

# Instructor Guide — Class Exercise on Market Failures, Information Problems, and Behavioral Anomalies

October 19, 2025

## Learning Goals (for instructor reference)

Students should be able to: - Correctly diagnose at least **two sources of market failure** - Identify **at least one behavioral anomaly** affecting decisions - Align **policy tools** to the **four pillars** of policy design - Reflect on **limitations of pure information interventions**

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## Exercise Part 1 — Diagnose the Market Failure

**Scenario** (to display to students):

A rental building from the 1980s has an outdated heating system. - The **landlord** pays for installation but **tenants** pay heating bills. - Most tenants **know little** about heating efficiency or operating costs. - The building **lacks submetering** — heating costs are split evenly in rent.

**Task for students:** Identify **two market failures** and justify briefly.

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**Instructor Note — Expected Answers**

Likely Market Failure	Justification
<b>Principal–Agent Problem / Split Incentive</b>	Decision-maker (landlord) does not bear energy cost, so underinvests in efficiency.
<b>Information Asymmetry / Imperfect Information</b>	Tenants cannot observe true efficiency or operating cost difference.
<b>Externality</b> ( <i>optional mention</i> )	Landlord’s decision imposes external costs (higher energy use/emissions) on tenants and society.

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## Exercise Part 2 — Behavioral Lens

**Task for students:** Identify which **behavioral anomaly** may prevent efficiency upgrades.

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### Instructor Note — Expected Behavioral Frictions

Behavioral Category	Manifestation
<b>Bounded Rationality</b>	Tenants do not process long-term efficiency info (lifecycle cost).
<b>Present Bias (Bounded Willpower)</b>	Tenants/owners overweight upfront cost relative to future savings.
<b>Status Quo Bias</b>	“Old system works fine” → default persistence.
<b>Social Norms</b> ( <i>bonus</i> )	No visible norm or peer pressure to retrofit → low adoption.

## Exercise Part 3 — Policy Matching Table

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Pillar	Student fills with policy tool recommendation
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### Instructor Reference Table

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Pillar	Example Policy Response
<b>Incentives</b>	On-bill financing, retrofit subsidies, carbon/energy price
<b>Information</b>	Energy performance certificates, lifecycle cost labels, public audits
<b>Institutions</b>	Mandatory energy disclosure, MEPS for rentals, green lease clauses, submetering regulation
<b>Social Norms</b>	Publishing building energy ratings, neighborhood retrofit challenges, public recognition campaigns

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## Exercise Part 4 — Reflection

**Why might information campaigns alone be insufficient?**  
(Students write 2–3 lines.)

### Expected Insight

- Information alone does not solve **split incentives** — landlord still lacks payoff motive.
- Behavioral frictions (present bias, status quo bias) mean **information action**.
- **Institutional alignment** (contracts, metering) needed to change payoff structure.

## Group Discussion Prompt (Optional)

If you were designing a **Green Lease**, what clause would align landlord and tenant incentives?

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### Instructor Prompt Guidance

Encourage clauses like: - **Cost-sharing rule**: “Landlord installs efficient system; tenant agrees to slight rent premium.” - **Energy savings clause**: “Rent adjustment linked to verified energy savings.” - **Submetering requirement**: “Energy billing based on individual usage.”

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## Debrief Question (End of Session)

Which pillar ( / / / ) is **most often ignored** in energy policy — and what happens when it’s missing?

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### Key Teaching Takeaway

- Most policy focuses on **incentives** and **information**, but **institutions** (rules, contracts) and **norms** are crucial to make change **stick** and overcome behavioral and principal-agent frictions.

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