Lecture 2: Why Markets Fail

Prof. Parthum

Environmental Economics

Econ 475

Resources for Learning R
(and other useful tools for data science)

1. Note: These are extracurricular and not required for this course! You asked ☺

2. Introduction to R for Economists
    i) Great video series (with links and replication code!) for just getting started (i.e., if you've never even installed R before)
    ii) He has many other advanced videos (masters, Phd, etc.) that are well done. With replication code and data!

3. Data Science for Economists
    i) PhD-level data science course, but very accessible for any level
    ii) Lecture 4 specifically covers R. But the whole course covers the necessary pieces for building a reliable and efficient data science ecosystem
    iii) Having *some* experience programming experience is useful, but not required

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    a. If someone starts a sentence with this, anything that follows is likely to be an incomplete picture of whatever the topic is.

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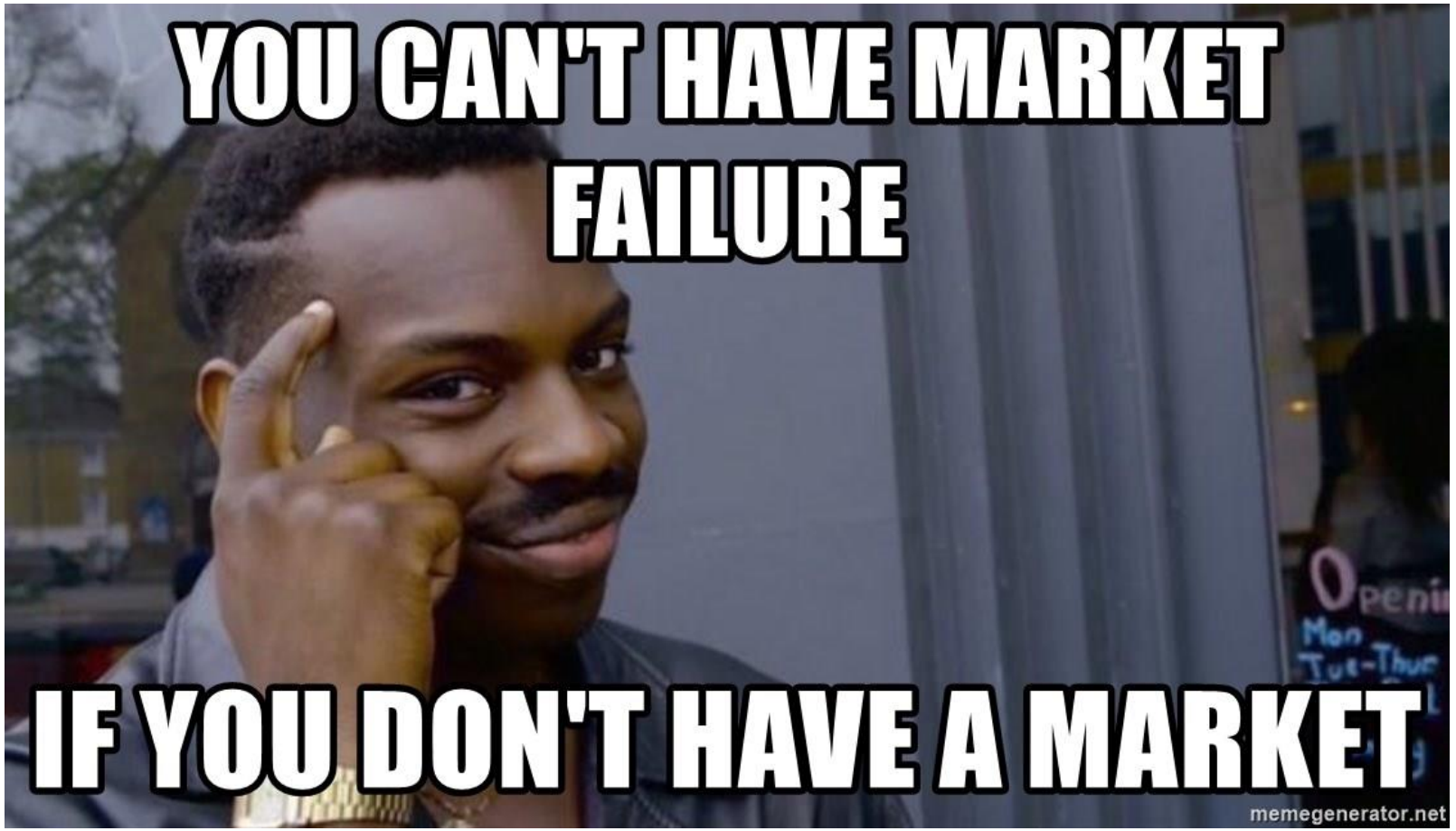
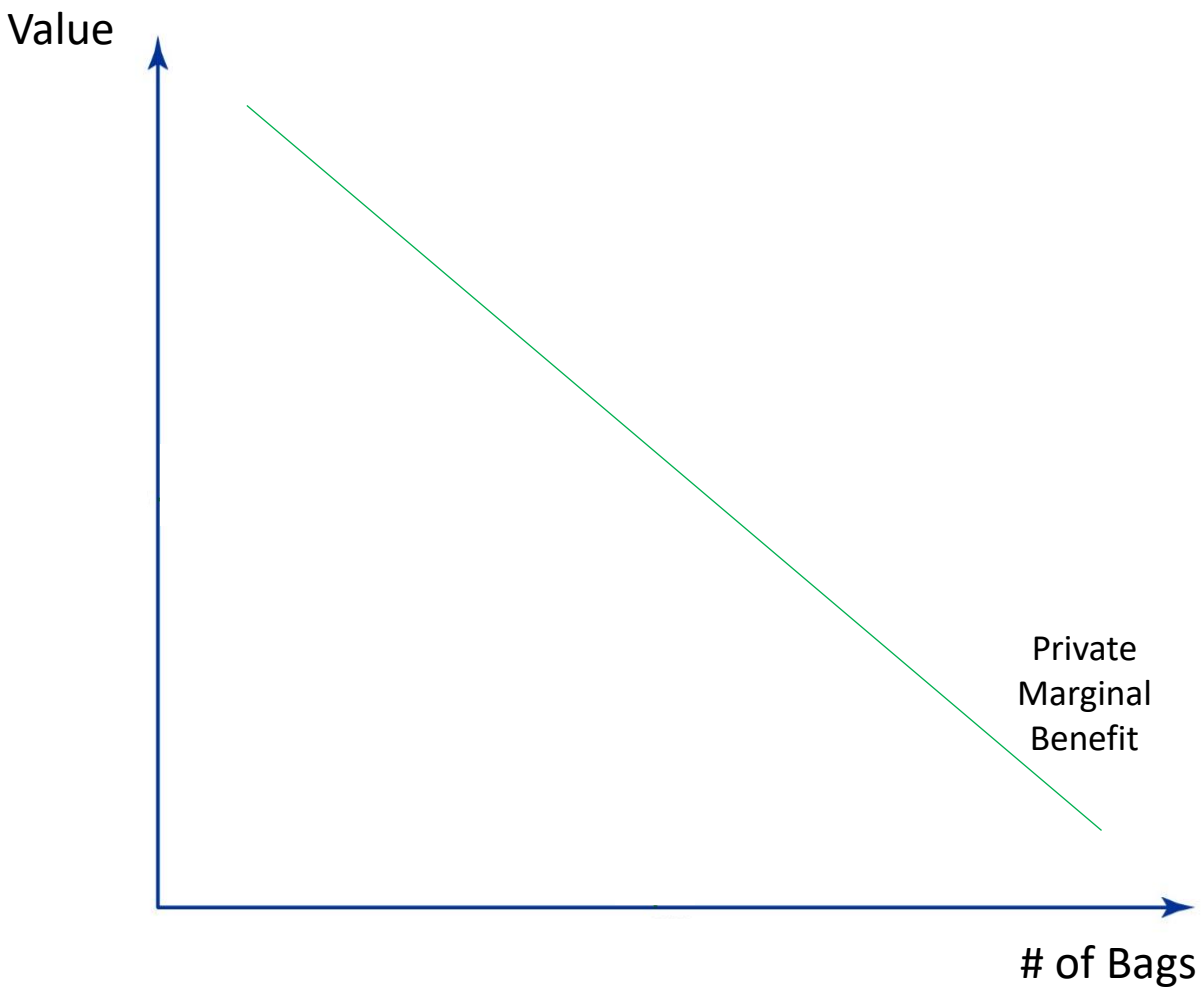
2. Markets are great! But they are *not perfect*.

3. Markets provide powerful incentives for innovation, production, price discovery, a ***general move towards economic efficiency,*** and many more desirable outcomes that improve the wellbeing of societies (note, "wellbeing" is a general term that is used to describe more than just income!)

So, “free markets” are bad?



An Example:
The Market for Plastic Bags



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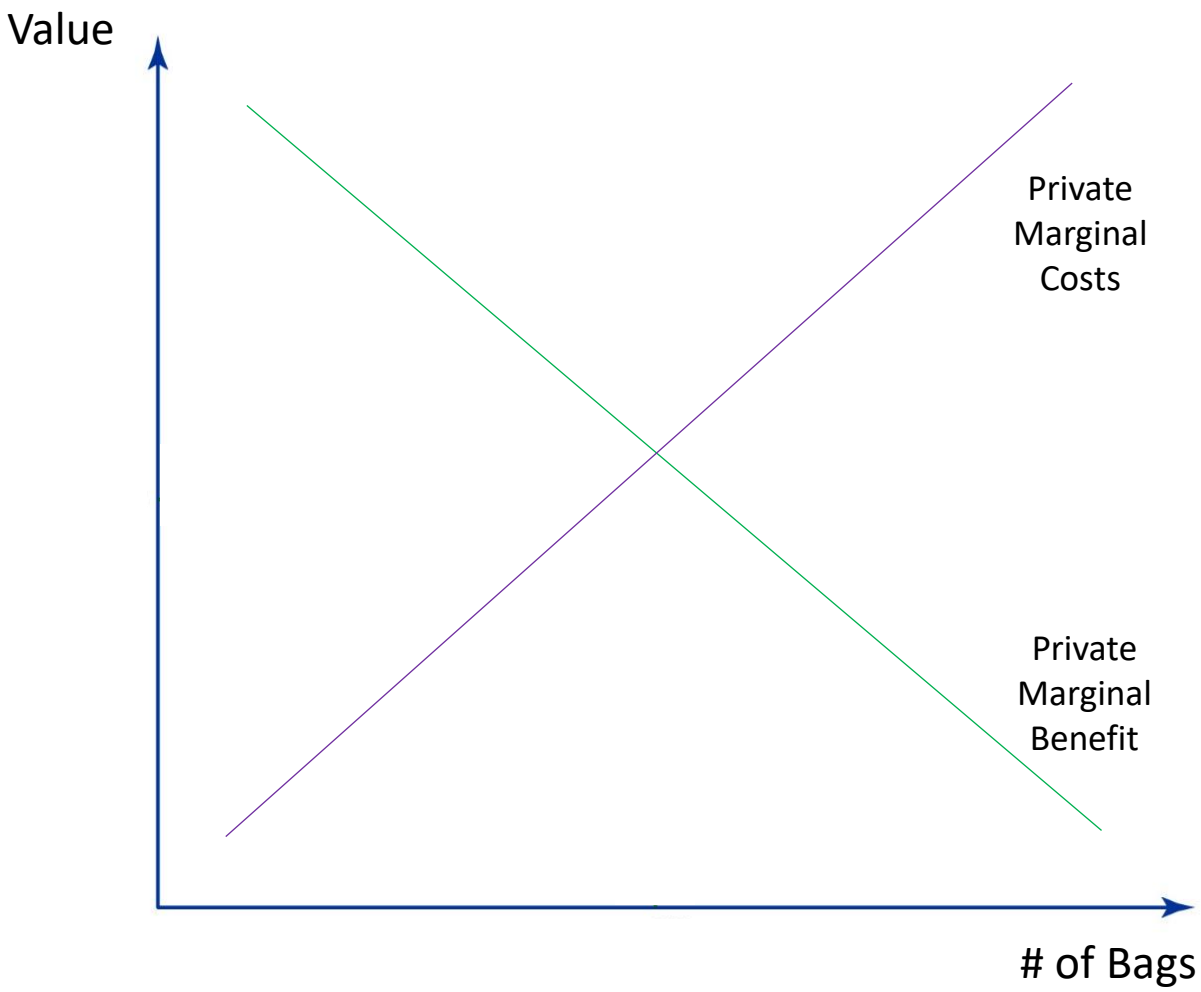

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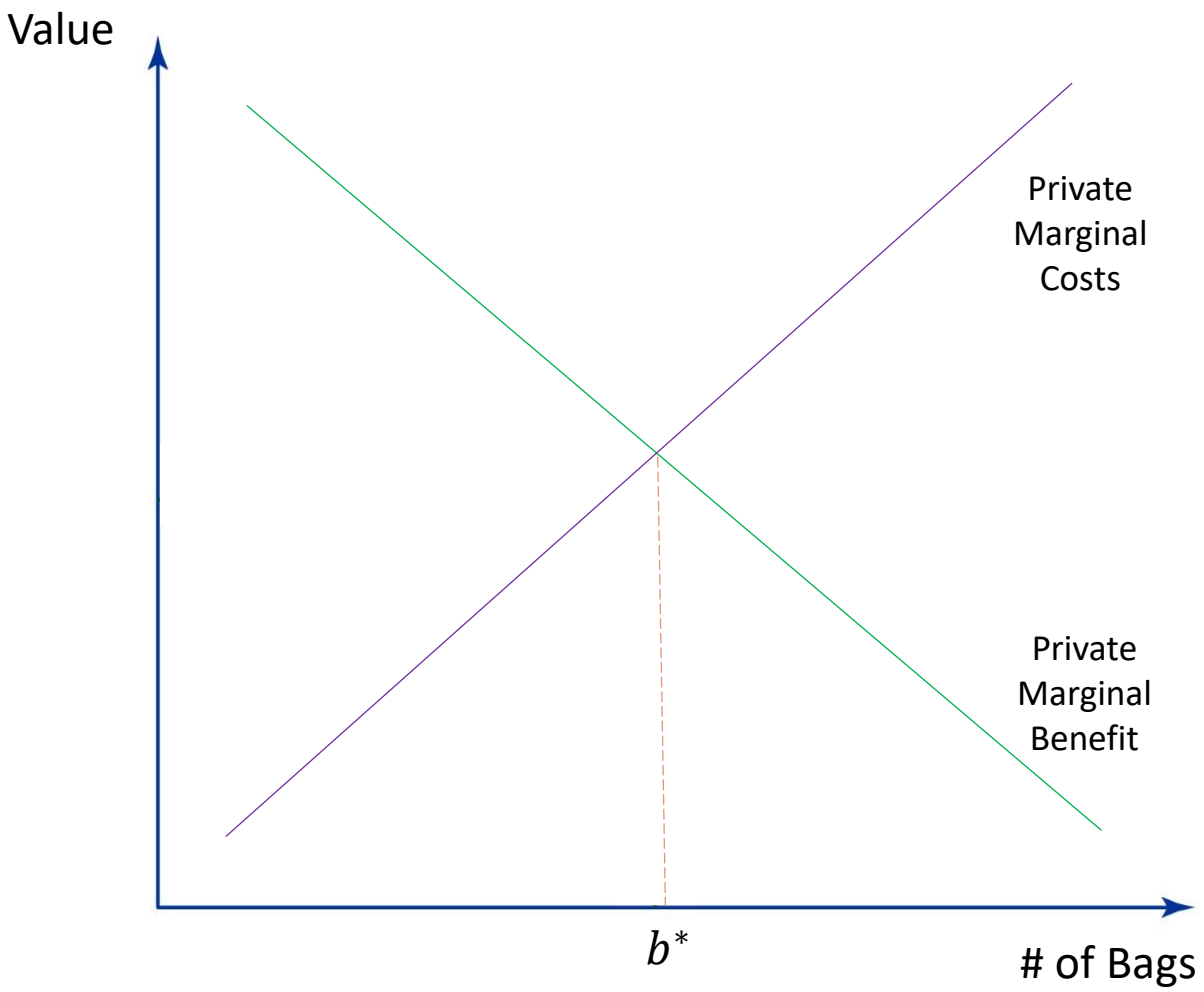

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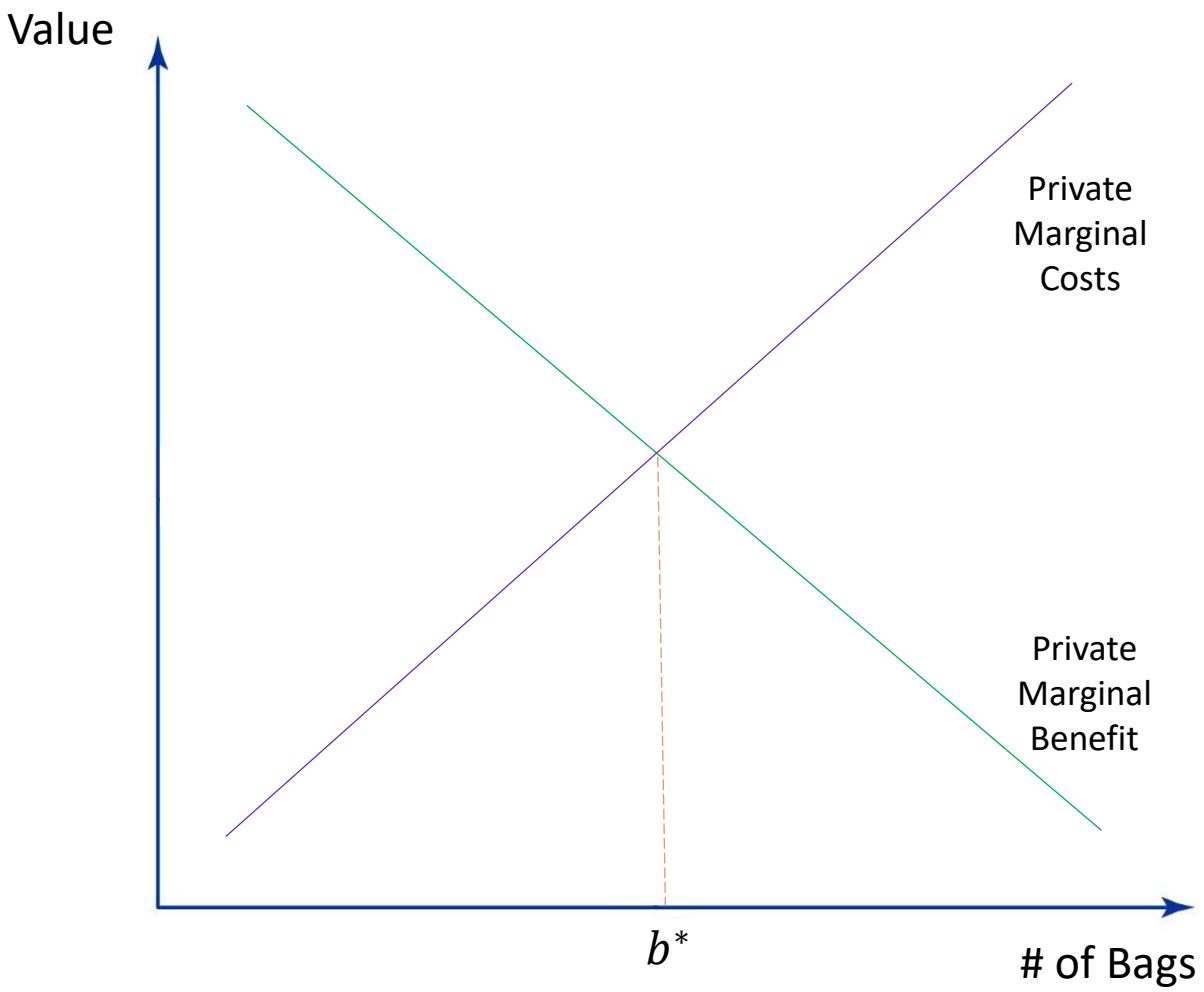

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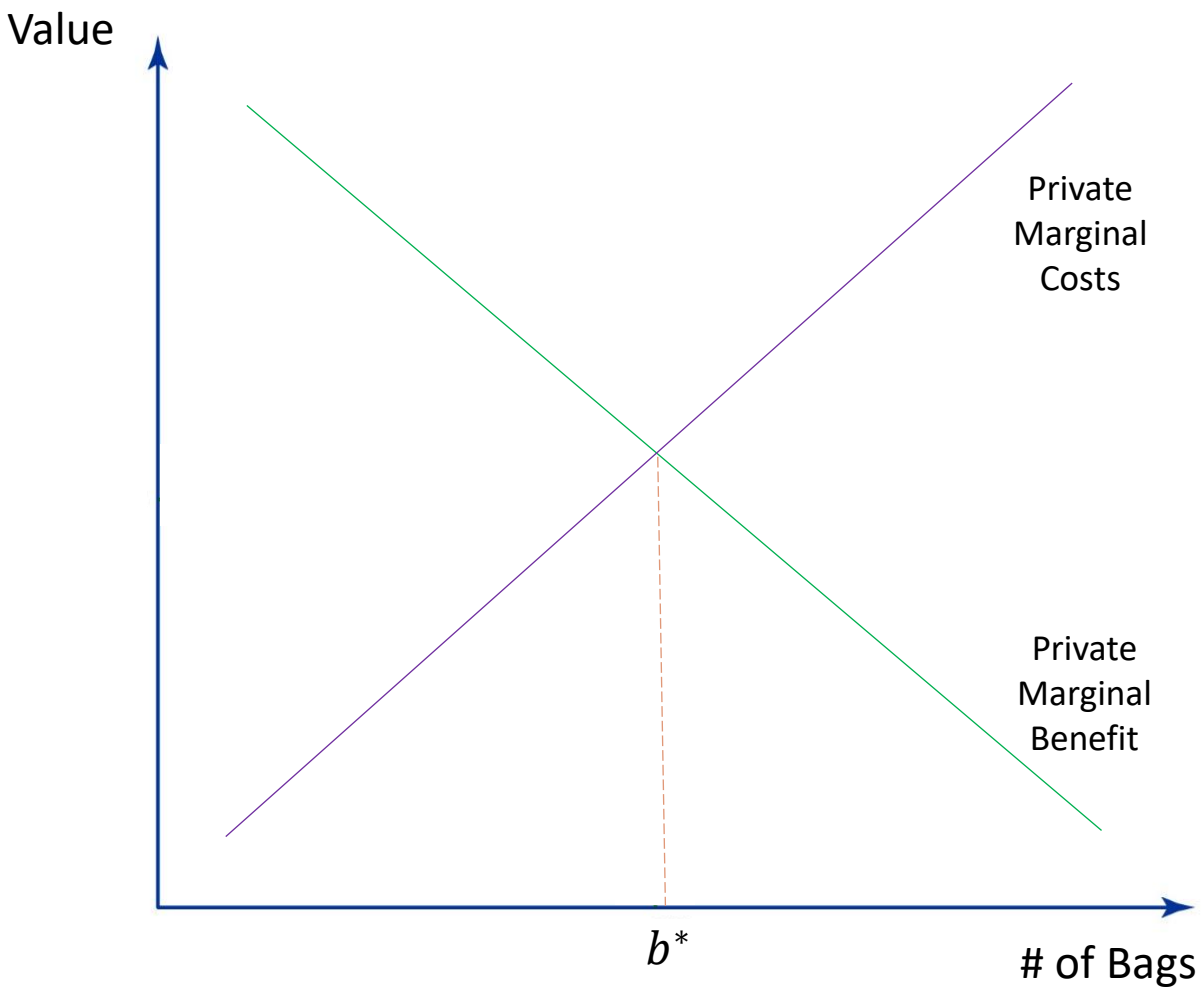

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  - The external marginal cost

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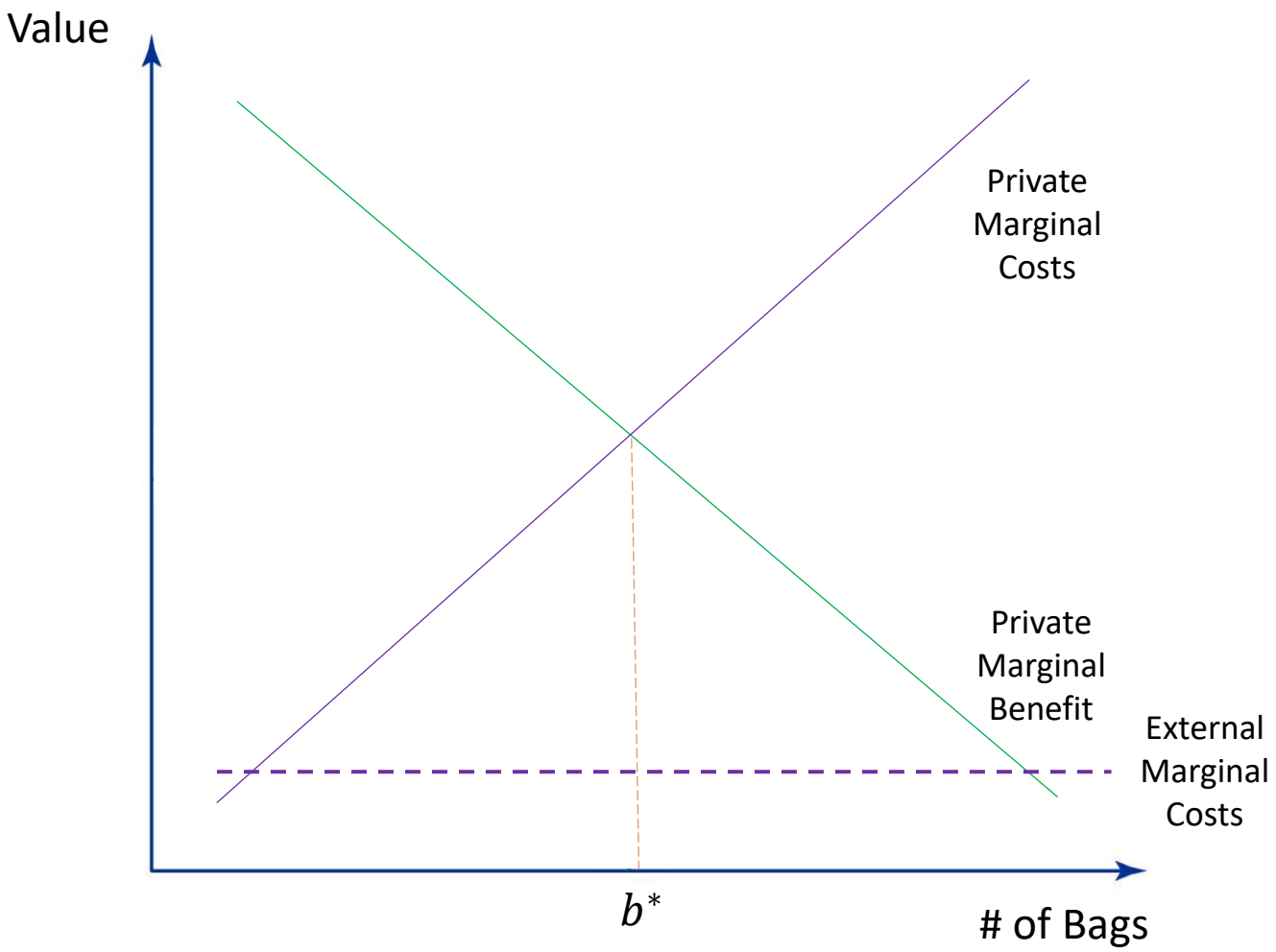

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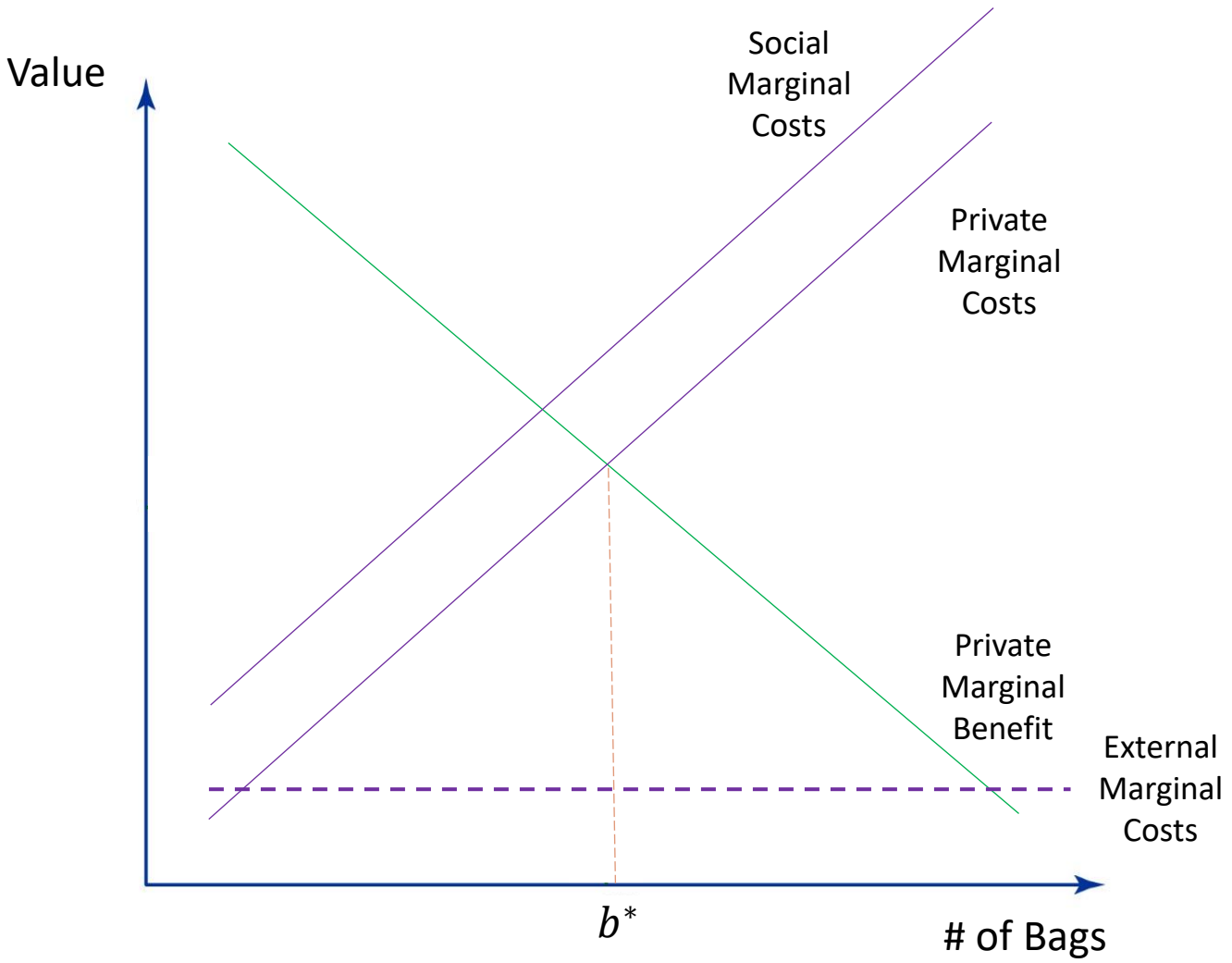

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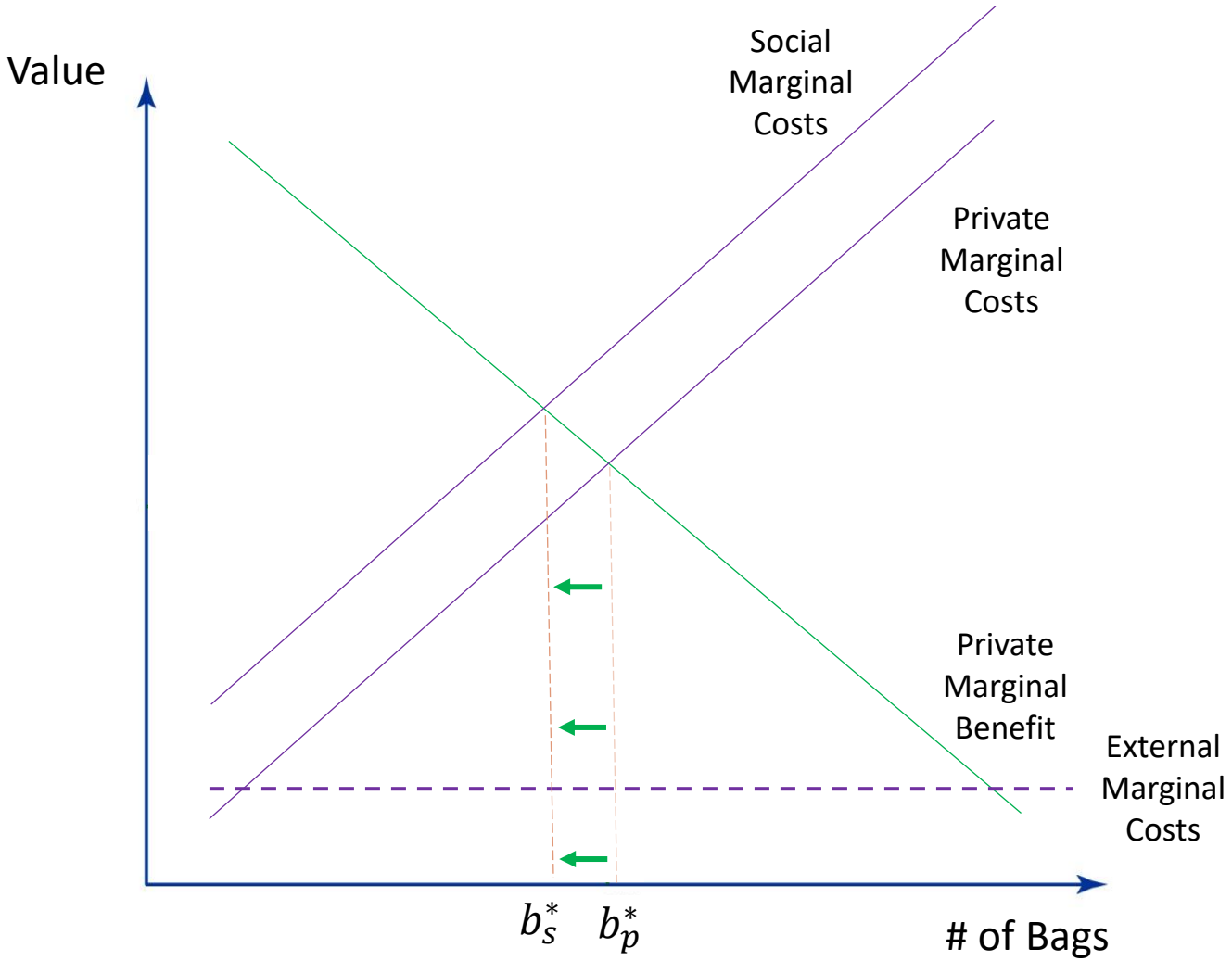

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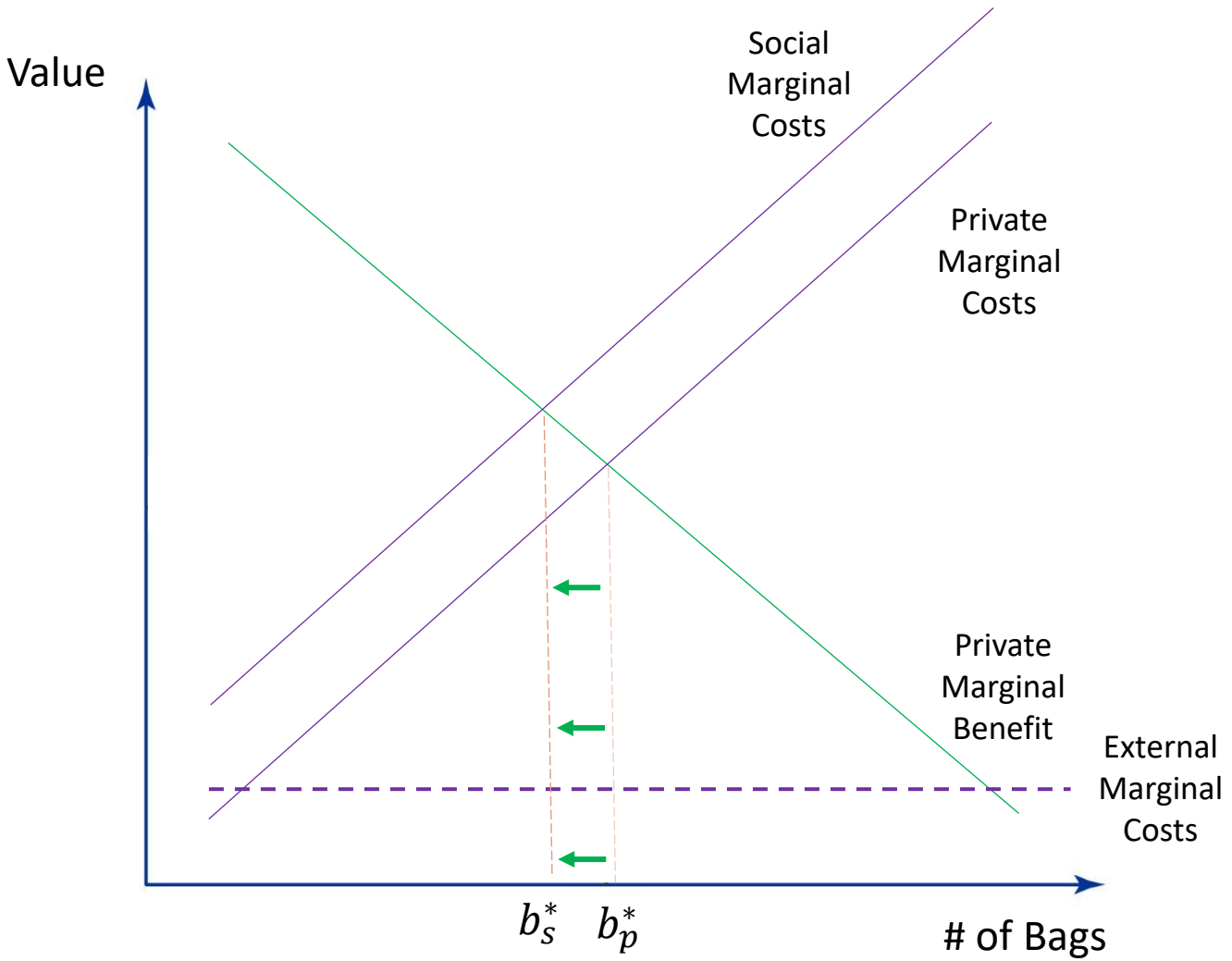

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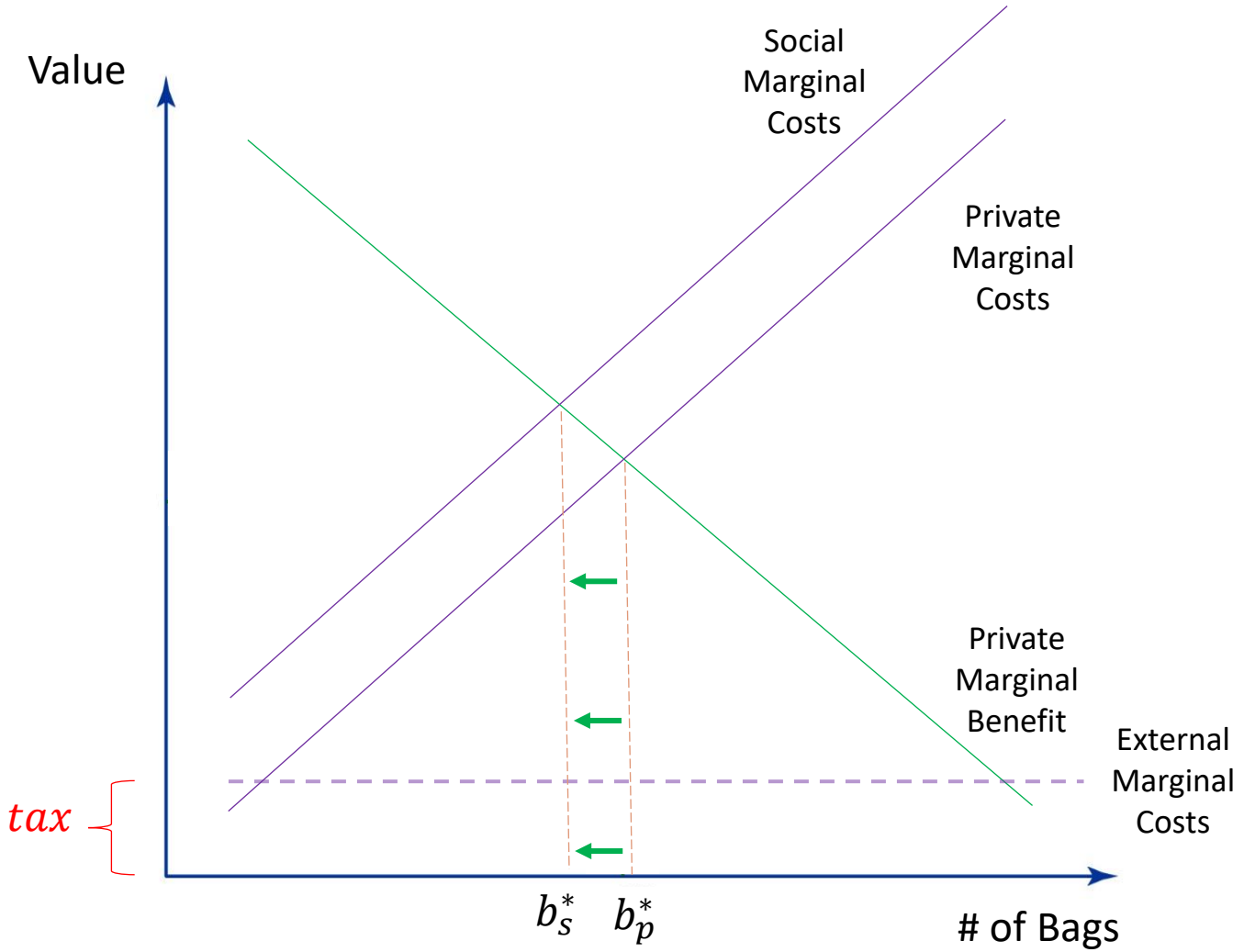

- What's missing?
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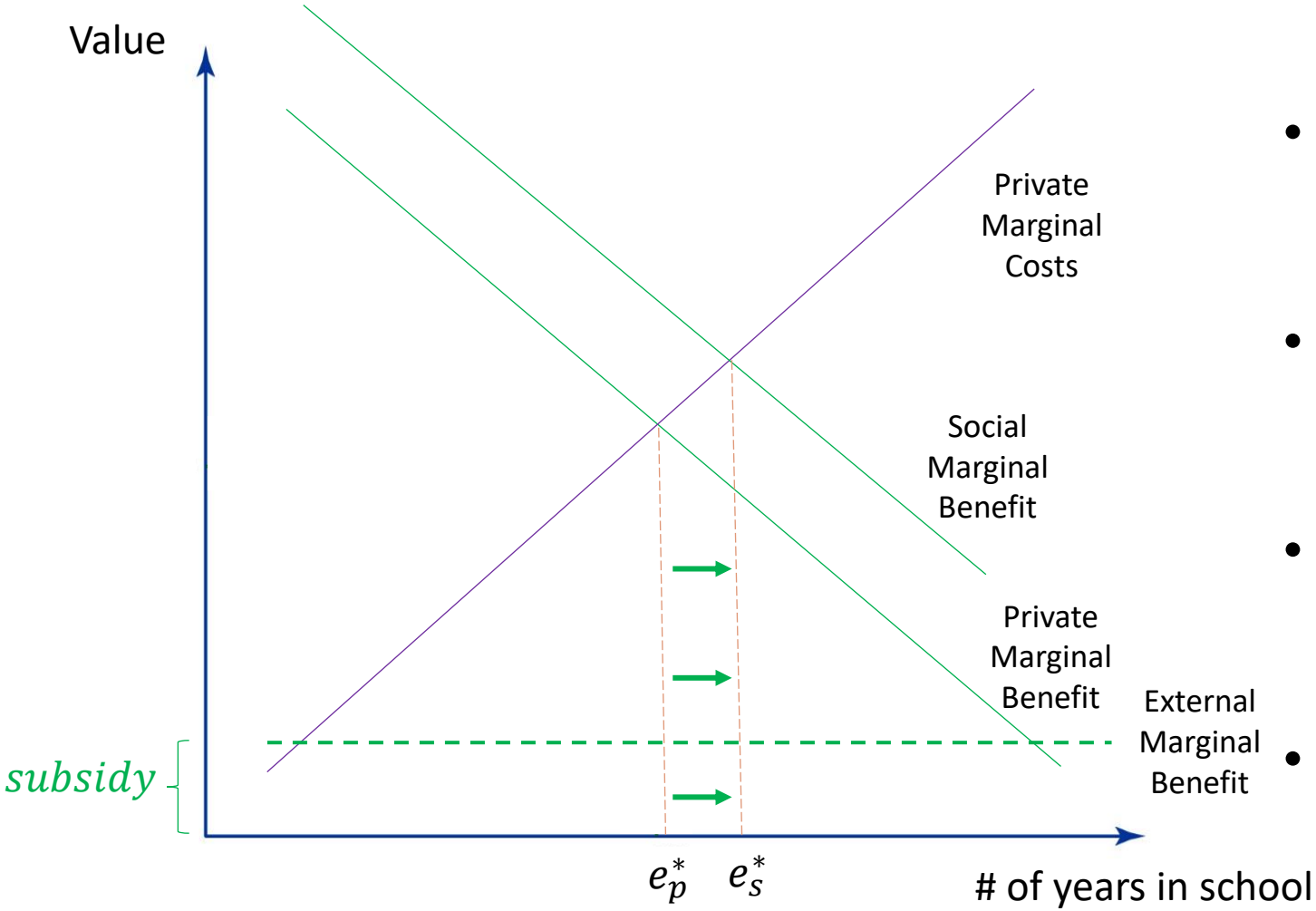
- Adding the external cost to the private recovers the (true) social marginal cost
- The socially optimal number of bags is *fewer* than the private. The private market *overprovides* bags
- What is a possible fix?
  - A *tax* equal to the external marginal cost

An Example:
The Market for College Education



- In education, the externality is a "good"
- The private market would *underprovide* public education
- A government *subsidy* can help correct this market failure
- In this context, is the external marginal benefit actually fixed (flat)?
- Try drawing an example of what you think external marginal benefits are

An Example:
Static Externalities

Person A \ Person B	Stay True	Tattle
Stay True	A: 5 years in jail B: 5 years in jail	A: 10 years in jail B: 2 years in jail
Tattle	A: 2 years in jail B: 10 years in jail	A: 8 years in jail B: 8 years in jail

An Example:
Dynamic Externalities

- Pick a number between 0 and 100.
- The person who is closest to 75% of the average number wins an extra point on the exam.

Market Failures

There are many different types or root causes of market failures. Think of some examples under each of these categories.

1. Information Asymmetries
   - One party in a transaction knows more than the other

2. Market Structure/Power
   - One party can influence the market equilibrium

3. Public Goods
   - Nonrival and nonexcludable

4. Externalities
   - Private actions have unintended effects