

Worksheet: When a positive estimate is still not permission

Foundations F02, Outcomes and costs. Lesson QCE-FND-F02-001. Work by hand, then compare with the separate answer key QCE-FND-F02-001-AK. Interactive version: quantcapital.engineering/sample/

Reference

Formula	$EV = pG - (1 - p)L - c$
Break-even	$p^* = (L + c) \div (G + L)$
Variables	p probability estimate (not a known fact); G gross gain and L gross loss before costs, both positive; c total round-trip cost, counted once.
Two states	The arithmetic check passes only when EV is strictly above zero. The decision status defaults to Evidence incomplete and changes only when a named rule applies.

COST_EXCEEDS_ESTIMATED_EDGE Estimated value is not above zero after costs. Reject under these assumptions.

INPUT_STALE Inputs are older than the policy allows. Refuse new risk.

EVIDENCE_INCOMPLETE The arithmetic may be positive, but the evidence for permission is missing.

POLICY_CHECKS_PASSED Every named check has passed. Never reached in this lesson.

Task 1. Calculate the four cases

Gain G is 12 and loss L is 10 in every case. Write each term to two decimals and choose one reason code.

Case	p	c	Inputs	1 - p	pG	(1 - p)L	EV	Reason code
Baseline	0.56	1.80	Fresh					
Higher costs	0.56	2.60	Fresh					
Lower probability assumption	0.49	1.80	Fresh					
Stale inputs	0.56	1.80	Stale					

Task 2. Break-even probability

With c = 1.80 $(L + c) \div (G + L) =$ _____

With c = 2.60 $(L + c) \div (G + L) =$ _____

How far is p = 0.56 above the first break-even, in percentage points?

Task 3. Missing evidence

For the baseline case, list the evidence that is missing before a positive estimate could support permission.

Task 4. An existing position

The inputs are stale and a position already exists. What should happen, and what must not?

Task 5. Positive estimate versus guaranteed profit

In one short paragraph, explain the difference.

Task 6. Decision dossier for the baseline case

Complete all five parts. A well-supported rejection is a successful result.

1. Hypothesis	
2. Assumptions	
3. EV calculation	
4. Rejection reason	
5. Next experiment	