

Real Estate Finance & Investment

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REA 631

Lecture (5) Property Valuation (Part I)



Learning Objectives

- 1 Distinguish market value, investment value, and insurance value
- 2 Apply the Sales Comparison Approach (SCA) using comparable sales
- 3 Make adjustments for time, location, size, condition, and amenities
- 4 Apply the Cost Approach: Land + Replacement Cost – Depreciation
- 5 Choose the appropriate method for each property type

What is Property Valuation?



*Valuation is the **PROFESSIONAL ESTIMATE** of a property's worth at a specific date.*



Buy & Sell

Set fair price for sellers and buyers.



Mortgages

Banks need to know the collateral value.



Tax & Insurance

Calculate property tax and insurance coverage.

Three Types of Value

The same property can have THREE different values — depending on the question being asked:

MARKET VALUE

What a typical buyer would pay today

- Used by: appraisers, banks
- Most common type
- Based on comparable sales

INVESTMENT VALUE

What a SPECIFIC investor will pay

- Used by: investors, developers
- Reflects personal goals
- Can differ from market value

INSURANCE VALUE

Cost to REBUILD if destroyed

- Used by: insurance companies
- Excludes land value
- Based on construction cost

One Apartment, Three Different Values



Scenario: A 150 m² apartment in Maadi, Cairo. Three professionals look at it and answer different questions.

WHO IS ASKING?	QUESTION	TYPE OF VALUE	ANSWER (EGP)
Bank appraiser	What's the typical sale price today?	Market Value	4,200,000
Real estate investor	How much can I pay & still profit?	Investment Value	3,800,000
Insurance agent	Cost to rebuild if destroyed?	Insurance Value	1,800,000



Same apartment — three different answers. Always ask: "Value for whom, and for what purpose?"

The Three Approaches to Value

Every property valuation uses one (or more) of these three classical approaches:

1



SALES COMPARISON

Look at recent comparable sales

TODAY'S LECTURE

2



COST APPROACH

Land + Build cost – Depreciation

TODAY'S LECTURE

3



INCOME APPROACH

Capitalize future rental income

NEXT LECTURE

Sales Comparison Approach (SCA)



"What did SIMILAR properties sell for recently?"

How it works — three simple steps:

1

Find recent sales

of similar properties (comparables / "comps")

2

Adjust each comp's price

for differences (location, size, condition, etc.)

3

Average the adjusted prices to estimate your subject property's value

The Most Popular Method Worldwide

Used in

80%+

of residential
property appraisals

Source: Appraisal Institute

Why is SCA so popular?



Reflects what buyers actually pay



Easy data: portals & registries



Trusted by banks and courts



Easy to explain to clients

What Makes a Good Comparable?



A "comp" is a property similar to yours that sold recently in the same area.

Five selection criteria — closer to your subject = better comp:



RECENT

Sold in last 6 months (max 1 year)



NEARBY

Same neighborhood or compound



SIMILAR SIZE

Within $\pm 20\%$ of your subject's area



SAME TYPE

Apartment $\neq$ villa $\neq$ duplex



CONDITION

Comparable finishing & age

Why & How We Adjust Comp Prices

Comps are NEVER identical to your subject. We adjust their prices to account for differences.

THE GOLDEN RULE OF ADJUSTMENT

If COMP is BETTER → subtract (lower its price)

If COMP is WORSE → add (raise its price)

Adjust the COMP — never the subject.

Quick example:

Your subject: 150 m² apartment, NO parking. Comp sold for EGP 4.0 M and HAS parking worth EGP 200,000.

→ **Comp is BETTER, so we subtract:** $4,000,000 - 200,000 = \text{EGP } 3,800,000$ (adjusted)

This is what your apartment would have likely sold for.

Common Adjustment Categories

CATEGORY	EXAMPLE OF DIFFERENCE	TYPICAL EGP IMPACT
Time of Sale	Comp sold 8 months ago; market rose 15%	+15% to comp price
Location	Comp is on main road; yours is interior	-5% to -10%
Size (m ²)	Comp is 180 m ² ; yours is 150 m ²	Adjust per m ²
Condition	Comp is renovated; yours is original	-EGP 100k to -300k
Amenities	Comp has parking + elevator; yours has neither	-EGP 200k to -400k
Floor / View	Comp is on top floor with garden view	-5% to -15%

Tip: A good appraiser uses 3–5 comps and adjusts each separately. Total adjustments should NOT exceed 25%.

Price per Square Meter

To compare apples-to-apples, appraisers convert each comp to PRICE PER M². Then multiply by the subject's area.

$$\text{Price per m}^2 = \text{Sale Price} \div \text{Area (m}^2\text{)}$$

$$\text{Subject's value} = \text{Price per m}^2 \times \text{Subject's area}$$

Quick example:

Comp's sale price	EGP 4,500,000
Comp's area	180 m ²
Price per m ²	$4,500,000 \div 180 = \text{EGP } 25,000 / \text{m}^2$
Subject's area	150 m ²
Estimated value	$25,000 \times 150 = \text{EGP } 3,750,000$

Maadi Apartment — The Subject



YOUR SUBJECT: 150 m² apartment in Maadi, 3 bedrooms, 4th floor (no elevator), original condition, no parking. **ADJUSTMENT RULES (assume) : Time +2%/mo · Parking -200k · Elevator -150k · Renovation -300k**

We collected 5 recent sales of similar Maadi apartments:

COMP	SOLD (months ago)	AREA	PARKING	ELEVATOR	CONDITION	SALE PRICE
A	2	160 m ²	Yes	No	Original	4,200,000
B	5	150 m ²	No	Yes	Renovated	4,400,000
C	1	140 m ²	No	No	Original	3,800,000
D	8	155 m ²	Yes	No	Renovated	4,600,000
E	3	150 m ²	No	No	Original	3,950,000

Next slide: we adjust each comp's price to match the subject.

Applying the Adjustments

ADJUSTMENT RULES (assume) : Time +2%/mo · Parking –200k · Elevator –150k · Renovation –300k

COMP	ORIGINAL PRICE	TIME ADJ.	PARKING	ELEVATOR	RENOV.	ADJUSTED
A	4,200,000	+168,000	–200,000	0	0	4,168,000
B	4,400,000	+440,000	0	–150,000	–300,000	4,390,000
C	3,800,000	+76,000	0	0	0	3,876,000
D	4,600,000	+736,000	–200,000	0	–300,000	4,836,000
E	3,950,000	+237,000	0	0	0	4,187,000



Average adjusted value = $(4,168 + 4,390 + 3,876 + 4,836 + 4,187) / 5 = \text{EGP } 4,291,400$

SCA — Strengths & Limitations

STRENGTHS

- ✓ Reflects ACTUAL buyer behavior
- ✓ Easy to understand and explain
- ✓ Great for active markets
- ✓ Trusted by banks & courts
- ✓ Good for residential properties

LIMITATIONS

- ✗ Needs RECENT sales data
- ✗ Hard to use in slow markets
- ✗ Subjective adjustments
- ✗ Bad for unique properties

When to Use the SCA

✓ USE SCA WHEN



Residential apartments & villas



Active markets with many sales



Public sale data is available



Urban areas with comparable units

✗ AVOID SCA WHEN



Special-use buildings (factory, hospital)



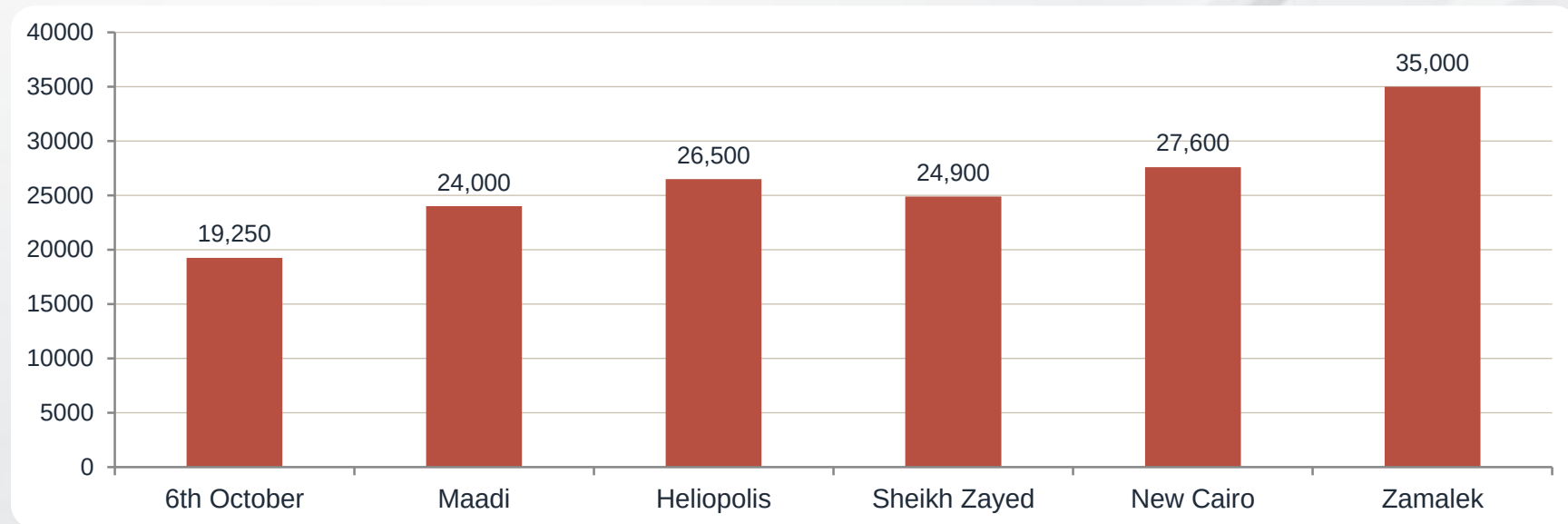
Unique or historic properties



Slow markets with few sales

Cairo Apartment Prices per m²

Latest market data (2025-2026) — useful for SCA benchmarks:



Key insight: Cairo apartment prices vary by 80%+ across districts — location adjustments are critical.

The Cost Approach



"How much would it cost to BUILD this property today?"

The Master Formula:

$$\text{Property Value} = \text{Land Value} + \text{Replacement Cost} - \text{Depreciation}$$

LAND VALUE

Site value if vacant

REPLACEMENT

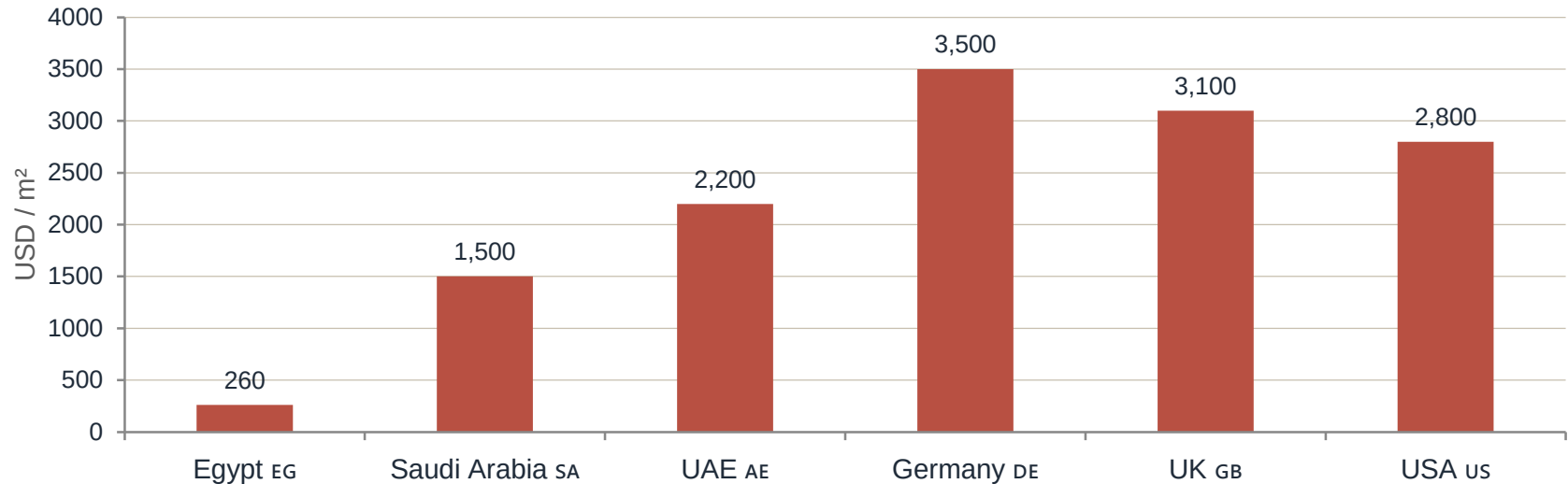
Build cost today

DEPRECIATION

Value lost over time

Egypt vs Saudi vs World

Mid-range residential construction cost per m² — converted to USD for comparison:



Egypt is among the lowest globally — but property prices are rising fast due to currency devaluation.

Three Markets — Three Realities

How a developer's environment differs across regions:

EGYPT EG		SAUDI ARABIA SA		WORLD (avg) 	
Build cost	8,500 – 18,000 EGP / m ²	Build cost	4,500 – 8,500 SAR / m ²	Build cost	\$1,800 – \$3,500 / m ²
Apt. price	19,000 – 35,000 EGP / m ²	Apt. price	6,500 – 9,500 SAR / m ²	Apt. price	\$3,000 – \$7,000+ / m ²
Driver	Currency, demand	Driver	Vision 2030, labor	Driver	Labor, regulations
Build/Sell	Build is ~40% of sale price	Build/Sell	Build is ~70% of sale price	Build/Sell	Build is ~50–60% of sale

Replacement vs. Reproduction Cost

Two ways to think about "cost to build" — choose the right one:

REPLACEMENT COST

Cost of an EQUIVALENT building using TODAY's materials.

- Modern materials
- Same utility & function
- Used in MOST appraisals
- Cheaper estimate

REPRODUCTION COST

Cost of an EXACT replica using ORIGINAL materials.

- Original/historical materials
- Same exact design
- Used for HERITAGE buildings
- Usually MORE expensive

Three Types of Depreciation

Buildings lose value over time. Three causes — different cures:

1. PHYSICAL

Wear & tear

Cracks, faded paint, broken plumbing, rusted steel, aged roof.

Often CURABLE (repairs)

2. FUNCTIONAL

Outdated design

Tiny rooms, old kitchen layout, no internet wiring, no parking.

Sometimes curable (renovate)

3. EXTERNAL

Outside factors

Bad neighborhood, new highway, factory pollution, declining area.

INCURABLE (can't fix)

Age-Life Method

Simplest method to calculate physical depreciation — based on building age:

$$\text{Depreciation \%} = \left(\text{Effective Age} \div \text{Total Economic Life} \right) \times 100$$

Effective Age = how old it LOOKS · Economic Life = total expected lifespan (often 50–70 years)

Example calculation:

Building age	20 years
Total economic life (assumed)	60 years
Depreciation %	$20 \div 60 = 33.3\%$
Replacement cost	EGP 3,000,000
Depreciation amount	$3,000,000 \times 33.3\% = \text{EGP } 1,000,000$
Depreciated building value	$3,000,000 - 1,000,000 = \text{EGP } 2,000,000$

Valuing a New Cairo Villa



YOUR SUBJECT: A newly built villa in New Cairo, 400 m² built area on a 600 m² plot, standard finishing, 1 year old.

Given data:

→ Land area	600 m ²
→ Land price (per m ²)	EGP 12,000 / m ²
→ Built area	400 m ²
→ Construction cost (per m ²)	EGP 12,500 / m ² (standard)
→ Effective age	1 year
→ Total economic life	60 years

Next slide: we calculate the value step-by-step.

Step-by-Step Solution

1	Land Value	$600 \text{ m}^2 \times 12,000 \text{ EGP/m}^2 = \text{EGP } 7,200,000$
2	Replacement Cost	$400 \text{ m}^2 \times 12,500 \text{ EGP/m}^2 = \text{EGP } 5,000,000$
3	Depreciation %	$1 \div 60 = 1.67\%$
4	Depreciation EGP	$5,000,000 \times 1.67\% = \text{EGP } 83,500$
5	Depreciated Build	$5,000,000 - 83,500 = \text{EGP } 4,916,500$
6	TOTAL VALUE	$\text{Land} + \text{Building} = 7,200,000 + 4,916,500$



FINAL VILLA VALUE $\approx$ EGP 12,116,500

When to Use the Cost Approach

✓ USE COST WHEN



Brand-new construction (< 5 yrs)



Special-use: hospital, school, factory



Insurance value calculations



Markets with no comparable sales

✗ AVOID COST WHEN



Old buildings (> 25 years)



Highly depreciated structures



Active resale markets



Investment / income properties

When Cost Approach Fails



Subject: 50-year-old apartment in Downtown Cairo (Wast El-Balad), 120 m², 6th floor.

COST APPROACH SAYS:

Replacement cost	$120 \times 12,500 = 1,500,000$
Age	50 years
Economic life	60 years
Depreciation	$50/60 = 83.3\%$
Depreciated value	$1,500,000 \times 16.7\% = 250,500$
+ Land share (small)	$\approx 200,000$
Total estimate	$\approx \text{EGP } 450,000$

MARKET REALITY:

- Downtown is HISTORIC and central
- Land is extremely scarce
- Old apartments are popular for offices
- High ceilings, art deco architecture
- Comparable sales: $\sim \text{EGP } 22,000/\text{m}^2$

Real value: $120 \times 22,000 = \text{EGP } 2,640,000$

LESSON: Cost approach UNDERESTIMATES old buildings in valuable locations by 5–6×!

SCA vs. Cost Approach **SUMMARY**

FEATURE	SCA	COST APPROACH
Logic	What did similar properties sell for?	What would it cost to build?
Best for	Active markets, residential	New buildings, special-use
Data needed	Recent comparable sales	Land prices, construction costs
Weakness	Fails in slow markets	Fails for old buildings
Used for	80%+ of residential appraisals	Insurance, new builds

18-Question

Foundations & Value Types

Q1

MCQ

Which type of value answers: "How much would a typical buyer pay for this property today?"

- A) Investment Value
- B) Insurance Value
- C) **Market Value**
- D) Replacement Value

Answer: C. Market Value reflects what a typical buyer would pay in an open market transaction.

Q2

T / F

The same property always has the same value, regardless of who is asking and why.

Answer: FALSE. Value depends on PURPOSE: market, investment, and insurance values usually differ for the same property.

Sales Comparison Approach

Q3**MCQ**

The Sales Comparison Approach is most appropriate for which type of property?

- A) A 50-year-old factory
- B) A residential apartment in an active market**
- C) A historic museum
- D) A newly built nuclear power plant

Answer: B. SCA works best when many similar properties have sold recently — typical of residential markets.

Q4**MCQ**

Which of the following is NOT a typical criterion for selecting a comparable property?

- A) Sold within the last 6 months
- B) Located in the same neighborhood
- C) Owner's nationality**
- D) Similar size and condition

Answer: C. Owner's nationality is irrelevant. Comps must match in TIME, LOCATION, SIZE, and CONDITION.

Adjustment Process

Q5

MCQ

Your subject has NO parking. A comp HAS parking and sold for EGP 4,000,000. Parking is worth EGP 200,000. Adjusted price?

- A) EGP 3,800,000 (subtract from comp)
- B) EGP 4,200,000 (add to comp)
- C) EGP 4,000,000 (no change needed)
- D) EGP 200,000 (parking value only)

Answer: A. Comp is BETTER (has parking) → subtract. $4,000,000 - 200,000 = 3,800,000$.

Q6

T / F

When applying SCA adjustments, we always adjust the COMP's price — never the subject's.

Answer: TRUE. Subject is the unknown we're solving for. Comps are the known data we adjust to match the subject.

Price per Square Meter

Q7

MCQ

A comp sold for EGP 4,500,000 with 180 m² area. The subject is 150 m². What is the SCA estimate of the subject?

- A) EGP 3,000,000
- B) EGP 3,750,000
- C) EGP 4,500,000
- D) EGP 5,400,000

Answer: B. Price per m² = $4,500,000 \div 180 = 25,000$. Subject value = $25,000 \times 150 = \text{EGP } 3,750,000$.

Q8

T / F

In Worked Example 1, the average adjusted value of the 5 comps came out to EGP 4,291,400.

Answer: TRUE. $(4,168 + 4,390 + 3,876 + 4,836 + 4,187) \text{ thousand} / 5 = \text{EGP } 4,291,400$.

The Cost Approach

Q9

MCQ

The Cost Approach formula is:

- A) **Land Value + Replacement Cost – Depreciation**
- B) Sale Price ÷ Area
- C) Annual Rent ÷ Cap Rate
- D) Buyer's Offer × Inflation

Answer: A. The classical Cost Approach: Property Value = Land + Replacement Cost – Depreciation.

Q10

MCQ

Replacement Cost is best defined as:

- A) The original purchase price
- B) **Cost of an EQUIVALENT building using today's materials**
- C) Cost of an EXACT replica using original materials
- D) Cost minus all forms of depreciation

Answer: B. Replacement = equivalent function with modern materials. Reproduction = exact replica with original materials.

Depreciation

Q11

MCQ

A new highway is built next to a residential building, hurting its value. This is which TYPE of depreciation?

- A) Physical (wear & tear)
- B) Functional (outdated design)
- C) External / Economic (outside factors)
- D) It is not depreciation

Answer: C. External depreciation comes from factors OUTSIDE the property itself — and is usually INCURABLE.

Q12

MCQ

A 20-year-old building has a total economic life of 60 years and replacement cost of EGP 3,000,000. The depreciated building value is:

- A) EGP 1,000,000
- B) EGP 2,000,000
- C) EGP 2,500,000
- D) EGP 3,000,000

Answer: B. $\text{Dep\%} = 20/60 = 33.3\%$. $\text{Dep amount} = 3\text{M} \times 33.3\% = 1\text{M}$. $\text{Value} = 3\text{M} - 1\text{M} = \text{EGP } 2,000,000$.

Cost Approach Applied

Q13

MCQ

From Worked Example 2: a New Cairo villa with 600 m² land at 12,000 EGP/m² has a LAND VALUE of:

- A) EGP 2,000,000
- B) EGP 5,000,000
- C) EGP 7,200,000
- D) EGP 12,000,000

Answer: C. Land Value = $600 \text{ m}^2 \times 12,000 \text{ EGP/m}^2 = \text{EGP } 7,200,000$.

Q14

T / F

The Cost Approach is the BEST method for valuing a 50-year-old apartment in central Downtown Cairo.

Answer: FALSE. Cost Approach FAILS for old buildings in valuable locations — it severely UNDERESTIMATES them. SCA is better.

Mixed Review

Q15 · TF

SCA is used in over 80% of residential property appraisals worldwide.

✓ TRUE. Per the Appraisal Institute, SCA dominates residential valuation.

Q16 · TF

Saudi Arabia residential construction costs ($\approx 4,500\text{--}8,500 \text{ SAR/m}^2$) are about 5x higher than Egypt's in USD terms.

✓ TRUE. Egypt: $\sim \$260/\text{m}^2$; KSA: $\sim \$1,500/\text{m}^2$; ratio $\approx 5x$.

Q17 · MCQ

When a property is BRAND-NEW with no comparable sales nearby, the BEST valuation method is:

A) SCA B) Cost Approach C) Asking neighbors D) Skip valuation

✓ B. No comps = SCA fails. Cost Approach is the right tool for new builds.

Q18 · MCQ

Two appraisers value the same property differently. The MOST likely cause is:

A) Math mistakes B) Different comps & adjustments C) Lying D) Software

✓ B. Subjective comp selection & adjustments → different but defensible values.

Thank You