



VARZA SCHOOL · THE FOUNDATIONAL 100

Inventory Valuation: FIFO, Weighted Average, and Specific Identification

Chapter 57 · Track 6 — Purchasing, Suppliers, Inventory, and Assets

THE QUESTION IT ANSWERS

How do inventory cost formulas assign historical cost to units sold and units remaining when purchase prices differ?

CONCEPTS DEFINED

First-in, first-out · Weighted-average cost · Specific identification · Inventory · Cost of goods sold · Landed cost
· Batch or lot · Accounting estimate

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Varza promise: clear enough for a first-time learner, exact enough for a professional conversation, and practical enough to support a real decision.

Why this chapter matters

This track follows resources from supplier selection to purchase, receipt, storage, consumption, and long-term use. The central discipline is custody: knowing what was ordered, what arrived, what is owned, what it cost, where it is, and whether it can still create value.

Central question: How do inventory cost formulas assign historical cost to units sold and units remaining when purchase prices differ?

FIFO, weighted average, and specific identification are cost-assignment methods chosen under the applicable framework and inventory nature. They do not create or remove total available cost; they allocate it between cost of sales and ending inventory, affecting timing of reported margin.

Varza approaches the subject from life to ledger and from ledger to decision. We begin with what actually happened, identify the rights, obligations, resources, timing, and uncertainty, and only then choose the correct term, calculation, document, or account. This order protects the learner from a common error: learning a label without understanding the economic reality that the label is supposed to describe.

Learning outcomes

- Define and distinguish first-in, first-out in plain and professional language.
- Define and distinguish weighted-average cost in plain and professional language.
- Define and distinguish specific identification in plain and professional language.
- Define and distinguish inventory in plain and professional language.
- Apply the concepts to a numerical case and explain the result rather than only calculate it.
- Identify evidence, workflow, controls, and Varza entities required for reliable use.
- Recognize when jurisdiction-specific or licensed professional advice is required.

The Varza mental model

A financial concept becomes decision-ready when six questions have answers: **what, who, when, how much, based on what evidence**, and **under which assumption or rule**. A seventh question—**what should happen next**—turns knowledge into management.

This chapter uses internationally recognized terminology, but it remains jurisdiction-neutral unless explicitly stated. Accounting standards, tax rules, contract law, consumer protection, labor requirements, and investment regulation can produce different legal outcomes in different countries. The global foundation gives the learner a stable map; local collections must add the binding rules.

Core concepts

1. First-in, first-out

Working definition. First-in, first-out is an inventory cost formula assuming the earliest costs in inventory are assigned first to units sold or consumed.

FIFO is a cost-flow assumption and may not describe physical movement. Apply it consistently to appropriate groups of similar inventory. The concept should be measured at the smallest level that still supports a real action.

Simple example. Older purchase layers form cost of sales while recent layers remain in ending inventory.

Decision test. What is being measured, and what has been left outside the boundary? A reliable answer should state the unit, date or period, scope, evidence, and uncertainty. When one of these is missing, the concept may still be useful for discussion, but it is not yet decision-ready information.

2. Weighted-average cost

Working definition. Weighted-average cost is an inventory cost formula assigning a weighted average of relevant costs to units available.

Define whether average is periodic or moving and how landed costs, returns, and negative inventory are treated. The number alone is not enough; its definition determines whether comparisons are valid.

Simple example. Total cost of CU 12,000 for 300 units gives an average of CU 40 per unit.

Decision test. When did the underlying right, obligation, benefit, or sacrifice arise? A reliable answer should state the unit, date or period, scope, evidence, and uncertainty. When one of these is missing, the concept may still be useful for discussion, but it is not yet decision-ready information.

3. Specific identification

Working definition. Specific identification is an inventory costing method that assigns the actual cost of a specifically identified item to that item.

It is appropriate for distinct, non-interchangeable, or project-specific items and requires reliable unit-level traceability. This is where operational activity and financial reporting meet.

Simple example. A unique vehicle is sold using its own acquisition and preparation cost.

Decision test. Which document or observation would allow another person to verify it? A reliable answer should state the unit, date or period, scope, evidence, and uncertainty. When one of these is missing, the concept may still be useful for discussion, but it is not yet decision-ready information.

4. Inventory

Working definition. Inventory is assets held for sale, in production for sale, or in the form of materials or supplies to be consumed in production or service delivery under the applicable framework.

Inventory combines quantity, ownership, condition, location, cost, and expected recoverability. Physical presence alone does not prove ownership. In Varza language, the concept becomes useful when it changes a decision.

Simple example. Goods held on consignment may be physically present but owned by another party.

Decision test. How would a different assumption change the result? A reliable answer should state the unit, date or period, scope, evidence, and uncertainty. When one of these is missing, the concept may still be useful for discussion, but it is not yet decision-ready information.

5. Cost of goods sold

Working definition. Cost of goods sold is the cost assigned to inventory or directly associated resources recognized as expense when related goods are sold.

The amount depends on quantity, cost formula, allocation, cut-off, returns, and write-downs. It connects stock movement to gross margin. The professional term matters because it prevents two different realities from being recorded as though they were the same.

Simple example. Selling ten units at a carrying cost of CU 40 each recognizes CU 400 cost of goods sold.

Decision test. Who can influence the result, and who only reports it? A reliable answer should state the unit, date or period, scope, evidence, and uncertainty. When one of these is missing, the concept may still be useful for discussion, but it is not yet decision-ready information.

6. Landed cost

Working definition. Landed cost is the total attributable cost of bringing purchased goods to their present location and condition, subject to the applicable accounting policy.

Allocate freight, duty, insurance, handling, and other eligible costs consistently. Some selling, storage, abnormal waste, or financing costs may require separate treatment. A non-specialist can understand this by separating the object, the timing, and the consequence.

Simple example. Imported inventory includes purchase price, customs duty, and inbound freight allocated by a rational driver.

Decision test. Does the item affect cash now, later, or not at all? A reliable answer should state the unit, date or period, scope, evidence, and uncertainty. When one of these is missing, the concept may still be useful for discussion, but it is not yet decision-ready information.

7. Batch or lot

Working definition. Batch or lot is a quantity of items produced, acquired, or processed under shared conditions and assigned a traceability identifier.

Batch tracking supports expiry, quality, recall, cost, and origin. Define whether cost and availability are maintained by lot. The concept should be measured at the smallest level that still supports a real action.

Simple example. A food ingredient lot links supplier, production date, test results, and affected finished products.

Decision test. What is being measured, and what has been left outside the boundary? A reliable answer should state the unit, date or period, scope, evidence, and uncertainty. When one of these is missing, the concept may still be useful for discussion, but it is not yet decision-ready information.

8. Accounting estimate

Working definition. Accounting estimate is a monetary amount subject to measurement uncertainty and determined using methods, assumptions, and data.

Estimates are unavoidable; reliability comes from transparent methods, current evidence, unbiased assumptions, review, and later comparison with outcomes. The number alone is not enough; its definition determines whether comparisons are valid.

Simple example. Expected credit loss or useful life cannot normally be observed with certainty at the reporting date.

Decision test. When did the underlying right, obligation, benefit, or sacrifice arise? A reliable answer should state the unit, date or period, scope, evidence, and uncertainty. When one of these is missing, the concept may still be useful for discussion, but it is not yet decision-ready information.

How the concepts connect

The concepts in this chapter are a system, not a vocabulary list. First-in, first-out, Weighted-average cost, Specific identification, Inventory, Cost of goods sold, Landed cost, Batch or lot, and Accounting estimate describe different parts of the same decision. Confusing them usually creates one of three failures: the wrong amount is measured, the right amount is assigned to the wrong period or person, or a correct report is used for a decision it was never designed to support.

A useful analysis therefore preserves both **classification** and **relationship**. Classification tells us what an item is. Relationship tells us what caused it, what it affects, and what could change it. Varza should store both. A report that shows only totals may be suitable for orientation; a controlled decision requires traceability to the underlying relationships.

Formulas and quantitative relationships

Weighted-average unit cost

Average unit cost = Total cost of units available ÷ Total units available

The method weights each cost by quantity.

Boundary: Define periodic versus moving average and treatment of timing, returns, and negative stock.

Worked case — Three methods, one total cost pool

Inventory has 100 units at CU 10 and then 100 units at CU 14. The company sells 120 units.

Item	Amount or observation
Total units available	200
Total cost available	CU 2,400
FIFO cost of sales	$100 \times 10 + 20 \times 14 = \text{CU } 1,280$
FIFO closing inventory	$80 \times 14 = \text{CU } 1,120$
Weighted-average cost	CU 12 per unit
Average cost of sales / closing	CU 1,440 / CU 960

Calculation and reasoning

1. Confirm the 200 units and CU 2,400 pool reconcile before allocation.
2. FIFO assigns earliest costs to 120 sold units, producing CU 1,280 cost of sales and CU 1,120 ending inventory.
3. Weighted average is $2,400 \div 200 = \text{CU } 12$, producing CU 1,440 cost of sales and CU 960 ending inventory.
4. In both methods, cost of sales plus ending inventory equals CU 2,400; only timing allocation differs.
5. Specific identification would require truly identifiable non-interchangeable units and their actual costs.

What the result means

A method can change current gross profit when costs change, but it cannot create economic resources. Consistency and suitability matter more than selecting the most favorable period result.

The case is deliberately compact. In practice, Varza would preserve the supporting documents, currency, dates, counterparty, project or cost center, approvals, and links to the resulting records. The lesson is not merely to reach a number; it is to make the path to that number reviewable.

Practical workflow

1. **Define the decision, responsible person, economic unit, period, and acceptable uncertainty.**
Define the owner, required evidence, status, date, and exception route. Do not allow the next step to erase the record of the previous one.
2. **Group inventory with similar nature and use under an approved cost formula.** Define the owner, required evidence, status, date, and exception route. Do not allow the next step to erase the record of the previous one.

3. **Capture complete unit cost and quantity by receipt or identified item.** Define the owner, required evidence, status, date, and exception route. Do not allow the next step to erase the record of the previous one.
4. **Apply the formula consistently to issues and returns.** Define the owner, required evidence, status, date, and exception route. Do not allow the next step to erase the record of the previous one.
5. **Compare carrying amount with recoverable or net realizable value and document changes or write-downs.** Define the owner, required evidence, status, date, and exception route. Do not allow the next step to erase the record of the previous one.
6. **Reconcile the result to source evidence and investigate exceptions rather than forcing agreement.** Define the owner, required evidence, status, date, and exception route. Do not allow the next step to erase the record of the previous one.
7. **Approve the decision or record at the authority level required by value, risk, and legal consequence.** Define the owner, required evidence, status, date, and exception route. Do not allow the next step to erase the record of the previous one.
8. **Monitor the outcome, compare it with the original assumption, and retain the learning for the next cycle.** Define the owner, required evidence, status, date, and exception route. Do not allow the next step to erase the record of the previous one.

How this concept should appear in Varza

The minimum Varza data model for this chapter includes `inventory_item`, `cost_layer`, `purchase_receipt`, `batch`, `serial_number`, `cost_formula`, `issue`, `ending_inventory`, `write_down`. These names are not merely interface labels. Each entity should have a stable identifier, status history, responsible owner, applicable currency or unit, effective dates, evidence links, and access controls.

A useful Varza screen should answer four questions without forcing the user to reconstruct the story manually:

1. **What happened or is expected to happen?** Show the operational event, obligation, or decision in plain language.
2. **What changed financially?** Show cash, asset, liability, equity, income, expense, commitment, or risk effects.
3. **Why should the user trust it?** Show source documents, calculations, approvals, and revision history.
4. **What requires attention now?** Show exceptions, due dates, thresholds, and the next responsible action.

The Varza design principles most relevant here are:

- Prefer a traceable estimate with stated assumptions to an impressive number with hidden assumptions.

- Use automation to strengthen evidence and consistency, never to remove accountability.
- Turn information into a decision, a control, or a question; otherwise it is only decoration.

Varza AI may explain, classify, compare, simulate, and prepare a proposed action. It should not silently change a legal record, post a material transaction, close a period, release a payment, or make an investment decision on the user's behalf. Material actions require visible evidence, permissions, validation rules, and an accountable human approval path.

Controls and professional boundaries

1. **Cost-formula changes require accounting-policy assessment and approval.** The control should be proportionate to value and risk, documented clearly, and tested often enough to detect failure before the consequence becomes irreversible.
2. **No retrospective manual layer manipulation to manage profit.** The control should be proportionate to value and risk, documented clearly, and tested often enough to detect failure before the consequence becomes irreversible.
3. **Negative inventory prevented or resolved before cost finalization.** The control should be proportionate to value and risk, documented clearly, and tested often enough to detect failure before the consequence becomes irreversible.
4. **Stable definitions, versioned assumptions, and consistent units across plans, records, and reports.** The control should be proportionate to value and risk, documented clearly, and tested often enough to detect failure before the consequence becomes irreversible.
5. **Traceability from every material total to evidence, calculation, owner, and change history.** The control should be proportionate to value and risk, documented clearly, and tested often enough to detect failure before the consequence becomes irreversible.
6. **Access and approval rights aligned with responsibility and the possible consequence of error or misuse.** The control should be proportionate to value and risk, documented clearly, and tested often enough to detect failure before the consequence becomes irreversible.

A control is effective only when it operates in practice. A policy that everyone can bypass is a statement of hope, not a control. Likewise, a control that blocks ordinary work without distinguishing low-risk and high-risk cases encourages hidden workarounds.

Common mistakes and better responses

Mistake 1: Assuming FIFO means physical oldest stock always moved

Better response. Reconstruct the underlying event, state the definition being used, obtain the missing evidence, and recalculate before making a decision. Correct the process as well as the current number so the same error does not become routine.

Mistake 2: Using specific identification for interchangeable items to select favorable costs

Better response. Reconstruct the underlying event, state the definition being used, obtain the missing evidence, and recalculate before making a decision. Correct the process as well as the current number so the same error does not become routine.

Mistake 3: Calculating a simple average of prices without quantity weighting

Better response. Reconstruct the underlying event, state the definition being used, obtain the missing evidence, and recalculate before making a decision. Correct the process as well as the current number so the same error does not become routine.

Mistake 4: Ignoring purchase returns, landed cost, rebates, and write-downs

Better response. Reconstruct the underlying event, state the definition being used, obtain the missing evidence, and recalculate before making a decision. Correct the process as well as the current number so the same error does not become routine.

Mistake 5: Using a technically correct number outside the period, entity, currency, or decision boundary for which it was calculated

Better response. Reconstruct the underlying event, state the definition being used, obtain the missing evidence, and recalculate before making a decision. Correct the process as well as the current number so the same error does not become routine.

Mistake 6: Accepting an automated result without reviewing the evidence, assumptions, exceptions, and required professional judgment

Better response. Reconstruct the underlying event, state the definition being used, obtain the missing evidence, and recalculate before making a decision. Correct the process as well as the current number so the same error does not become routine.

Decision checklist

- ☐ Can I explain first-in, first-out in plain language and in professional terms?
- ☐ Can I explain weighted-average cost in plain language and in professional terms?
- ☐ Can I explain specific identification in plain language and in professional terms?
- ☐ Can I explain inventory in plain language and in professional terms?
- ☐ Have I stated the entity, currency or unit, date or period, and decision boundary?
- ☐ Can another person reproduce the number from retained evidence?
- ☐ Have I separated actuals, estimates, commitments, and scenarios?
- ☐ Have I tested timing, liquidity, risk, and at least one adverse outcome?
- ☐ Is the required approval proportional to the possible loss or legal consequence?
- ☐ Does the final output lead to a specific action, owner, and review date?

Practice lab

1. **Explain it.** Describe First-in, first-out to a person who has never studied finance. Then add the professional definition and identify one boundary your simple explanation omitted.
2. **Classify it.** Create five examples from your household or a small business and classify each using Weighted-average cost. State any assumptions.
3. **Calculate it.** Rebuild the worked case with amounts 20% higher. Identify which conclusions change and which remain structurally true.
4. **Challenge it.** Describe a situation in which Specific identification could be measured correctly but still lead to a poor decision because timing, risk, or incentives were ignored.
5. **Design it.** Sketch a Varza screen or report for this chapter. Include fields, evidence links, status, owner, exceptions, and one AI-assisted action.

Answer guidance

A strong answer uses consistent definitions, reveals assumptions, distinguishes fact from estimate, and connects the result to an action. More than one conclusion may be reasonable when the learner clearly states the decision objective and uncertainty. The worked-case recalculation should preserve the method even when the numbers change.

Varza AI knowledge capsule

This capsule is intentionally explicit so that a retrieval system can distinguish canonical teaching points from examples and commentary.

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    "Weighted-average cost: an inventory cost formula assigning a weighted average of relevant costs to units available.",
    "Specific identification: an inventory costing method that assigns the actual cost of a specifically identified item to that item.",
    "Inventory: assets held for sale, in production for sale, or in the form of materials or supplies to be consumed in production or service delivery under the applicable framework.",
    "Cost of goods sold: the cost assigned to inventory or directly associated resources recognized as expense when related goods are sold.",
    "Landed cost: the total attributable cost of bringing purchased goods to their present location and condition, subject to the applicable accounting policy.",
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    "Batch or lot: a quantity of items produced, acquired, or processed under shared conditions and
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Suggested questions for Varza AI

- Explain this chapter using an example from a household, a shop, and a service business.
- Ask me five diagnostic questions before applying this concept to my situation.
- Show the difference between cash effect, accounting effect, and decision effect.
- Recalculate the worked case using my currency and assumptions, but preserve the original definitions.
- Identify which parts require local accounting, tax, legal, labor, or investment rules.

Sources and standards horizon

This chapter is original Varza educational content. It paraphrases and synthesizes concepts; it does not reproduce a standard or third-party article. The following sources were used to establish terminology, scope, and current professional context:

- **S102 — IFRS Foundation, IAS 2 Inventories.** 2026 standards set. Inventory cost, lower of cost and net realisable value, and cost formulas. Source: <https://www.ifrs.org/issued-standards/list-of-standards/ias-2-inventories/>

- **S117 — IFRS Foundation, *IFRS for SMEs Accounting Standard*.** third edition 2025; effective 2027. Simplified global reporting framework for eligible small and medium-sized entities. Source: <https://www.ifrs.org/issued-standards/ifrs-for-smes/>
- **S118 — IFRS Foundation, *IFRS Accounting Standards—Required 2026*.** 2026-01-29. Standards and amendments effective from 1 January 2026. Source: <https://www.ifrs.org/news-and-events/news/2026/01/now-available-ifrs-accounting-standards-required-2026-two-editions/>

Standards horizon. Reviewed through 2026-08-31. IFRS 18 and the third edition of the IFRS for SMEs Accounting Standard are included as transition knowledge where relevant; both have mandatory effective dates beginning in 2027, with early application permitted under their respective requirements.

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