Pigovian Taxation & Preview of Coase

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DIS Environmental Economics

Plan of this lecture

1. Pigou on externalities
2. A simple case
3. Coase on Pigou
4. Coase’s case
5. The Ronald Coase revolution

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1. Pigou on externalities

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It was first popularized
by the British economist
Arthur Cecil Pigou (1877-1959),
in his masterwork,
The Economics of Welfare (1920).

1. Pigou on externalities

Money quote:

"One person A, in the course of rendering service to another person B, *incidentally also* renders services or disservices to other persons, of such a sort that payment cannot be exacted from the benefited parties or compensation enforced on behalf of the injured parties."

Pigou, *The Economics of Welfare*, 4th ed. (London: Macmillan, 1932), p. 132.

1. Pigou on externalities

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Today, a state-imposed tax
designed to internalize an externality
is called a **Pigovian tax**.

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In environmental economics, we call this the **Polluter Pays Principle**.

1. Pigou on externalities

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In *The Economics of Welfare*, Pigou offers a famous example of a negative externality, where "costs are thrown upon people not directly concerned": "uncompensated damage done to surrounding woods by sparks from railway engines."

1. Pigou on externalities

Elsewhere, Pigou calls for "state action to improve upon 'natural' tendencies" in such cases.

Many readers, including Ronald Coase, see this as a call for the state to fine the railways and compensate the owners of the woods for fire damages due to train sparks.

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A **Pigovian tax** allows the government to redistribute wealth from the "perpetrators" to the "victims" of negative externalities.

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Let’s look at such a simple case,
a modified version of our “Danish Dynamite”
exercise from our first class on externalities.

2. A Simple Case

Imposing a tax of $8 per piece of clothing **looks** like a win-win situation:

- pollution falls to the socially optimal level
- the state gets revenue, which can be used for further amelioration (or to reduce employment taxes, etc.).

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This is called the “double dividend.”

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What's not to like?

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3. Coase on Pigou

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Not according to Ronald Coase (1910-2013), who refuted Pigou in a revolutionary 1960 article, “The Problem of Social Cost,” which we will go through *very* closely during our first two classes after Easter break.

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Let's read it together.

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Because Coase didn't just attack a flawed idea (the Polluter Pays Principle). Coase also revealed a new principle, fundamental to environmental economics: **the reciprocity of harm**.

3. Coase on Pigou

The reciprocity of harm means that it is misleading to speak of “perpetrators” and “victims” of externalities, since *both* the *harm-er* and the *harm-ee* have an economic interest in the harm.

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We’ll say a lot more about this in about two weeks—but here’s a preview.

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4. Coase's Case

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Running 1 train / day
costs $50 / year, but grosses $150 / year.

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4. Coase's Case

Now suppose that

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burn up $60 / year of crops,

while running 2 trains / day will also
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Should there still be 2 trains running?

4. Coase’s Case

Coase’s comment:

“The conclusion that it would be better if the second train did not run is correct. The conclusion that it is desirable that the railway should be made liable for the damage it causes is *wrong*.”

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Coase's comment:

"The conclusion that it would be better if the second train did not run is correct. The conclusion that it is desirable that the railway should be made liable for the damage it causes is *wrong*." ***Why?***

4. Coase's Case

Now suppose that

running 1 train / day will also
burn up \$120 / year of crops,

while running 2 trains / day will also
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How many trains should be running now?

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Two things.

(1) It proves that social costs and harms are inherently *reciprocal*—so the instincts behind Pigovian taxation are dead wrong.

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