Detecting Bias in Research Papers

2007 LSSS, RACSS & LRL Joint Seminar

Santa Fe, New Mexico

September 11, 2007

Goal:

- Identify the implicit theories underlying policy and program proposals
- Show how those theories lead to specific policy options
- Demonstrate a tool for uncovering and examining the implied theories supporting these options

Research Context

- Conducting secondary research
- Analyzing papers, reports, and studies proposing new policies

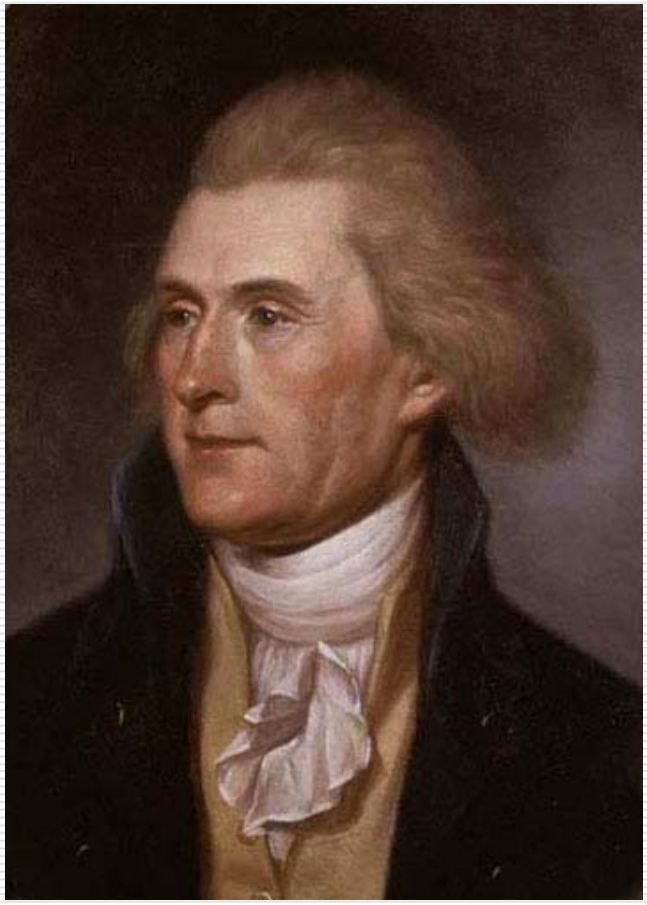
Approach

- Describe “systems thinking”
- Apply this conceptual tool to the analysis supporting a major policy proposal

What is bias?

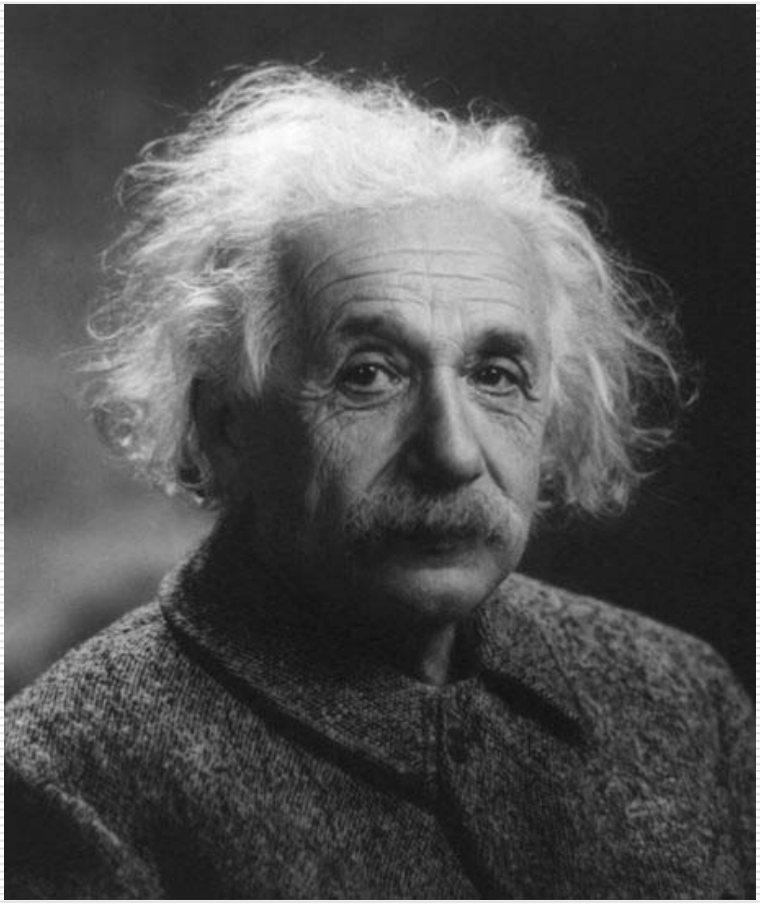
- An inclination, leaning, tendency or bent
- A prepondering disposition or propensity
- A predisposition towards, predilection, or prejudice

Thomas Jefferson on theoretical bias:



- "The moment a person forms a theory his imagination sees in every object only the tracts that favor that theory."

Einstein put it this way:



- "Our theories determine what we measure."

Paul Simon on bias

- "All lies and jest, still a man hears what he wants to hear and disregards the rest." (*"The Boxer"*)

Theoretical Bias

- Implied, unstated
- Revealed in the dots one chooses to study (i.e., the variables)
- And how one connects those dots (cause and effect relationships)

Mental Models

- Internal images about how the world works and why
- Some are tacit and hard to see
- Shape how we think and act
- Determine policy options

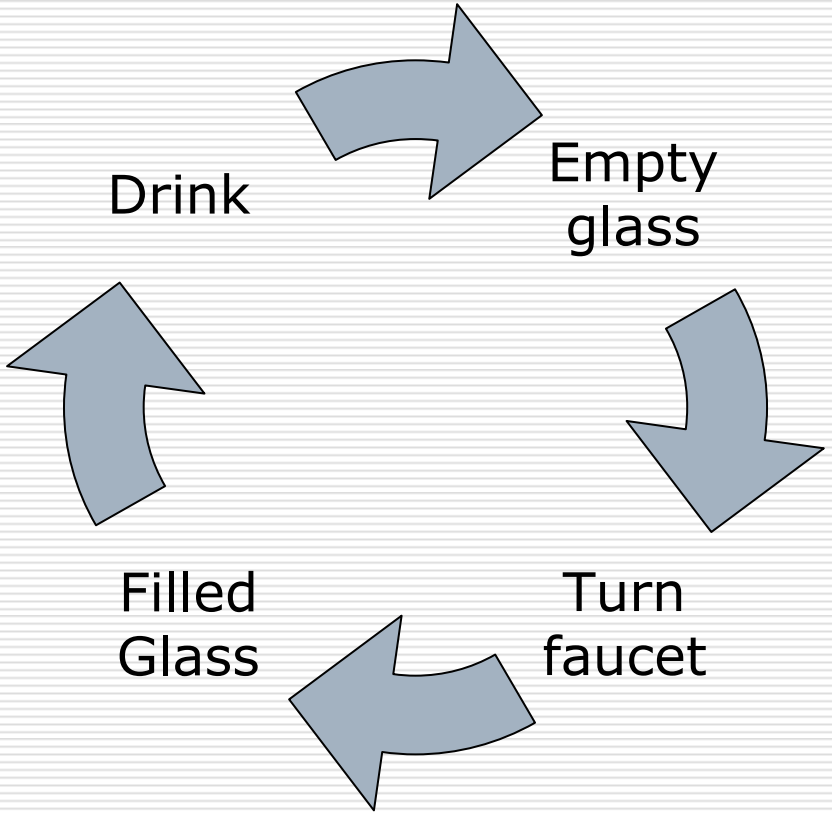
Fifth Discipline, Peter Senge

- "Systems Thinking" and "Working with Mental Models" are two of Senge's five disciplines

- Five disciplines help organizations overcome learning disabilities

Systems Thinking

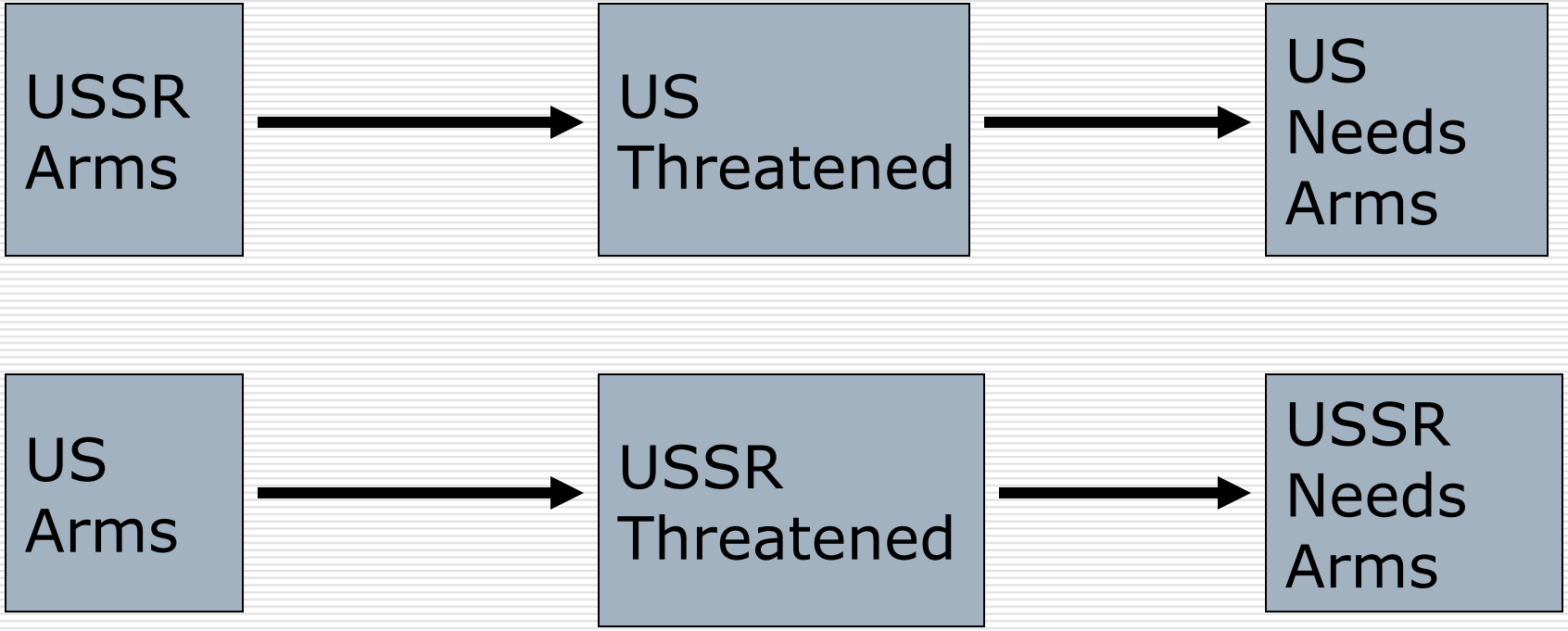
- Helps identify and assess mental models and hidden bias
- Identifies structures and patterns underlying complex situations



Systems Thinking

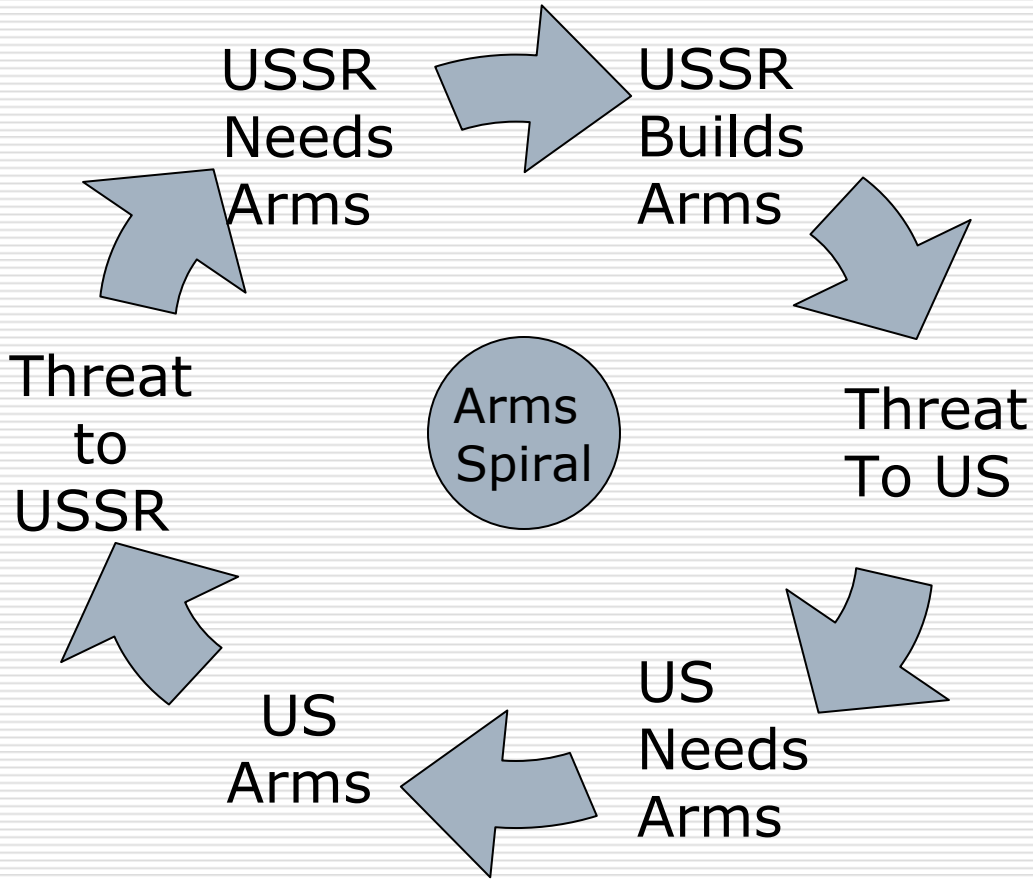
- English language favor linear thinking
  - Subject → Verb → Object
- Learning styles and brain hemispheric preferences
  - Left brain tends to process information step-by-step
  - Right brain tends to see the whole picture at once (Ricki Linksman, *How to Learn Anything Quickly* (1996))

Example: Cold War Arms Race



Systems Thinking

- Systems thinking sees circles of causes and effects
- It connects separate chains of events



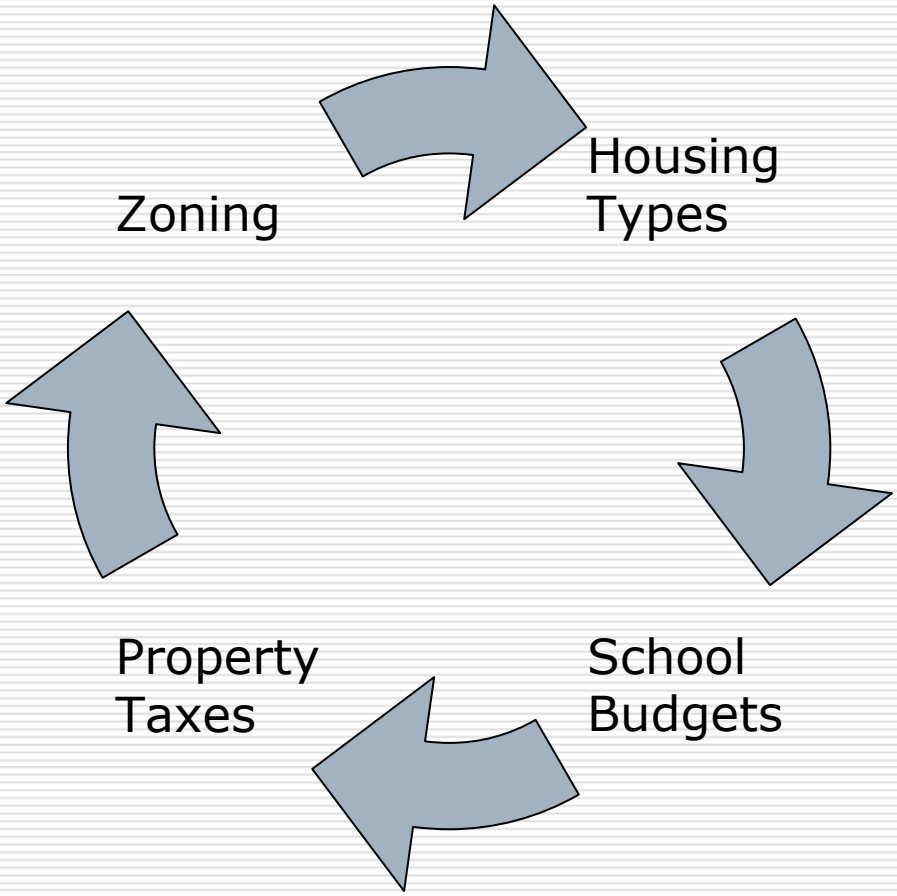
Using Systems Thinking to Identify Mental Model: HOMEConnecticut

- Ad Hoc Statewide Group
  - Sponsored by Partnership for Strong Communities (http://www.ctpartnershiphousing.com/)
  - Planners, economists, home builders, realtors, advocates, and other stakeholders

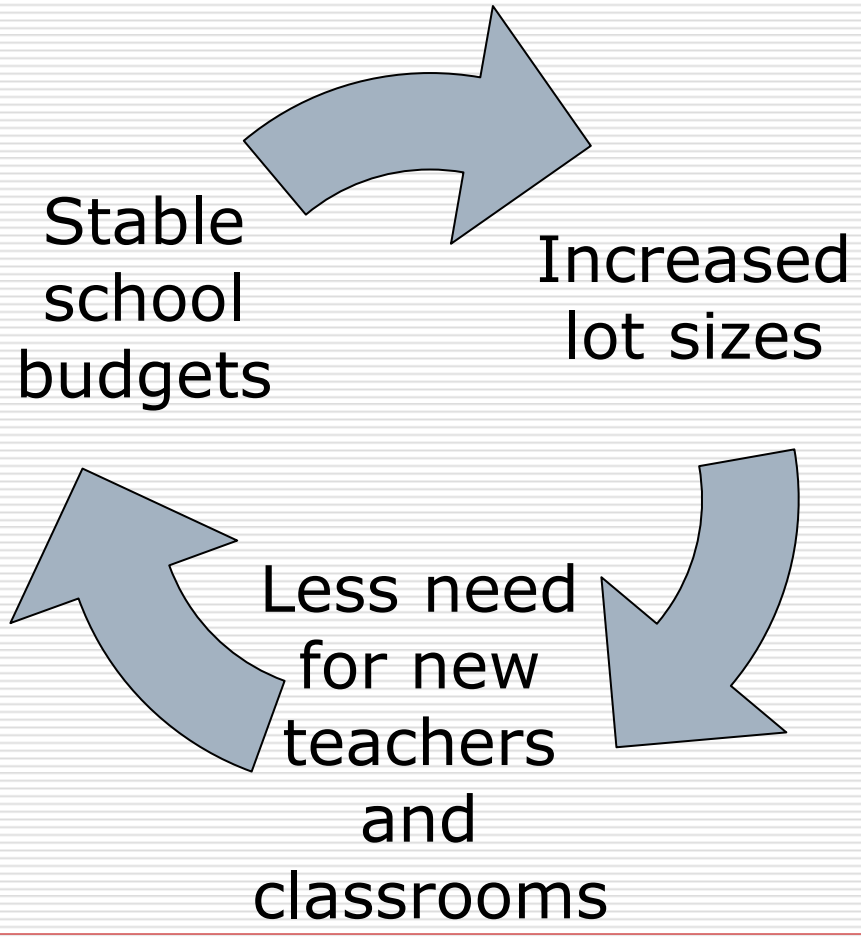
2007 HOMEConnecticut Legislative Proposal

- Diagnosed state's affordable housing problem (i.e., cause and effect)
- Proposed a program based on that diagnosis (i.e., intervention)

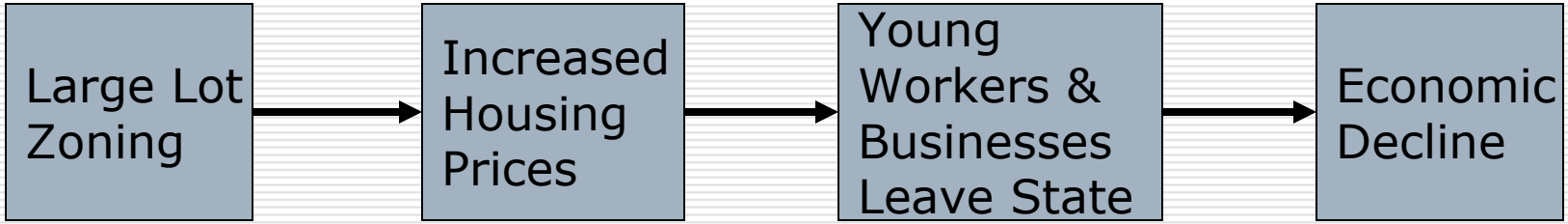
Root Cause: New housing drives up school costs and property taxes…



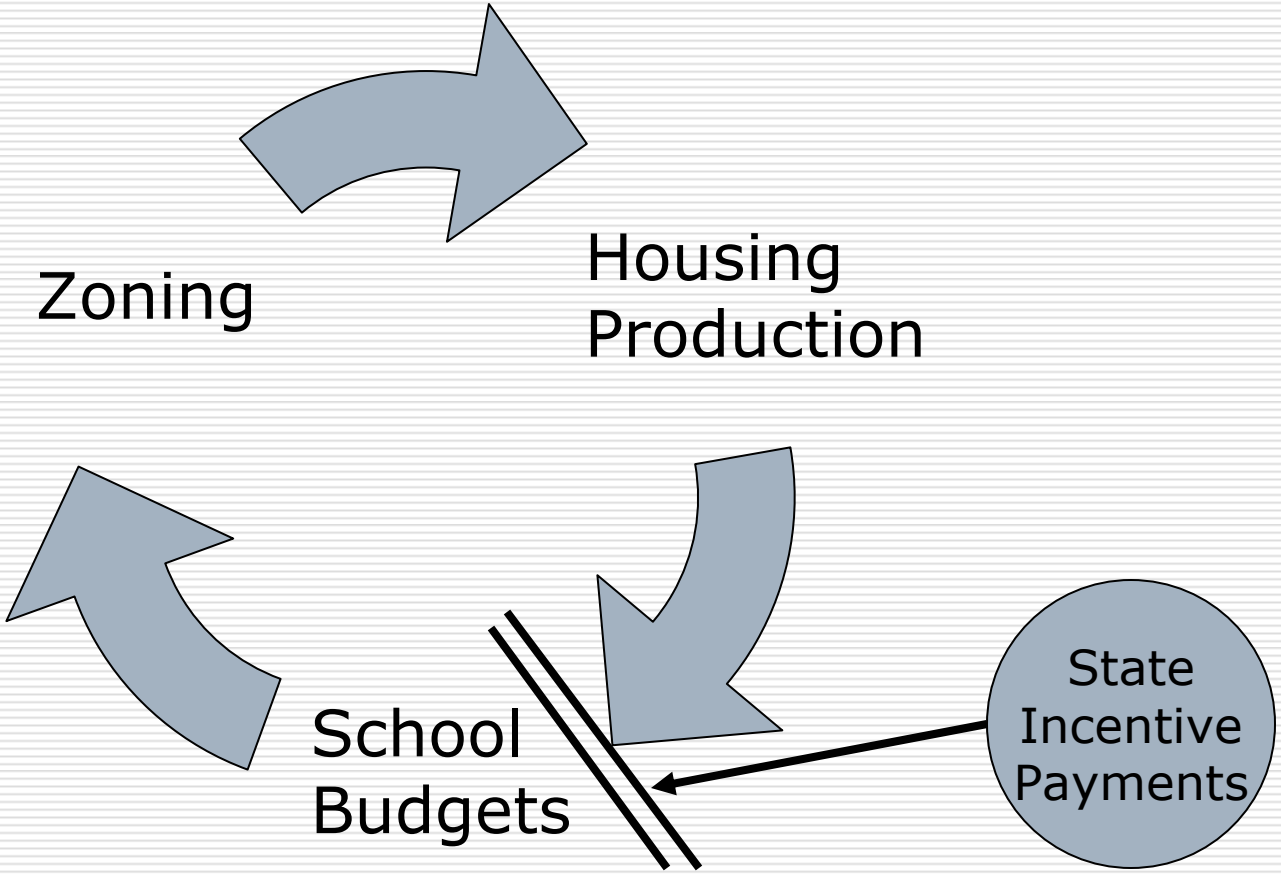
Reaction: Towns increase lot sizes, and fewer homes are built



But the towns' solution creates problems for the state



HOMEConnecticut removes need for fiscal zoning



HOMEConnecticut Strategy

- Zoning incentive payments
- Building incentive payments
- Project-based rent subsides
- School cost reimbursements
- Infrastructure improvement funds

Detecting Bias—key questions

- What is HOMEConnecticut's perspective?
- Does it jump from observation to generalization? (i.e., "leaps of abstractions")
- Does it leave anything out? (i.e., "exposing the left-hand column")

What's the perspective?

- The HOMEConnecticut campaign was "launched in 2005 to preserve the quality of life and strong, competitive economy that has distinguished Connecticut, but which is now threatened by a dramatic lack of housing affordable to workers, families, and young professionals."

Watch out for Leaps of Abstraction

- Avoid processing information quickly
- Identify and reflect on cause and effect statements
  - Do legislative environments allow reflection?
- "Leaps of abstraction impede learning because they become axiomatic" (Senge).

Leap of Abstraction?

- Connection between (1) increasing housing costs and (2) 25- to 34-year-old cohort declining by 50,000 between 2000 and 2005
- Large minimum lot sizes drive up housing costs
- Towns set large minimum lot sizes to control education spending

Exposing the left-hand column

- Forces your "imagination" to see those "tracts" that don't support your theory
- Surface hidden assumptions and consider alternative theories

Hidden Assumption: Purpose of Setting Lot Sizes

- Statement: “Reacting to fiscal and other concerns, most communities have restricted most types of housing development with zoning that limits the number of housing units per acre.”

- Assumption: Zoning commissions set lot sized to rein in education spending and discourage poorly designed projects

Hidden Assumption: Housing Prices and Workers Leaving State

- Statement: "Over the last five years, Connecticut housing prices have increased 63.6%, while wages have risen 18.5%."
- Statement: "Since 2000, Connecticut has lost a higher percentage of 25-34-year-old population than any state in the nation."
- Assumption: Housing prices are driving young workers out of the state.

Hidden Assumption: Out migration stunting economic growth

- Statement: “The shortage of younger workers hurts our business’ ability to hire employees right now, but this age bracket also represents our future economic growth.”

- Assumptions:
  - Young workers are “leaving” the state
  - They’re leaving because they can’t afford housing here

PA 07-4, June Special Session

- Zoning adoption grants
  - $2,000 for each unit that can be built in a locally adopted, state-approve zone
- Building permit grants
  - $2,000 grants for each multifamily, duplex, or townhouse unit
  - $5,000 grants for each single-family detached unit

Mental Models and Hidden Bias

- Robert S. McNamara's 8th Lesson: "Be Prepared to Reexamine Your Reasoning"

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