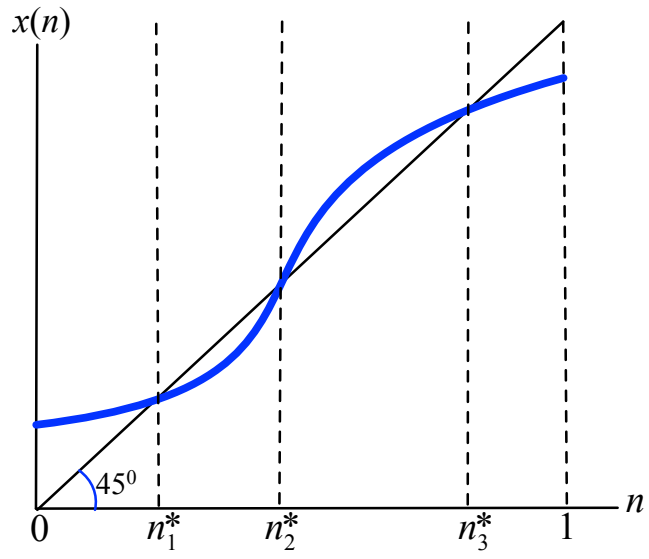

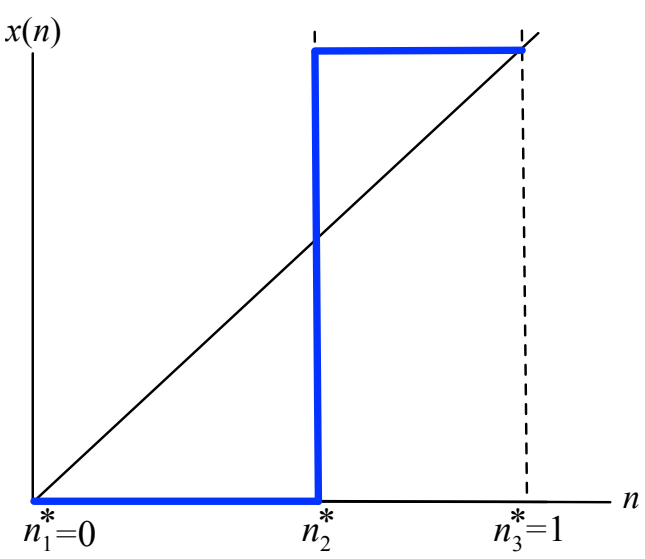

- **Equilibria** (expectations) or **steady states** (history):

  Intersections of $x(n)$ with the 45° line.

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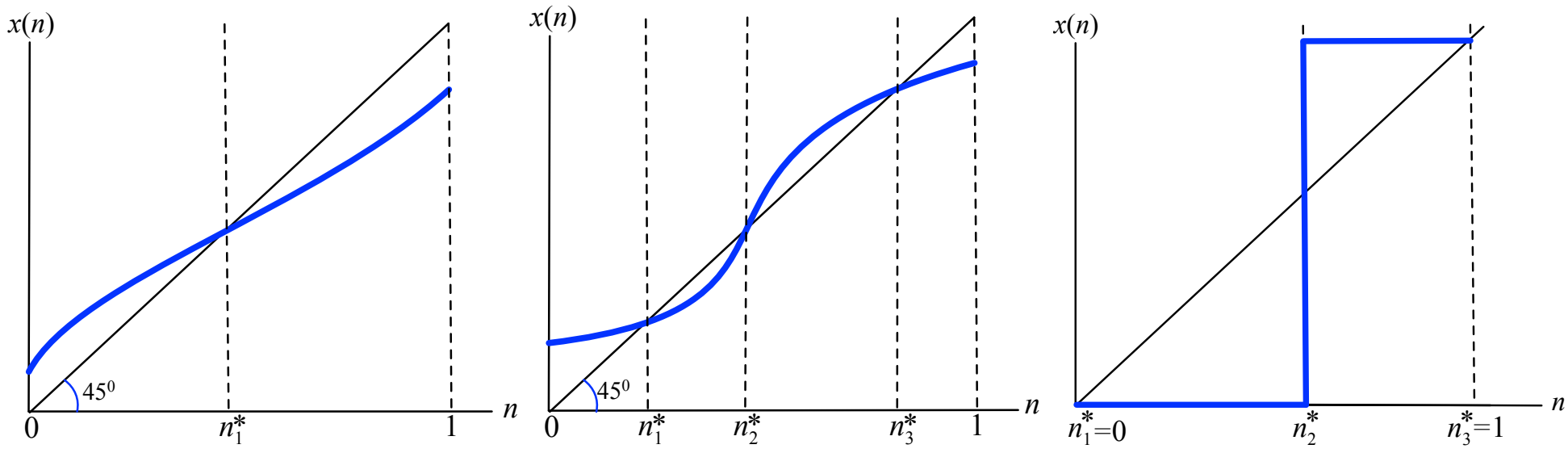


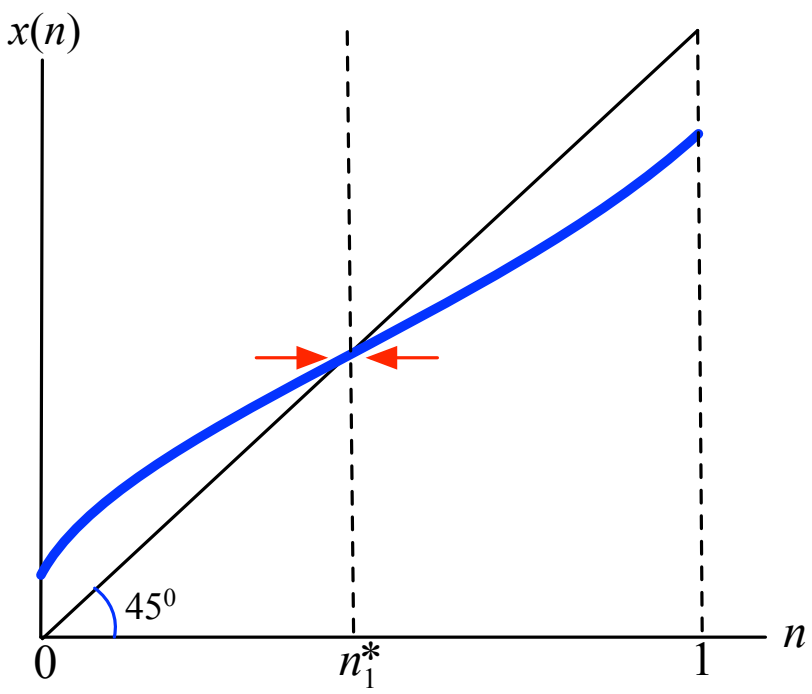
- **Equilibria** (expectations) or **steady states** (history):

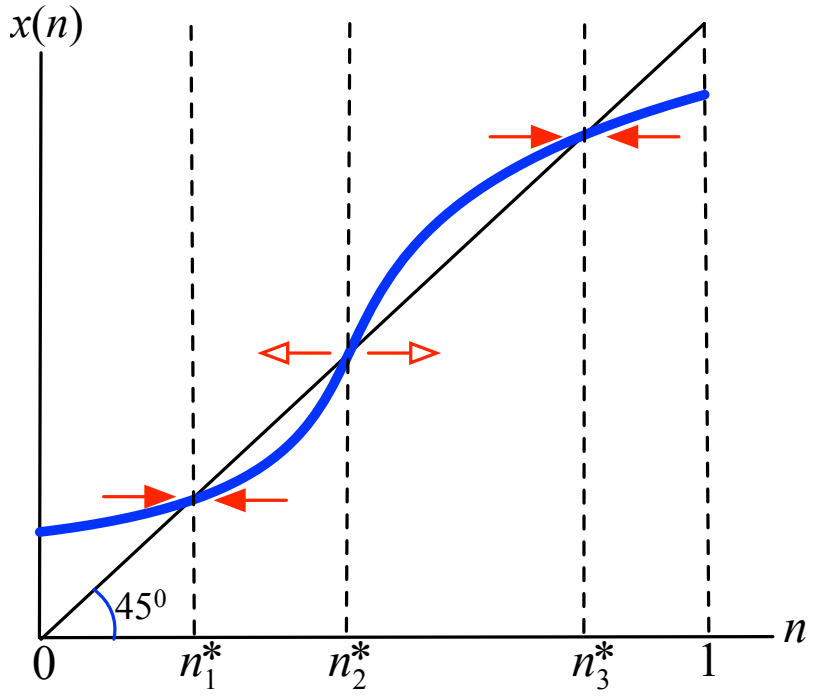
  Intersections of $x(n)$ with the 45° line.

- **Unique or multiple outcomes** possible:

  How does this relate to convergence and divergence?

Stability and Instability





Stability: whether system moves away from steady state after perturbation:

- whether $x(n)$ crosses 45° from “above” (stable) or “below” (unstable).

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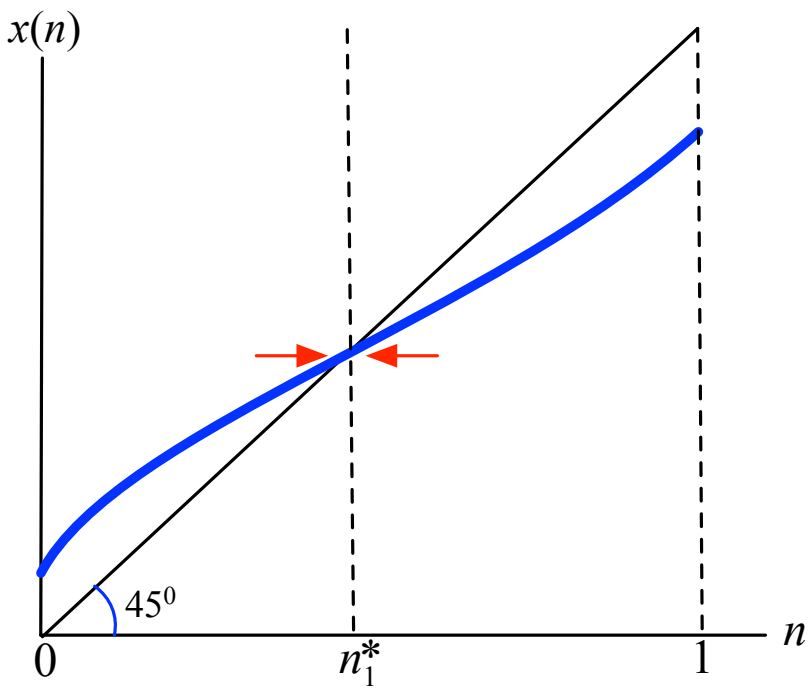

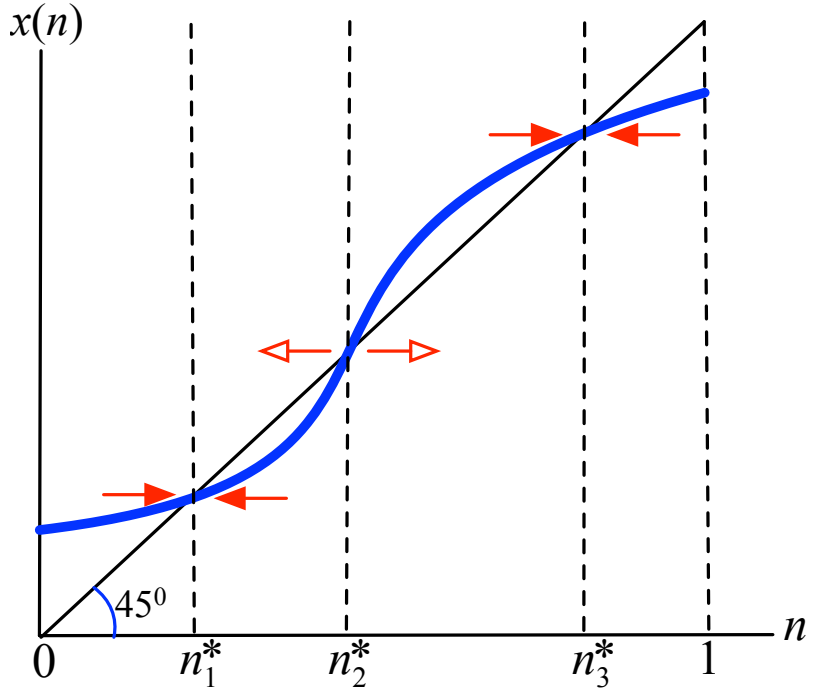

Stability: whether system moves away from steady state after perturbation:

- whether $x(n)$ crosses 45° from "above" (stable) or "below" (unstable).
- Notice how **temporary policies can have permanent effects**.

Another Example: Joining the Revolution

Tahrir Square

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- **Benefits and costs:**

- Success: B to each participant. Failure: L to each participant.

- Bystander gets o payoff no matter what happens.

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- **Benefits and costs:**
  - Success: B to each participant. Failure: L to each participant.
  - Bystander gets o payoff no matter what happens.
- **Probability of success** $p(n)$, where n is # joining revolution.
  - $p(n)$ is increasing, with $p(0) = 0$ and $p(1) = 1$.

Another Example: Joining the Revolution

- If n people expected to join, how many want to join?
- **Join** if $p(n)B - [1 - p(n)]L > 0$, or

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- **Generates a simple complementarity map.**

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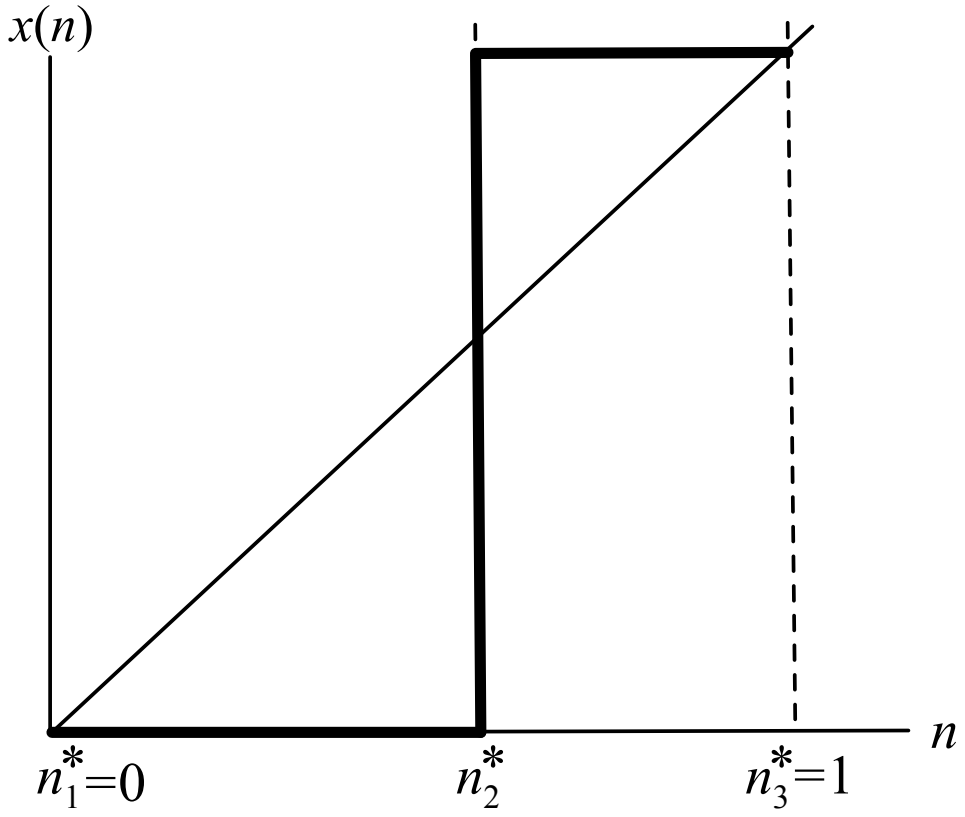

- See book for more based on this model.