

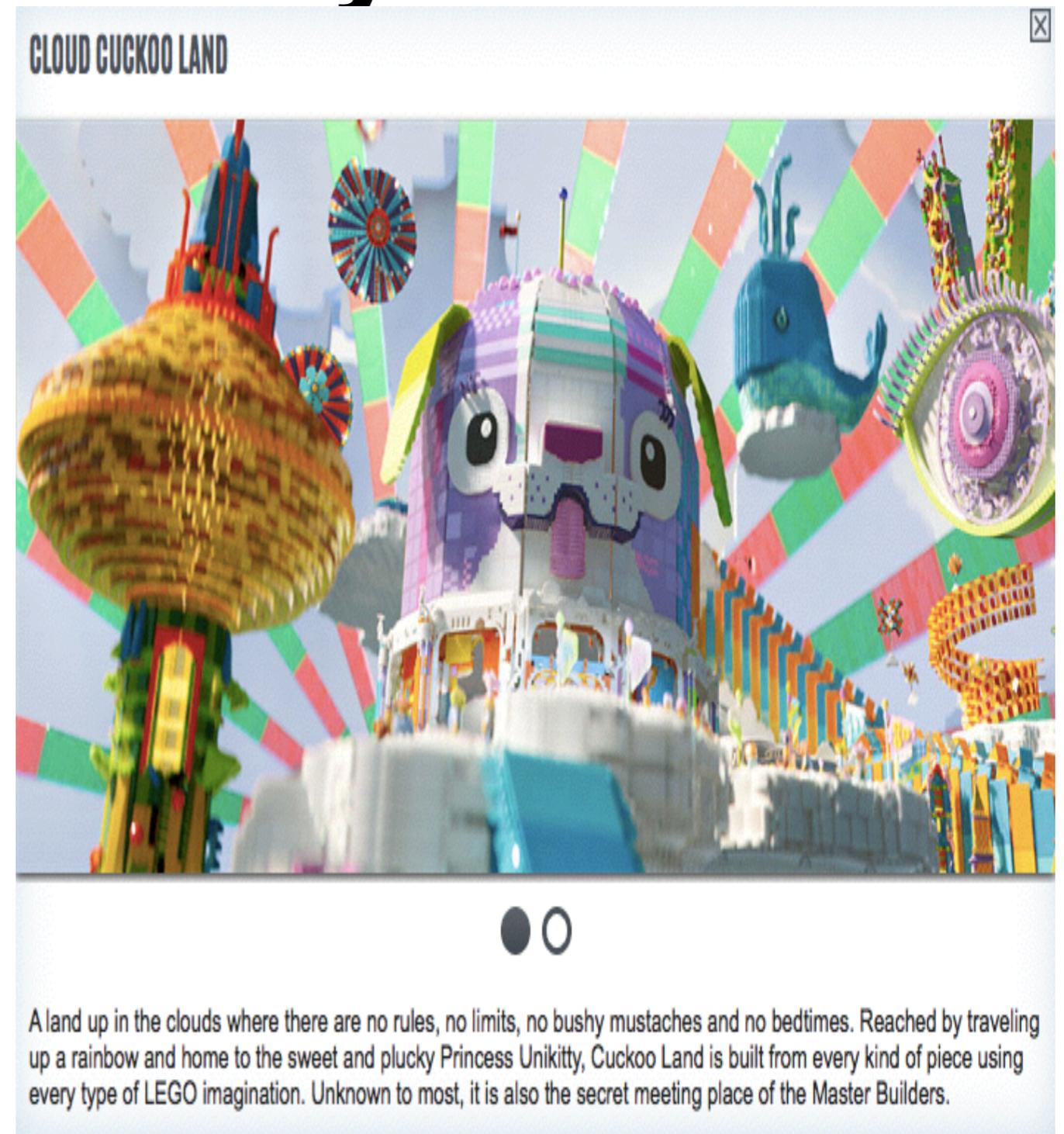
Principles of Economics
Distorting and Undistorting Competitive
Markets

**Externalities: The Puzzle of
Setting the Tax**

J. Bradford DeLong
U.C. Berkeley

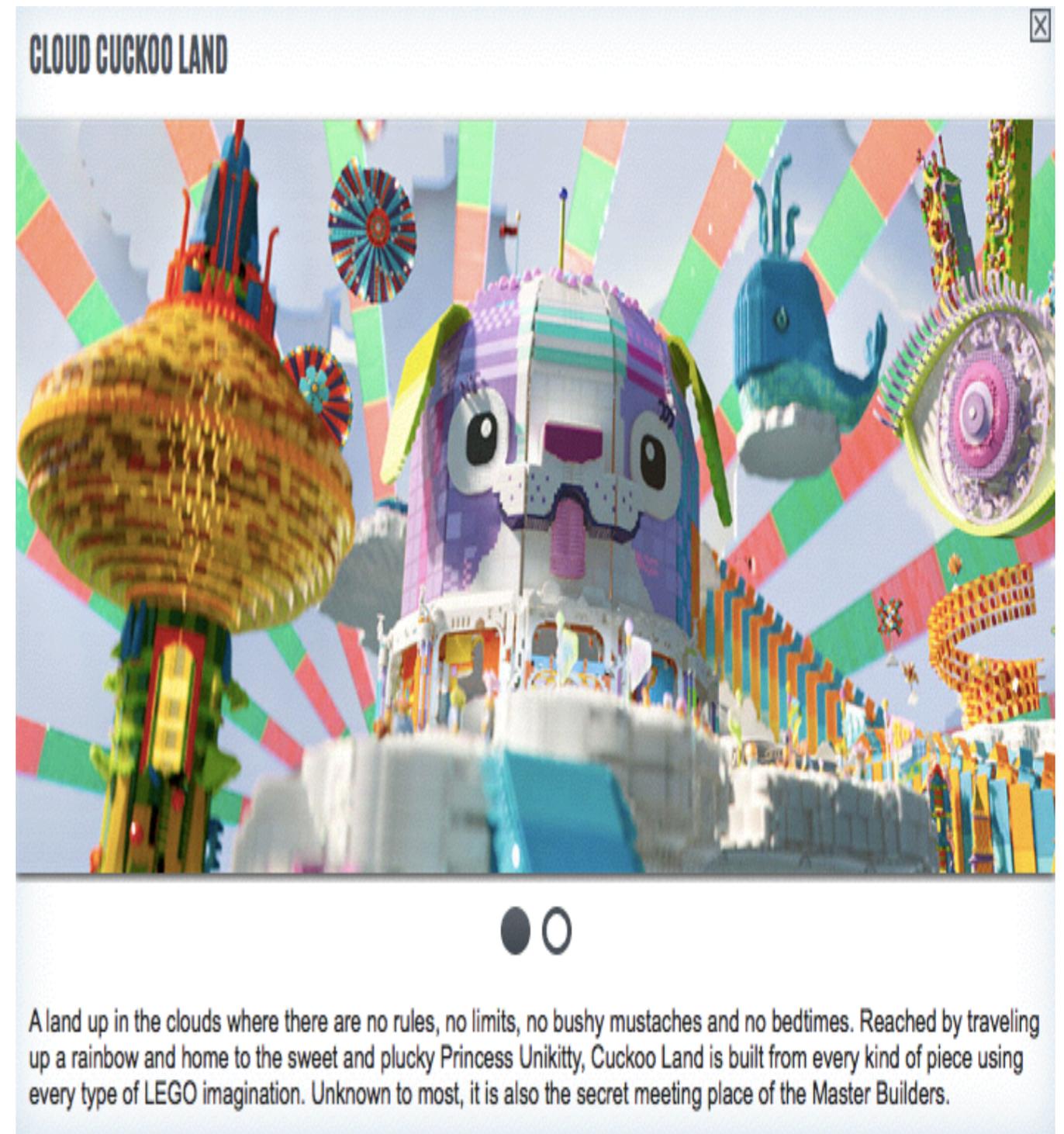
We Had a Nasty Pollution Externality

- Bric dust from the Lego bric-producing factories was being blown up into the air...
- And coating the lungs of the denizens of Cloud-Cuckoo Land...
- And destroying its ecology as well...



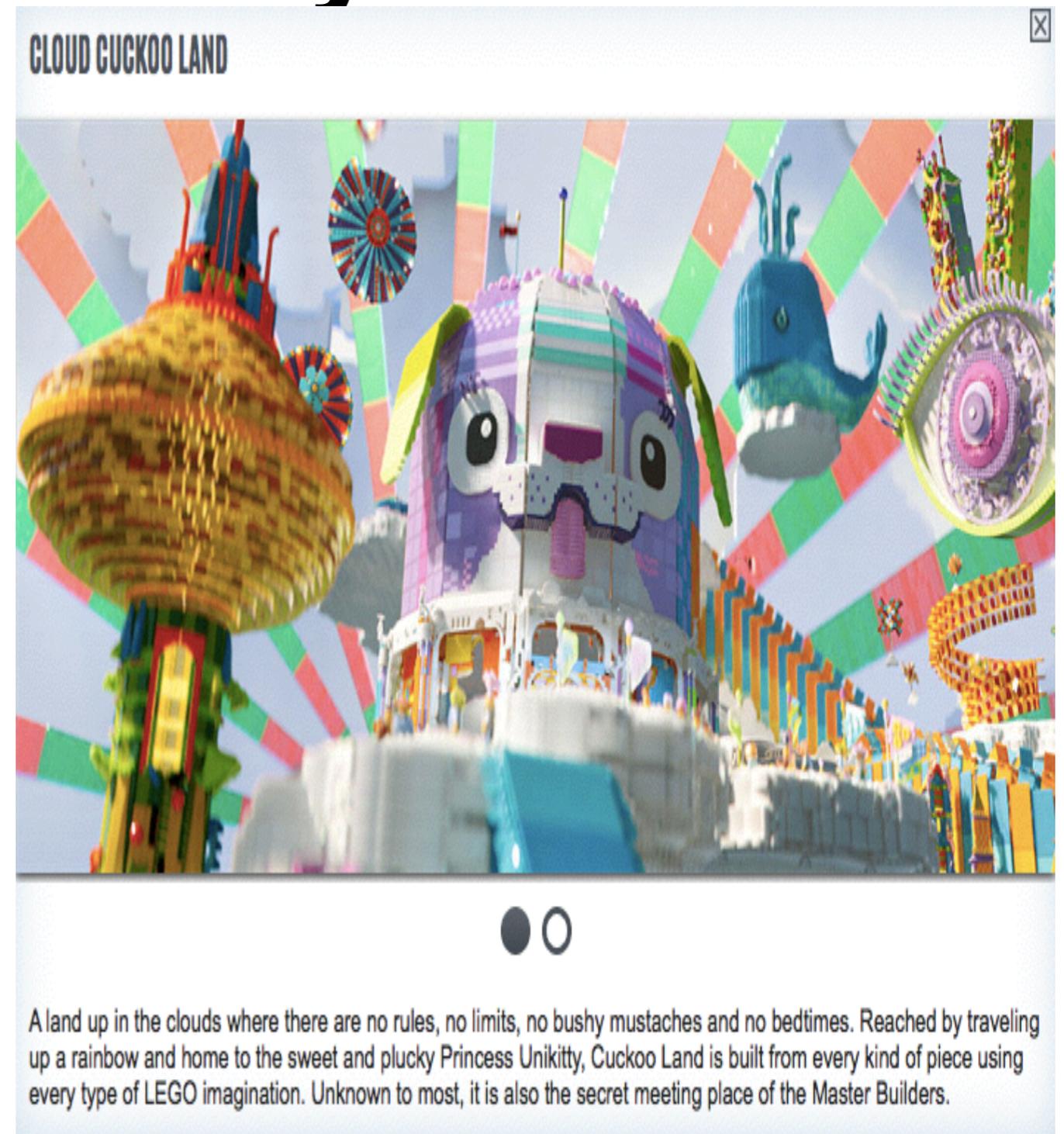
We Decided to Impose a Pigovian Tax...

- **Yes!:**
 - **E. Impose a tax to force brick producers (and master builders!) to take account of the damage they inflict on Cloud-Cuckoo Land, and then use the revenue for pollution remediation (or some other benefit to CCL)**
- A.C. Pigou, *The Economics of Welfare*



And So We Dealt with the Externality!

- **AND CLOUD CUCKOO-LAND WAS SAVED, THANKS TO...**
- A.C. Pigou, *The Economics of Welfare*
- But at what level should we set the externality-compensating tax?



But What Tax?

- What should the tax be?
- How would you go about calculating what the proper value of the Pigouvian tax for the right to pollute would be?
- A thought experiment:
 - Suppose we could scare up a competitive market for the right to pollute (or for the right to be free from pollution)...

What Should the Tax Be? II

- How would you go about calculating what the proper value of the Pigouvian tax for the right to pollute would be?
- A thought experiment:
 - Suppose we had a competitive market for the right to pollute (or for the right to be free from pollution)...
 - What would the market equilibrium price be for the right to pollute?

What Should the Tax Be?

III

- How would you go about calculating what the proper value of the Pigouvian tax for the right to pollute would be?
- A thought experiment:
 - Suppose we could set up a competitive market for the right to pollute (or for the right to be free from pollution)...
 - We could let the market find an equilibrium price for the right to pollute—if we knew what the socially-optimum quantity of pollution was
 - And we could let the market determine the equilibrium quantity for pollution—if we knew what the socially-optimum cost of pollution was...

What Should the Tax Be?

IV

- How would you go about calculating what the proper value of the Pigouvian tax for the right to pollute would be?
- A thought experiment:
 - Suppose we could set up a competitive market for the right to pollute (or for the right to be free from pollution)...
 - We could let the market find an equilibrium price for the right to pollute—if we knew what the socially-optimum quantity of pollution was
 - And we could let the market determine the equilibrium quantity for pollution—if we knew what the socially-optimum cost of pollution was...
- But without either of those pieces of information, we face the problem of “government failure”

What Should the Tax Be?

V

- But without either of those pieces of information, we face the problem of “government failure”
- Nevertheless, we know that not attempting to implement a Pigovian tax is worse than the government failure would be...

What Should the Tax Be?

VI

- Without either information about the cost or the optimum quantity of pollution, we face the problem of “government failure”
- Nevertheless, we know that not attempting to implement a Pigovian tax is likely to be worse than the government failure would be...
 - A thing that is *not* true of command-and-control regulatory schemes: there the resulting government failures can easily be worse than the market failures they are supposed to correct...

One Approach: Plan and Market

- We said before that a market was good because it implements what a benevolent, omniscient central planner would do
- And since there is no such thing as a BOCP, it is good that we have the market

One Approach: Plan and Market II

- We said before that a market was good because it implements what a benevolent, omniscient central planner would do
 - And since there is no such thing as a BOCP, it is good that we have the market
- But the market does not take account of externalities
- A BOCP, however, would adjust plans to take account of externalities...

One Approach: Plan and Market III

- A BOCP, however, would adjust plans to take account of externalities...
- Our approach: see how a BOCP would adjust in the presence of externalities
- And then tweak the market to accomplish the same result

What Would a BOCP Do?

- A BOCP, however, would adjust plans to take account of externalities...
- Our approach: see how a BOCP would adjust in the presence of externalities
- And then tweak the market to accomplish the same result
- Which means we have to digress in the next module: what would a BOCP do?