ECON90015 Managerial Economics

FACULTY OF BUSINESS AND ECONOMICS · THE UNIVERSITY OF MELBOURNE · GRADUATE COURSEWORK

Full guide + ask Sia about ECON90015

SIDE 1/2 FINAL-PRIORITY METHODS · DEFINITIONS · FORMULAS · DECISION RULES · COMPARISONS **EXAM REVISION SHEET** S2 2026 · two-hour final · 50%

0 · Exam Map

COURSE.JSON · BRIEF

Test 20% | Assignment 30% | Examination 50%

ASSESSMENT	FORMAT HELD	WEIGHT
Mid-semester Test	1-hour on-campus MCQ; first six lecture weeks	20%
Individual Assignment	2,000 words; PDF via LMS	30%
End-of-semester Examination	Two hours; current format: check LMS	50%

Permitted materials: not confirmed for this offering in the course materials we hold — check the exam instructions on the LMS. *Source: BRIEF.md; course.json.*

1 · Model → Decision

C1 · CORE METHOD

OBJECT + units → MODEL + rule → RESULT + sign → DECISION + limit

stress-test: change one input does the result move as predicted?

Object → model → result → decision → sensitivity test.

LINE	WHAT EARNS THE MARK
1 Translate	Decision variable, market structure, units, baseline.
2 Represent	Separate supplied inputs from derived quantities; predict direction.
3 Solve	Show each transformation; preserve denominator, sign and units.
4 Interpret	Bounded firm/policy implication; state assumption that could reverse it.

ANSWER SCAFFOLD

```
Given [object/condition], [model rule] changes [quantity] from/to [result]. Therefore [decision implication], provided [assumption]; if it fails, [direction/claim] may change.
```

EXAM TIP *A calculator output is not a method. Make the reader able to reconstruct why the operation answers the question.*

11 · GDP, Growth & Cycle

C11

NOMINAL GDP change → REMOVE price effect → REAL output

cycle → firm demand, costs, credit, capacity, horizon

production measure ≠ wellbeing measure

Deflate GDP; translate the cycle to firm-level channels.

2 · Supply, Demand, Equilibrium

C2

Demand/supply functions relate quantities buyers demand and sellers supply to price while named determinants are held constant. ***Equilibrium*** is where planned demand equals planned supply.

EQUILIBRIUM RULE

```
quantity demanded = quantity supplied
solve price → substitute back → verify the same traded quantity
```

EVIDENCE	CLASSIFY	THEN SAY
Own price changes; other determinants held	Movement along the curve	Quantity demanded/supplied changes.
Any other named determinant changes	Shift of the curve	At each price, planned quantity changes.
Demand and supply both change	Two shifts	One equilibrium direction may be theoretically ambiguous.

What changed? → OWN PRICE movement | OTHER DRIVER shift

re-solve equilibrium → stakeholders

Classify movement/shift; re-solve P and Q.

Pressure point: "price changed" does not automatically mean "demand shifted"; classify the changed variable first.

3 · Elasticity & Revenue

C3 · COURSE WORKED EXAMPLE

Point elasticity is local at one value; ***arc elasticity*** is average responsiveness across an interval. Own-price responsiveness holds other demand conditions constant.

CORE FORMULAS

```
price elasticity = % change in quantity demanded / % change in price
midpoint %ΔX = (X₂-X₁) / [(X₂+X₁)/2]
revenue = price × quantity
```

one point or interval? → POINT local response | ARC midpoint bases

classify → revenue check → limit

Choose base → classify → verify revenue → limit.

4 · Welfare & Efficiency

C4

MEASURE	DEFINITION / CALCULATION OBJECT	EXAM CONCLUSION
Consumer surplus	Buyers' willingness to pay − amount actually paid, over purchased units	Buyer gains from trade
Producer surplus	Price received − minimum willingness to supply, over sold units	Seller gains from trade
Total surplus	Consumer surplus + producer surplus	Gains from realised trades
Deadweight loss	Value of mutually beneficial trades not realised	Efficiency loss from distortion

WELFARE CHECK

```
total surplus = consumer surplus + producer surplus
compare observed outcome with efficient benchmark → identify each gainer/loser
```

BUYERS consumer surplus | SELLERS producer surplus → TOTAL SURPLUS efficient benchmark

efficiency ≠ distributional fairness

Add gains; compare efficiency; discuss distribution.

Boundary: maximum total surplus is an efficiency statement; it does not by itself resolve distributional fairness.

5 · Taxes, Subsidies, Externalities

C5

Tax incidence is the division of the economic burden after prices and quantities adjust. Statutory liability does **not** determine economic incidence.

STEP	TRACE
1 Wedge	Identify the policy/external cost or benefit and the affected transaction.
2 Behaviour	Show how buyer/seller choices and traded quantity change.
3 Distribution	Separate buyer burden, seller burden and third-party effect.
4 Welfare	Recompute/compare surplus and name foregone beneficial trades.

POLICY wedge → PRICE + Q adjust → INCIDENCE who bears? → SURPLUS redistribution | DWL + third parties

statute ≠ economic burden

Wedge → behaviour → incidence → DWL/third parties.

6 · Production & Cost

C6

Production function = maximum output obtainable from specified input combinations under a given technology. Always identify which inputs/technology are fixed.

COST OBJECTS

```
marginal cost = change in total cost / change in output
average cost = total cost / output
```

SOURCE OF COST CHANGE	MEANING	DECISION USE
Scale	Effect from output volume	Capacity/output level
Scope	Effect from producing multiple products together	Portfolio/firm boundary
Learning	Effect from cumulative production experience	Timing/experience path
Short run	Some adjustment assumptions fixed	Do not import long-run flexibility
Long run	Different adjustment assumptions	Boundary/entry/exit decision

INPUTS + technology → OUTPUT + costs → BOUNDARY decision

diagnose: scale · scope · learning separate short-run from long-run claim

technology → cost behaviour → make/outsource

Technology → costs → output/firm-boundary decision.

Boundary: short-run and long-run cost claims use different adjustment assumptions and cannot be interchanged.

7 · Profit, Entry, Structure

C7

ECONOMIC PROFIT

```
revenue - explicit costs - implicit opportunity costs
include required return on owner-supplied resources
```

OBJECT	ASK	DO NOT INFER
Current economic profit	Are all opportunity costs counted?	That returns are durable
Entry/exit	Expected returns and barriers?	That current firms remain unchanged
Concentration	How much sales/capacity is controlled by few firms?	By itself, the exact conduct/outcome

Control: positive current profit does not prove durable market power when entry, imitation or fixed-cost recovery remain possible.

8 · Competitive Firm

C8

Price-taking means the firm accepts market price because it cannot materially influence it. The output problem compares revenue from the next unit with cost of the next unit.

MARGINAL OUTPUT RULE

```
expand while marginal revenue exceeds marginal cost
contract when marginal cost exceeds marginal revenue
candidate output: marginal revenue = marginal cost
```

DECISION	TIME FRAME	MEANING IN THE GUIDE
Produce / choose q	Operating decision	Use marginal revenue and marginal cost.
Shutdown	Short run	Suspend production; do not call it exit.
Exit	Long run	Remove the firm and avoidable fixed commitments.
Model fit	Before solving	Check price-taking; differentiated/capacity-constrained settings may not fit.

Can the firm influence market price? → NO: PRICE TAKER MR–MC output | YES / DIFFERENTIATED choose another mode

then separate shutdown from exit

Validate price-taking; choose q; separate shutdown/exit.

9 · Monopoly & Discrimination

C9

Market demand links price to quantity sold; ***marginal revenue*** is revenue from the next unit. Derive a candidate monopoly quantity using marginal revenue and marginal cost, then read price from demand.

SOLVE THEN AUDIT

```
market demand → marginal revenue → MR = MC → quantity → price
interpret markup through elasticity; do not skip demand constraints
```

DIFFERENT PRICES REQUIRE	TEST
Market power	Can the seller choose price within demand constraints?

DEMAND curve → MARGINAL revenue → MR = MC quantity → DEMAND price

discriminate only if: power + segmentation + limited resale

power ≠ every practice feasible

Quantity before price; test power, segments and resale.

10 · Oligopoly & Strategy

C10

Strategic interdependence means each firm's best action depends on expected rival decisions and reactions. ***Game-theoretic equilibrium*** is a strategy set where no player benefits by changing alone under stated payoffs.

QUESTION CUE	DO THIS
Rivals can observe	Make the information structure explicit.
One firm can commit	Recompute best responses after the commitment.
Rivals can retaliate	Include the expected reaction; do not solve as a one-firm problem.
Candidate equilibrium	Check every player: no profitable unilateral deviation.
Joint outcome	Do not label mutual best response jointly efficient.

FIRM A best response ↔ FIRM B best response

MUTUAL BEST RESPONSE no unilateral gain

equilibrium need not maximise joint surplus

Mutual best response ≠ necessarily efficient.

Product differentiation is real or perceived distinctiveness. Do not collapse it into strategic interdependence: first define the product distinction, then show how rival-dependent action changes.

Market-Structure Chooser

C7–C10

DIAGNOSTIC	ROUTE	FINAL CHECK
Cannot influence price	Competitive firm	MR–MC; shutdown/exit
One seller faces demand	Monopoly	Quantity, then demand price
Distinct products	Differentiation	Do not assume price-taking
Rival reactions matter	Oligopoly/game	Best responses; deviations
Current profit observed	Entry/exit	Barriers, imitation, recovery

EXAM TIP *Model choice precedes algebra: state the observed structure and assumption that authorise the model.*

13 · Universal Error Log

C1–C12

ERROR	REPAIR
Translation	Rewrite object, units, baseline, model fit.
Calculation	Repair the first divergent line; cross-check.
Interpretation	Bound the implication; name reversal condition.

Representation: list objects, units, observed/derived values and predicted direction. **Sensitivity:** change the input closest to the conclusion; if movement contradicts the mechanism, repair the first failed line.

ECON90015 Managerial Economics · Self-Test Drills

ANSWER PATHS · JUDGEMENT CARDS · CLASSIC TRAPS · EXAM-MORNING PLAN

Full guide + ask Sia about ECON90015

SIDE 2/2 FIVE WORKED DRILLS · IF YOU SEE X → DO Y · TRAPS · FAST RECALL

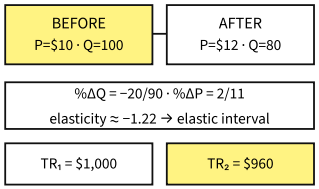
SELF-TEST BEFORE READING

Show setup · rule · result · limit

W1 · Price, Elasticity, Revenue

COURSE WORKED EXAMPLE · 4 MARKS

Prompt. A manager raises price from **$10 to $12**; quantity falls from **100 to 80**. Use midpoint elasticity to advise whether revenue moved in the predicted direction.



Midpoint elasticity predicts; direct revenue confirms.

1. **Quantity:** midpoint change = −20/90.
2. **Price:** midpoint change = 2/11.
3. **Elasticity:** (−20/90)/(2/11) ≈ −1.22; demand is elastic on this interval.
4. **Revenue check:** $10×100 = $1,000; $12×80 = $960. Revenue falls, matching the prediction.

FULL-CREDIT LAST LINE

```
Demand is elastic over these two observations and the price rise is accompanied by lower revenue; the estimate is local and does not prove the whole demand curve.
```

Elasticity Trap Board

C3

IF YOUR LINE SAYS…	REPAIR IT
"Elasticity is −20/2"	Use percentage changes, not raw changes.
Different base depending on direction	For two endpoints, use midpoint bases.
"Elastic product" forever	Say elastic *on this interval*.
Revenue predicted only	Verify both P×Q values.
Number only	Give sign, magnitude, relationship and limitation.

SELF-TEST *Cover the answer. Can you reproduce −20/90, 2/11, −1.22, $1,000 and $960 in order?*

Four-Mark Audit

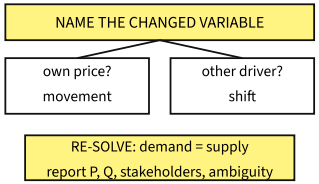
COURSE WORKED EXAMPLE

MARK	VISIBLE EVIDENCE	CHECK
1	Quantity midpoint and signed change	Average 100 and 80 → 90; change −20.
1	Price midpoint and signed change	Average 10 and 12 → 11; change +2.

W2 · Equilibrium Classification

C2 · 4 MARKS

Prompt. A response treats demand/supply functions and movement/shift as equivalent while solving equilibrium after one exogenous change. Rewrite it so equilibrium price and quantity discriminate the claims.



Changed variable → movement/shift → new P, Q, stakeholders.

1. State the exact comparison: old versus new market conditions.
2. Define demand/supply functions and list the named determinants being held constant.
3. Classify the changed variable as own-price movement or another-determinant shift.
4. Re-solve planned demand = planned supply; state price, quantity and stakeholder direction.

BOUNDARY SENTENCE

```
If demand and supply shift simultaneously, one equilibrium direction may be theoretically ambiguous; state what is determined and what is not.
```

If You See X → Do Y

C2–C3

IF YOU SEE…	DO…	SAY…
Own price alone	Move along curve	Change in quantity demanded/supplied
Income, technology or another named determinant	Shift relevant curve	Change in demand/supply
Two endpoint observations	Midpoint percentages	Arc elasticity on stated interval
Revenue advice	Elasticity then P×Q check	Prediction + verification
Two curves shift	Reason each direction separately	Flag any unresolved direction

Classic trap: jumping from a curve label directly to a stakeholder conclusion without recalculating equilibrium.

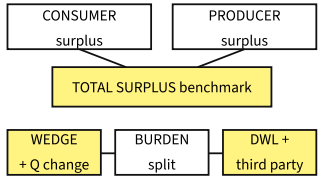
WORKED CHECK

```
Before solving, list demand/supply quantity, units, and whether observed or calculated; predict direction. Vary one exogenous input, recompute affected steps, and test whether P and Q move as the mechanism predicts.
```

W3 · Welfare + Policy Wedge

C4–C5 · 4 MARKS

Prompt. A draft collapses consumer and producer surplus while comparing a market outcome with the efficient benchmark. Restore the categories, then trace a policy wedge through behaviour, surplus and third parties.



Separate CS/PS; compare TS; trace incidence and DWL.

1. **Consumer surplus:** buyer willingness to pay minus amount paid for units bought.
2. **Producer surplus:** price received minus minimum willingness to supply for units sold.
3. **Total surplus:** add them and compare with the efficient benchmark; identify each gainer/loser.
4. **Policy:** trace price/quantity adjustment, economic burden, unrealised trades and external cost/benefit.

REQUIRED QUALIFICATION

```
Maximum total surplus addresses efficiency, not distributional fairness. Statutory liability does not determine economic incidence; the externality estimate is model-dependent.
```

Policy Judgement Cards

C4–C5

CARD	RESPONSE
If legislation names who pays…	Do not stop: solve how prices/quantities adjust and who bears economic burden.
If quantity falls below efficient benchmark…	Identify mutually beneficial trades not realised; label the lost total surplus.
If a third party is affected…	Name external cost/benefit and the model assumptions behind its estimate.
If total surplus rises…	Report efficiency; separately report who gains and loses.
If only buyer impact is discussed…	Add seller, total-surplus and third-party accounts.

TRAP *Statutory payer ≠ economic incidence; efficient ≠ necessarily fair.*

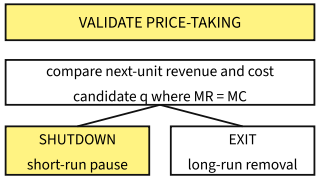
WORKED CHECK

```
Allocate observations to consumer, producer or total surplus; compare with the efficient benchmark. For a policy wedge, separate statutory liability, economic incidence, unrealised trades and third-party effects.
```

W4 · Competitive Output, Shutdown, Exit

C8 · 4 MARKS

Prompt. A draft treats price-taking and the MR–MC comparison as equivalent while selecting output and distinguishing short-run shutdown from long-run exit. Repair it using shutdown/exit as the discriminator.



different time frames; never use as synonyms

Price-taking → marginal q → shutdown or exit.

1. State the evidence that the firm cannot materially influence price.
2. Define marginal revenue and marginal cost separately; use their comparison to choose output.
3. Call a short-run suspension **shutdown**; reserve **exit** for removing the firm and avoidable fixed commitments in the long run.
4. Qualify: differentiated or capacity-constrained settings may not fit the competitive model.

ANSWER PATH

```
structure evidence → price-taking model → marginal output choice → time-frame decision → model-fit limit
```

Cost + Profit Drill

C6–C7

IF THE STEM ASKS…	WRITE FIRST	THEN TEST
One more unit?	Marginal cost object	Change in total cost / output change
Cost per unit?	Average cost object	Total cost / output
Make or outsource?	Technology + cost behaviour	Scale, scope, learning; time horizon
Accounting versus economic profit?	Explicit + implicit opportunity costs	Required return included?
Sustainable return?	Entry/exit and barriers	Imitation, fixed-cost recovery, concentration

Trap: positive current profit is an observation, not proof of durable market power.

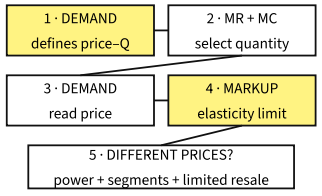
DEFINITION CHECK

```
Marginal revenue is revenue from the next unit; marginal cost is its cost. Compare them to select output, then state whether the choice is short-run shutdown or long-run exit.
```

W5 · Monopoly Pricing Audit

C9 · 4 MARKS

Prompt. A draft names market demand and marginal revenue, then jumps to different prices. Repair the missing markup/elasticity and price-discrimination tests.



Quantity → price → markup → segmentation test.

1. Write the narrow claim market demand supports.
2. Derive/identify marginal revenue and compare with marginal cost to obtain candidate quantity.
3. Use demand to identify the associated price; interpret the gap through elasticity.
4. For different prices, test market power, segmentation and limits on resale; state counter-case or failed assumption.

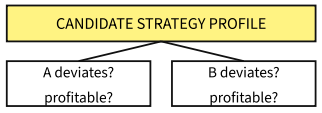
BOUNDARY SENTENCE

```
Market power permits price choice within demand constraints; it does not make every pricing practice feasible or lawful.
```

Strategic Judgement Cards

C10

IF YOU SEE…	DO THIS
Distinct attributes	Establish product differentiation; do not immediately claim strategic interdependence.
Rival can observe	State information structure and recompute responses.
Commitment or retaliation	Model the changed rival response; avoid one-firm optimisation.
Candidate equilibrium	Test whether any player gains from changing alone.
Stable outcome	Do not call it jointly efficient without a welfare comparison.



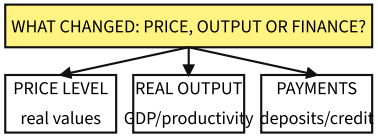
Test every deviation; equilibrium may be inefficient.

DEFINITION CHECK

```
Demand links P to Q; marginal revenue measures next-unit revenue. Choose output, read price from demand, assess markup through elasticity, then test segmentation and resale limits.
```

Macro Fast Recall

C11–C12



Separate price, real-output and financial channels.

CLAIM	PASS/FAIL TEST
"GDP rose"	Was the rise nominal or real? Separate price from quantity.
"Productivity rose"	Output per what input? Link to sustainable real output.
"Expansion helps the firm"	Name channel: demand, employment, credit or capacity use.
"Inflation raised revenue"	Nominal or purchasing-power increase?
"Banking changed decisions"	Payments, deposits or credit channel?
"GDP means wellbeing"	Fail: GDP measures production, not distribution or every valuable activity.

Method Chooser

C1–C12

STEM ASKS FOR…	FIRST OBJECT	FINISH WITH…
New market P and Q	Movement/shift + demand=supply	Stakeholder direction; ambiguity
Responsiveness/revenue	Point or arc elasticity	P×Q verification; local limit
Efficiency/gainers	CS, PS, total surplus	Distribution separate from efficiency
Policy/externality	Wedge + quantity response	Incidence, DWL, third parties
Output/firm boundary	Production, MC/AC	Scale/scope/learning; horizon
Sustainable profit	Economic profit	Entry, imitation, barriers
Competitive q	Price-taking + MR/MC	Shutdown versus exit
Monopoly price	Demand → MR → MR=MC	Demand price; elasticity limit
Rival-dependent choice	Best responses	Deviation test; efficiency caveat
Macro environment	Nominal/real or money channel	Firm-level decision + assumption

Exam-Morning Plan

C12 · BRIEF

1. **Verify operations:** check the LMS exam instructions, venue/time and current conditions.
2. **Recall aloud:** equilibrium; midpoint elasticity; surplus accounts; incidence; MC/AC; economic profit; MR–MC; best response; nominal/real.
3. **Run one chain:** object → assumptions → model → result → managerial/policy implication → limit.

Semester 2 examination period, 2–20 November 2026.
Check your exam instructions on the LMS for what you may bring; use this sheet to revise and self-test.