

Trace who bears a tax

Distinguish the legal remitter from the people whose opportunities change after market responses. Work through price, wage, asset-value and location channels, and test the chapter's property-tax example against an explicitly stated competitive model.

2 lessons · approximately 6 hours, plus multi-day practice

How to use this workbook

Read the assigned manuscript first. This workbook contains accompanying teaching and invented cases, not a revision of the source. Attempt exercises before consulting the rubrics and explanations. Written work is self-assessed or discussed with a tutor; no secure examination, academic credit or certificate is implied. Use a clearly labelled fictional case when live practice or personal disclosure would be unsuitable. Links use the course's intended publication address; for offline review, open the supplied source PDF at the full-book page numbers shown.

- Distinguish statutory liability, economic incidence and overall welfare.
- Solve a simple competitive tax-wedge example with transparent assumptions.
- Trace price, wage, capitalization and location responses over different horizons.
- Evaluate the property-tax passage without confusing supply and demand elasticity.
- Construct an evidence-led incidence memo that allows alternative outcomes.

[Open the module and source reading links](#)

Lesson sequence

1. From the tax cheque to the market response
2. Test property, payroll and consumption-tax claims

From the tax cheque to the market response

Allow approximately 170 minutes, plus any continuing activity.

Learning objectives

- Explain why remittance is insufficient to establish incidence.
- Calculate buyer and seller burdens in an invented competitive market.
- Distinguish four adjustment channels and identify their evidence needs.

Assigned source readings

Chapter opening and sections I-IV: remittance, elasticity, four channels and corporate taxation

Full-book PDF pages 158–163. Section links open the chapter at the relevant page.

Chapter notes, including the corporate-tax citation

Full-book PDF pages 167–167. Section links open the chapter at the relevant page.

Develop the argument

Start with an accounting distinction

The chapter opens by challenging the idea that the person or institution named on a tax bill necessarily bears its full economic burden. Statutory liability describes a legal obligation to remit. Economic incidence describes how the policy changes people's real opportunities after relevant prices and behaviour adjust. A firm may send the payment while some burden appears in customer prices, employee compensation or investor returns. Equally, the firm cannot simply choose to make someone else bear every cost. Its alternatives and the alternatives available to other participants constrain the adjustment.

The chapter's first section is therefore a useful instruction to follow the chain beyond the cheque. Begin by specifying the tax base, rate, timing and legal remitter. Then describe the market and the counterfactual without the tax. Record a gross customer price separately from a seller's net receipt. This prevents a payment to government from being counted twice or confused with a loss of the same amount to every participant. The source's epigraph and political rhetoric frame the argument; neither establishes the incidence of a particular tax.

Elasticity is a conditional response, not a moral label

Section II identifies the relative ability to adjust as central. In an ordinary competitive partial-equilibrium model, the comparatively less responsive side bears more of a small tax wedge. MIT's public-finance lecture supplies an independent explanation of this rule and distinguishes remittance from burden. The rule concerns a specified supply and demand relationship, with assumptions about competition and price adjustment. It is not a claim that every tax has the same incidence regardless of institutions. Binding price controls, bargaining arrangements and changes in other markets can require a different model.

Use the original numerical case below to make the distinction concrete. A wedge is the gap between what a buyer pays and what a seller retains. Equilibrium requires the quantity buyers want at their gross price to match the quantity sellers offer at their net price. Requiring the seller

rather than the buyer to remit does not change that same wedge under the stated competitive assumptions. Do not infer equal sharing from the mere presence of two sides: the equal split in this particular case comes from its chosen schedules. Different slopes or constraints can change the result.

Four channels, different clocks

The source then traces price, wage, asset-value and location channels. A price channel changes what customers pay. A wage channel changes compensation or employment opportunities. An asset-value channel incorporates expected future net returns into what buyers will pay today; a lower sale value can burden an existing owner before a later buyer enters. A location channel changes where activity, investment or people choose to operate. These channels can interact, so a list is not a set of four amounts to add without checking for overlap.

Time matters. An existing machine may have few alternative uses now, while a future investor can choose another project. A worker may be unable to change jobs immediately but have more options over several years. Section IV applies this reasoning to corporate taxes and argues that burdens can reach workers and consumers. The cited Fuest, Peichl and Sieglöcher study's publisher abstract reports substantial wage incidence in its German municipal setting and heterogeneous effects. That is evidence about a defined setting, not a universal allocation for every corporate tax. The manuscript's citation title differs from the publisher's actual title, which is linked below. A careful memo states the setting, horizon and uncertainty before transferring a result elsewhere.

Independent sources and scope

MIT OpenCourseWare: Jonathan Gruber, lecture 18 transcript, tax incidence, pp. 13–20

Independent model clarification. Competitive incidence and extensions; not an empirical estimate for the fictional cases.

Fuest, Peichl and Sieglöcher (2018), [Do Higher Corporate Taxes Reduce Wages? Micro Evidence from Germany](#)

Publisher abstract and bibliographic details checked. The full study has not been independently audited for this course.

Original course example: a twenty-unit tax wedge

Invented for this course.

A fictional competitive market has demand $Q = 100 - \text{buyer price}$ and supply $Q = \text{seller net price}$. There are no price controls, externalities or other-market changes. A tax of 20 units is imposed per item; government spending is outside this incidence calculation.

1. Without the tax, buyer and seller prices are the same: $100 - P = P$ gives $P = 50$ and $Q = 50$.
2. With the tax, buyer price = seller net price + 20. Substitute into demand: $100 - (\text{seller net price} + 20) = \text{seller net price}$.
3. Seller net price is 40, buyer price is 60, and quantity is 40. Buyers pay 10 more and sellers receive 10 less per remaining item.
4. Check the wedge: $60 - 40 = 20$. Tax revenue is $20 \times 40 = 800$, but revenue is not itself a measure of deadweight loss.

5. If buyers remit instead, impose the same gross-to-net wedge and solve again. Under these assumptions, the allocation is unchanged.

The schedules generate equal per-item incidence here. They do not establish equal incidence in other markets or the policy's net welfare once public spending and other effects are considered.

Practice and evidence

1. Change the responsiveness

Replace supply in the worked example with $Q = 2 \times \text{seller net price}$. Keep demand and the tax unchanged. Solve the before and after equilibria.

Deliverable: A calculation sheet with prices, quantities, per-item burdens and a 250-word interpretation.

1. Show all equations and identify gross and net prices.
2. Compare the shares with the original equal-slope case.
3. State which assumptions allow remitter neutrality.

Calculation · 4 points

Obtains before price 100/3 and quantity 200/3; after seller price 80/3, buyer price 140/3 and quantity 160/3.

Incidence · 3 points

Identifies buyer burden 40/3 and seller burden 20/3 per remaining unit.

Scope · 3 points

Explains that the result is conditional and does not establish net welfare.

2. Map the four channels

A fictional tax reduces the expected net return on a local factory. Build a mechanism map without assuming that customers or workers absorb a fixed share.

Deliverable: A two-horizon map and a 500-word evidence plan.

1. Include customers, workers, current owners and prospective investors.
2. Distinguish an immediate asset repricing from a later investment response.
3. Name evidence that could show little or no response in each channel.

Mechanisms · 4 points

Links each proposed effect to a choice or price adjustment.

Timing and accounting · 3 points

Distinguishes horizons and avoids double counting capitalization with the same future income loss.

Evidence · 3 points

Identifies discriminating observations rather than asserting a universal share.

Reflection

Which part of an incidence claim in public debate is an observed adjustment, and which part is an assumed ability to pass a cost on?

Formative self-check

Choose an answer before looking at the answer key. These questions are open practice, not a secure assessment.

1. A seller remits 20 per unit, while the buyer price rises by 6 and the seller net price falls by 14. Who bears the per-unit burden?

- A. The seller bears all 20 because it remits.
- B. Buyers bear 6 and sellers bear 14 under the stated comparison.
- C. Buyers bear 20 and sellers bear 14.
- D. Neither bears anything if revenue funds a useful service.

2. Which inference from the German corporate-tax study is warranted by its checked publisher abstract?

- A. Every corporate tax everywhere falls wholly on workers.
- B. A defined German setting provides evidence of wage incidence and heterogeneous effects.
- C. Only the legal remitter can bear a tax.
- D. The study proves public spending has no benefit.

3. An anticipated recurring tax lowers an asset's sale price today. What is the relevant channel?

- A. Capitalization of expected net returns.
- B. Proof that the asset physically disappeared.
- C. A second independent loss to add automatically to all future tax payments.
- D. Evidence that demand must be perfectly inelastic.

Answer explanations

1. B — Buyers bear 6 and sellers bear 14 under the stated comparison.

Compare gross and net prices with the no-tax baseline. Remittance does not override the observed adjustment; spending benefits are a separate part of the overall evaluation.

2. B — A defined German setting provides evidence of wage incidence and heterogeneous effects.

The abstract supports a setting-specific empirical finding. Extending its magnitude to every jurisdiction or policy would require further evidence and an account of institutional differences.

3. A — Capitalization of expected net returns.

Capitalization translates expected future net returns into today's value. It is not physical destruction, and adding the same capitalized loss to its underlying future income losses can double count.

Test property, payroll and consumption-tax claims

Allow approximately 190 minutes, plus any continuing activity.

Learning objectives

- Identify the missing assumptions in the property-tax passage.
- Distinguish fixed-stock rent incidence, long-run building responses and land-only taxation.
- Evaluate payroll and consumption-tax claims alongside distribution and policy benefits.

Assigned source readings

Sections V–XI: wealth, property, payroll, sin taxes, political appeal and the four questions

Full-book PDF pages 163–166. Section links open the chapter at the relevant page.

Governing claim and four closing Hazlitt examples

Full-book PDF pages 168–169. Section links open the chapter at the relevant page.

Develop the argument

Follow the source, then test its own rule

The second half applies the incidence method to wealth, property, payroll and consumption taxes. Its central warning remains valuable: naming a wealthy person, employer or unpopular product does not finish the analysis. Section V raises liquidity and asset-price responses to wealth taxation, anticipating the next chapter. Section VII argues that employer-side payroll taxes may affect compensation. Section VIII examines taxes on disfavoured consumption, including burdens on people with limited alternatives, while acknowledging that such taxes are not necessarily unjustified. Each application needs a defined market, horizon and comparison.

One passage requires an explicit course clarification. Section VI moves from inelastic housing supply to stable demand and then to rent pass-through. The closing property-tax example repeats the claim more strongly. Supply responsiveness and demand responsiveness are different facts; one cannot be inferred from the other. In the ordinary competitive model used in the preceding lesson, less responsive supply tends to place more of the burden on suppliers, other things equal. Thus the passage's conclusion does not follow from its stated premise alone. The manuscript is preserved; the course tests the reasoning rather than silently rewriting it.

A narrow counterexample and its limits

Consider the original fixed-stock example below. Because every existing unit remains available and tenant demand is unchanged, the market-clearing rent is unchanged. The owner's net receipt falls by the tax. This is a counterexample to treating supply inelasticity alone as proof of renter pass-through. It is deliberately narrow. A tax on buildings may influence maintenance, quality, conversions or construction over a longer horizon. If those choices change the supply of housing services, a new equilibrium must be analysed. Market power, tenancy rules and changes in public services or neighbourhood demand can also alter outcomes.

A land-only tax is a different tax base from a tax on land and improvements. A model in which the quantity of land is fixed should not be casually applied to reproducible buildings, nor should a

building-investment argument be treated as a result about land alone. Capitalization asks who owned an asset when expectations changed; rental incidence asks how gross rents and net receipts adjust. General-equilibrium analysis also follows effects into other markets. The safe conclusion is not that every property tax is borne wholly by owners. It is that a specific result requires specific assumptions and evidence, and the source's shortcut leaves those conditions unresolved.

Use the four questions without omitting benefits

The chapter proposes four questions: who can change behaviour, which side is less responsive, through which channel adjustment occurs, and what happens to asset prices. Apply these to payroll taxes without assuming wages can fall immediately or that every worker has the same alternatives. Apply them to consumption taxes while distinguishing a burden as a share of income from its absolute amount. Reduced harmful consumption, external costs, public-service benefits and distributional objectives belong in the overall policy evaluation, even though a narrow price-incidence calculation holds them outside its boundary.

The political sections and final examples criticise slogans that stop at the named taxpayer. A strong response can accept that criticism while rejecting an unsupported numerical or universal claim. In the capital-flight example, distinguish legal relocation, real investment movement and changes in reported income; these are not interchangeable observations. In the payroll example, specify wage-setting institutions and timing. In the property example, state both elasticities and the tax base. Finish with a provisional judgment and a revision condition. Assessment rewards faithful reconstruction, sound reasoning and fair treatment of alternatives, not endorsement of the author's preferred tax policy.

Independent sources and scope

MIT OpenCourseWare: lecture 18, relative elasticities and general-equilibrium incidence

Supports the model distinction used in the accompanying clarification. The fixed-stock rental example is an original course construction.

Original course counterexample: a fixed rental stock

Invented for this course.

Assume a competitive fictional rental market with exactly 100 identical units, all remaining available and rented. Tenant demand is $Q = 200 - \text{gross rent}$. There is no quality change, entry, exit, vacancy response, rent regulation or public-spending effect. A tax of 10 per unit is payable by owners. These are teaching assumptions, not a description of an actual city.

1. Before the tax, $Q = 100$ requires gross rent = 100. Owners receive 100 per unit before the specified tax.
2. After the tax, the assumed supply remains 100 and tenant demand is unchanged. Market-clearing gross rent is still 100.
3. Owners remit 10 and retain 90. In this model, the per-unit burden falls on owners.
4. An owner cannot simply raise the market-clearing rent to 110 while all assumptions remain true: demand would be 90 units, inconsistent with the assumed equilibrium of 100 rented

units.

5. Relax the fixed-stock or unchanged-demand assumption and specify a new model before predicting a different result. Longer-run investment effects are not ruled out by this short-run construction.

The example disproves an unconditional inference from inelastic supply to renter pass-through. It does not establish the incidence of every land, building or combined property tax.

Practice and evidence

1. Audit the property passage

Compare the chapter's general elasticity rule with section VI and the final property-tax example. Reconstruct the claim fairly before evaluating it.

Deliverable: A 600-word audit with an assumption table and one numerical counterexample.

1. Cite the exact assigned passages and distinguish supply from demand.
2. Solve the fixed-stock example or provide an equally explicit alternative.
3. Explain at least three conditions that could change the result without claiming they actually occur.

Source fidelity · 3 points

Represents the source's premise and conclusion accurately.

Model validity · 4 points

Uses consistent equilibrium assumptions and correct arithmetic.

Limits · 3 points

Distinguishes short run, long run, tax base and other-market effects.

2. Build a balanced incidence brief

A fictional council proposes a tax on a product associated with a measurable external cost. No incidence or health estimate has yet been supplied.

Deliverable: A 700-word brief with separate incidence, benefits, distribution and uncertainty sections.

1. Ask the chapter's four questions.
2. Identify a feasible alternative and the evidence needed to compare it.
3. State how spending revenue and reducing external costs could affect the final judgment.

Incidence · 4 points

Identifies relative alternatives, channels and time horizons.

Complete comparison · 3 points

Includes intended benefits and distribution without treating revenue as a costless gain.

Evidence and revision · 3 points

Avoids invented estimates and states what would change the recommendation.

Reflection

What observation would distinguish an immediate rent response from a later reduction in housing quality or construction?

Formative self-check

Choose an answer before looking at the answer key. These questions are open practice, not a secure assessment.

1. Under the worked example's fixed 100-unit supply and unchanged demand, what follows from a tax of 10 on owners?

- A. Gross rent must rise by 10.
- B. Gross rent remains 100 and owner net receipt falls to 90.
- C. The number of physical buildings necessarily falls immediately.
- D. Every real property tax has zero renter incidence.

2. Why does inelastic housing supply alone fail to establish nearly complete renter pass-through?

- A. Supply and demand elasticity are the same measure.
- B. It does not establish tenant demand responsiveness or the full incidence model.
- C. Taxes can never affect rents.
- D. Owners can always choose any rent independently of demand.

3. A tax is shown to burden low-income consumers disproportionately as a share of income. What remains necessary for an overall evaluation?

- A. Nothing; the policy's total effects are fully known.
- B. Assess benefits, external costs, spending, alternatives and distribution alongside the burden.
- C. Ignore the distribution because the legal remitter is a firm.
- D. Assume all consumers can immediately avoid the tax.

Answer explanations

1. B — Gross rent remains 100 and owner net receipt falls to 90.

The stated schedules leave the market-clearing gross rent unchanged. The conclusion is conditional on the fixed-stock assumptions and does not settle longer-run or other-market effects.

2. B — It does not establish tenant demand responsiveness or the full incidence model.

Incidence requires the relevant responses on both sides and the institutional setting. Inelastic supply is not evidence of inelastic demand, and neither universal zero pass-through nor unconstrained pricing follows.

3. B — Assess benefits, external costs, spending, alternatives and distribution alongside the burden.

Distributional incidence is important but does not contain every relevant effect. Benefits and alternatives must be evaluated explicitly rather than presumed to cancel or justify the burden.

Module assessment

An incidence memo with an explicit challenge

A fictional city proposes a tax on rental-property owners and an employer payroll levy to fund a transport improvement. Supporters say only owners and firms pay; opponents say tenants and workers pay everything. Analyse both claims without assuming either is correct.

Required evidence

- A 900-word memo identifying legal remitters, tax bases and two horizons.
- A solved competitive example and a separate fixed-stock rental counterexample.
- A channel map including capitalization and transport-related demand or productivity effects.
- An evidence plan and a provisional, conditional conclusion.

Assessment criteria

Source reconstruction · 5 points

Accurately explains the chapter and identifies the property-passage limitation.

Model and arithmetic · 5 points

Uses consistent schedules, gross/net prices and stated assumptions.

Scope and distribution · 5 points

Distinguishes horizons, tax bases and public-spending effects without double counting.

Evidence and judgment · 5 points

Tests both slogans fairly and gives meaningful revision conditions.

Model response: consult after your attempt

A strong memo rejects both blanket allocations. It identifies who remits before analysing who can adjust. Its fixed-stock example can place the immediate rental burden on owners, while its longer-run discussion allows building investment and housing demand to change. It distinguishes land from improvements and current owners from future buyers. The payroll analysis considers wage-setting constraints and worker alternatives rather than importing a universal share. Transport benefits are evaluated separately before a final net judgment. The conclusion may support, oppose or redesign the proposal, provided the mechanism, evidence and uncertainty are explicit.

Source cautions and interpretation

- The property-tax reasoning at source blocks b01483-b01484 and the closing example b01540 does not follow from supply inelasticity alone. The course preserves the source and supplies a conditional competitive counterexample; it does not claim a universal empirical result for property taxes.

- The source's corporate-tax reference title differs from the verified publisher title: Fuest, Peichl and Siegloch (2018), Do Higher Corporate Taxes Reduce Wages? Micro Evidence from Germany. Only the publisher abstract and bibliographic record were checked independently.
- Footnotes 45–47 and the complete chapter notes were read. References to fuel-tax incidence, payroll taxation and migration remain source attributions unless explicitly identified as independently checked.
- The Coolidge epigraph and historical attribution have not been independently verified.
- The examples are original teaching models. They are not current tax law, personal financial guidance or estimates for a real jurisdiction. Incidence and overall welfare are distinct analytical questions.

Source coverage

Chapter 11: Tax Incidence: Who Really Pays

Frames the chapter's claim and separates its epigraph and rhetoric from incidence evidence.

[Read source section: full-book PDF page 158](#)

I. The first error: confusing the payer with the payee

Explains statutory remittance versus economic burden and tests the distinction in a tax-wedge calculation.

[Read source section: full-book PDF page 159](#)

II. Incidence is governed by elasticity: who can move, who cannot

Teaches relative elasticity under explicit competitive assumptions; the altered-supply exercise tests the mechanism.

[Read source section: full-book PDF page 159](#)

III. Four channels of tax pass-through

Traces price, wage, capitalization and location channels across horizons, with an evidence-map exercise and a double-counting check.

[Read source section: full-book PDF page 160](#)

A. Price effects: the consumer pays

Traces price, wage, capitalization and location channels across horizons, with an evidence-map exercise and a double-counting check.

[Read source section: full-book PDF page 160](#)

B. Wage effects: the worker pays

Traces price, wage, capitalization and location channels across horizons, with an evidence-map exercise and a double-counting check.

[Read source section: full-book PDF page 160](#)

C. Asset-value effects: the saver pays

Traces price, wage, capitalization and location channels across horizons, with an evidence-map exercise and a double-counting check.

[Read source section: full-book PDF page 161](#)

D. Location effects: the immobile pays

Traces price, wage, capitalization and location channels across horizons, with an evidence-map exercise and a double-counting check.

[Read source section: full-book PDF page 162](#)

IV. Corporate tax: the moral favourite, the economic mirage

Examines corporate-tax transmission and the scope of the checked German study abstract, including its corrected bibliographic title.

[Read source section: full-book PDF page 162](#)

V. Wealth taxes and “paper wealth”: incidence through forced liquidity

Connects wealth-tax incidence to liquidity and asset-price channels without assuming a universal allocation.

[Read source section: full-book PDF page 163](#)

VI. Property taxes, rents, and the myth of landlord-only incidence

Audits the property-tax inference with the fixed-stock rental counterexample and distinguishes land, improvements and long-run responses.

[Read source section: full-book PDF page 163](#)

VII. Payroll taxes: incidence hidden in the labour contract

Tests payroll incidence against wage-setting institutions, adjustment options and time horizons.

[Read source section: full-book PDF page 164](#)

VIII. Sin taxes and moral taxation: punishing demand, punishing the poor

Separates consumption-tax incidence from external costs, benefits and distribution in the balanced-brief exercise.

[Read source section: full-book PDF page 164](#)

IX. The politics of visible cheques and invisible burdens

Translates political claims about visible payers into testable mechanisms rather than conclusions from labels.

[Read source section: full-book PDF page 165](#)

X. A simple framework for readers: four questions to ask of any tax

Applies all four incidence questions and evaluates the closing lesson with explicit assumptions and revision conditions.

[Read source section: full-book PDF page 165](#)

XI. The lesson: taxation is incidence, not intention

Applies all four incidence questions and evaluates the closing lesson with explicit assumptions and revision conditions.

[Read source section: full-book PDF page 165](#)

The Lesson Line

Applies all four incidence questions and evaluates the closing lesson with explicit assumptions and revision conditions.

[Read source section: full-book PDF page 166](#)

Chapter 11 Notes:

Reads the chapter notes, distinguishes source attribution from independent verification and checks the Fuest publisher record.

[Read source section: full-book PDF page 167](#)

The "Hazlitt" Examples (Primary)

Tests all four closing examples: corporate transmission, payroll wages, property pass-through and capital-location responses.

[Read source section: full-book PDF page 168](#)