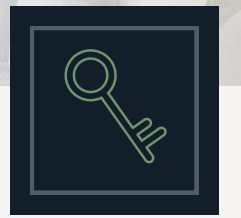
VERITAS EQUITY

Multifamily Return Metrics

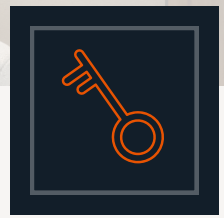
Key Objectives

Understanding How Returns Are Calucated



What Each Return Metric Means For The Deal

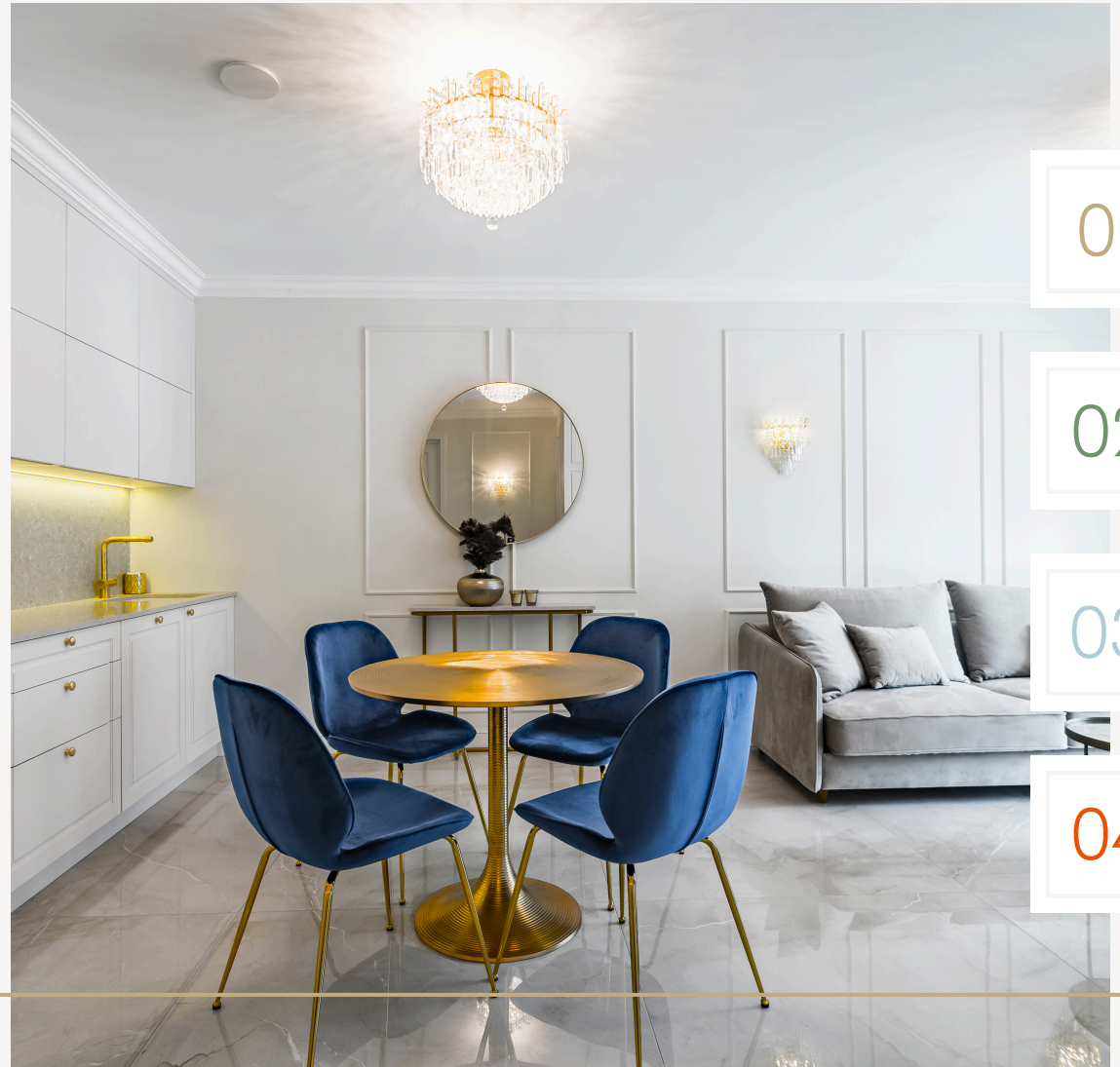
How Can Returns Be Manipulated



Matching Returns With Your Investment Criteria

Data Used in Multifamily Return Metrics

Key Inputs of Return Metrics



Apart from your investment, the **4 primary return inputs** are:

01

CASH FROM OPERATIONS (Cash Flow)

Cash flow refers to the cash being generated by the operations of the asset.

02

CASH FROM CAPITAL EVENTS

Cash generated from a refinance, supplemental loan, &/or sale.

03

RETURN OF CAPITAL

Return of your investment

04

TIME

The length of the investment, often measured in years.

Return Metrics

4 COMMONLY USED MULTIFAMILY RETURN METRICS

Return Metrics	Calculation Inputs: Cash From Operations	Cash From Capital Events	Return of Capital	Time
CoC | Avg Cash on Cash	✓	✗	✗	✓
AAR | Average Annual Return	✓	✓	✗	✓
IRR | Internal Rate of Return	✓	✓	✓	✓
EMx | Equity Multiple	✓	✓	✓	✗

CoC

Average Cash-on-Cash Return

Cash on Cash

INPUTS

- ✓ Cash Flow
- ✗ Capital Event
- ✗ Cashflow
- ✓ Time

DEFINITION

Operational Performance Metric

- → % of cash income earned on the cash invested in a property.
- → Typically represented as an annual average over the investment period.

CALCULATION

Cash Flow / Total Investment

- → CoC is derived by dividing the annual income after expenses, debt, reserves, and fees divided by the total investment.
- → Calculated for each time period and then averaged.

WHEN TO USE

Evaluate Operational Health

- → CoC is a great operational metric to evaluate the projected health of the asset.

TIPS

Factors to Consider

- → Debt: Refinance, supplemental, cash injections may all affect CoC to the positive
- → CoC Return ≠ Preferred Return.
- → Evaulate CoC for every year of the proect.
- → Return on Capital or Return of Capital

CoC Examples

INPUTS

- ✓ Cash Flow
- ✗ Capital Event
- ✗ Return of Capital
- ✓ Time

1 SCENARIO 1

Typical CoC outlay

	Total	Year 1	Year 2	Year 3	Year 4	SALE Year 5
Projected CoC Return	7.6%	3.6%	6.5%	9.0%	8.6%	10.1%
CoC Distributions	$37,866	$3,631	$6,462	$9,010	$8,621	$10,142

Findings:

- → Lower initial CoC due to renovations
- → CoC improves significantly once stabilized in year 3
- → CoC dips slightly in year 4 due to end of interest only period

2 SCENARIO 2

Good overall CoC with poor cash flow in year 1

	Total	Year 1	Year 2	Year 3	Year 4	SALE Year 5
Projected CoC Return	7.6%	0.4%	5.6%	8.9%	10.6%	12.3%
CoC Distributions	$37,778	$424	$5,621	$8,876	$10,599	$12,259

Findings:

- → Same average CoC as Scenario 1
- → VERY low CoC in Year 1. Almost no buffer.
- → Cash flow is very backended & suggests aggressive income assumptions.

3 SCENARIO 3

Identical to Scenario 1 with refinance end of year 3

	Total	Year 1	Year 2	REFINANCE Year 3	Year 4	SALE Year 5
Projected CoC Return	11.5%	3.6%	6.5%	9.0%	18.4%	20.3%
CoC Distributions	$31,117	$3,631	$6,462	$9,010	$5,705	$6,308
Capital Account	$100,000	$100,000	$100,000	$100,000	$31,092	$31,092

Findings:

- → CoC improves 3.9% from scenario 1 due to a return of **$68,908** of partner capital

OVERALL ASSUMPTIONS

$100,000 investment

Value-add project

Stabilize by year 3

5-year hold

AAR
Average Annual Return

Average Annual Return

INPUTS

- ✓ Cash Flow
- ✓ Capital Event
- ✗ Return of Capital
- ✓ Time

DEFINITION

Investment Performance Metric

→ This is a simple calculation that is helpful for a quick view of overall investment performance.

CALCULATION

Cash Flow + Cash From Capital Events / Total Investment / Years

→ Average yearly return percentage that includes the proceeds from capital events.

WHEN TO USE

Evaluate Investment Performance

→ AAR is a great metric to easily evaluate the performance of your initial investment in the deal.

TIPS

Factors to Consider

→ AAR is a total investment metric and does not reflect when returns are made

→ A refinance will usually result in a lower AAR compared to the IRR.

AAR Examples

INPUTS

- ✓ Cash Flow
- ✓ Capital Event
- ✗ Return of Capital
- ✓ Time

1 SCENARIO 1

Typical project outlay

	Total	Year 1	Year 2	Year 3	Year 4	SALE Year 5
Total Distributions	$121,386	$3,631	$6,462	$9,010	$8,621	$93,662
Initial Investment	$100,000					
AAR	24.3%					

Findings:

- → Lower initial cash flow due to renovations
- → Cash flow improves significantly once stabilized in year 3
- → Includes proceeds from sale in year 5

2 SCENARIO 2

Poor cash flow in year 1

	Total	Year 1	Year 2	Year 3	Year 4	SALE Year 5
Total Distributions	$146,854	$424	$5,621	$8,876	$10,599	$121,334
Initial Investment	$100,000					
AAR	29.4%					

Findings:

- → Higher AAR due to strong cash flow late in the project driving higher exit valuation.
- → Cash flow is very backended & suggests aggressive income assumptions.

3 SCENARIO 3

Identical to Scenario 1 with refinance end of year 3

	Total	Year 1	Year 2	REFINANCE Year 3	Year 4	SALE Year 5
Total Distributions	$110,071	$3,631	$6,462	$9,010	$5,705	$85,262
Initial Investment	$100,000					
AAR	22.0%					

Findings:

- → Lower AAR due to return of capital results in lower cash flow in year 4 & 5.

OVERALL ASSUMPTIONS

$100,000 investment

Value-add project

Stabilize by year 3

5-year hold

IRR

Internal Rate of Return

Internal Rate of Return

INPUTS

- ✓ Cash Flow
- ✓ Capital Event
- ✓ Return of Capital
- ✓ Time

DEFINITION

Investment Performance Metric

→ This is a complex calculation that is used to understand overall investment performance.

CALCULATION

$$0 = \text{NPV} = \sum_{t=1}^{T} \frac{C_t}{(1+IRR)^t} - C_0$$

→ The rate at which the net present value of all cash flows (both positive and negative) from a property investment equal zero.

→ IRR considers all investment flows and is sensitive to investment timing. The faster investor capital is returned the better the IRR will be.

WHEN TO USE

Evaluate Investment Performance

→ Use IRR to evaluate multiple investments that have different investment timings and cash outlays.

TIPS

Factors to Consider

→ IRR is a total investment metric and does not reflect when returns are made

→ A refinance will usually result in a higher IRR as the calculation favors earlier cash distributions.

→ A longer hold will usually result in a lower IRR.

→ A lower cap rate will produce a higher IRR

IRR Examples

INPUTS

- ✓ Cash Flow
- ✓ Capital Event
- ✓ Return of Capital
- ✓ Time

1 SCENARIO 1

Typical project outlay

	Total	Year 1	Year 2	Year 3	Year 4	SALE Year 5
CoC Distributions	$37,866	$3,631	$6,462	$9,010	$8,621	$10,142
Return of Initial Investment	$0	$0	$0	$0	$0	$100,000
Proceeds from Refi/Sale	$83,521	$0	$0	$0	$0	$83,521
Total Distributions (in)/out	-$100,000	$3,631	$6,462	$9,010	$8,621	$193,662
IRR	18.6%					

Findings:

- → Lower initial cash flow due to renovations
- → Cash flow improves significantly once stabilized in year 3
- → Includes proceeds from sale in year 5

2 SCENARIO 2

Poor cash flow in year 1

	Total	Year 1	Year 2	Year 3	Year 4	SALE Year 5
CoC Distributions	$37,779	$424	$5,621	$8,876	$10,599	$12,259
Return of Initial Investment	$0	$0	$0	$0	$0	$100,000
Proceeds from Refi/Sale	$109,075	$0	$0	$0	$0	$109,075
Total Distributions (in)/out	-$100,000	$424	$5,621	$8,876	$10,599	$221,334
IRR	20.9%					

Findings:

- → Higher IRR due to strong cash flow late in the project driving higher exit valuation.
- → Cash flow is very backended & suggests aggressive income assumptions.

3 SCENARIO 3

Identical to Scenario 1 with refinance end of year 3

	Total	Year 1	Year 2	REFINANCE Year 3	Year 4	SALE Year 5
CoC Distributions	$31,117	$3,631	$6,462	$9,010	$5,705	$6,308
Return of Initial Investment	$0	$0	$0	$68,908	$0	$31,092
Proceeds from Refi/Sale	$78,954	$0	$0	$0	$0	$78,954
Total Distributions (in)/out	-$100,000	$3,631	$6,462	$77,919	$5,705	$116,354
IRR	20.7%					

Findings:

- → Higher IRR from Scenario 1 due to return of capital earlier in the deal

OVERALL ASSUMPTIONS

$100,000 investment

Value-add project

Stabilize by year 3

5-year hold

EMX

Equity Multiple

Equity Multiple

INPUTS

- ✓ Cash Flow
- ✓ Capital Event
- ✓ Return of Capital
- ✗ Time

DEFINITION

Investment Performance Metric

- → This is a simple ROI calculation
- → A multiple that indicates how many times the investor's initial equity has been returned through the investment period.

CALCULATION

All Investment Cash Flow / Total Investment

- → All investment cashflows / total Investment
- → Example) an EMx of 2.0x means that if you invest $1,000 you will receive $2,000
- → in return (your initial $1,000 investment + $1,000 in profits).

WHEN TO USE

Evaluate Investment Performance

- → Use EMx for a simple ROI evaluation for a deal.

TIPS

Factors to Consider

- → EMx is a total investment metric and does not reflect when returns are made
- → A refinance will usually result in a lower EMx as capital is returned and results in lower future cash distributions.
- → A longer hold will usually result in a high EMx.

EMx Examples

INPUTS

- ✓ Cash Flow
- ✓ Capital Event
- ✓ Return of Capital
- ✗ Time

1 SCENARIO 1

Typical project outlay

	Total	Year 1	Year 2	Year 3	Year 4	SALE Year 5
CoC Distributions	$37,866	$3,631	$6,462	$9,010	$8,621	$10,142
Return of Initial Investment	$0	$0	$0	$0	$0	$100,000
Proceeds from Refi/Sale	$83,521	$0	$0	$0	$0	$83,521
Total Distributions (in)/out	-$100,000	$3,631	$6,462	$9,010	$8,621	$193,662
EMx	2.21x					

Findings:

- → Lower initial cash flow due to renovations
- → Cash flow improves significantly once stabilized in year 3
- → Includes proceeds from sale in year 5

2 SCENARIO 2

Poor cash flow in year 1

	Total	Year 1	Year 2	Year 3	Year 4	SALE Year 5
CoC Distributions	$37,779	$424	$5,621	$8,876	$10,599	$12,259
Return of Initial Investment	$0	$0	$0	$0	$0	$100,000
Proceeds from Refi/Sale	$109,075	$0	$0	$0	$0	$109,075
Total Distributions (in)/out	-$100,000	$424	$5,621	$8,876	$10,599	$221,334
EMx	2.47x					

Findings:

- → Higher EMx due to strong cash flow late in the project driving higher exit valuation.
- → Cash flow is very backended & suggests aggressive income assumptions.

3 SCENARIO 3

Identical to Scenario 1 with refinance end of year 3

	Total	Year 1	Year 2	REFINANCE Year 3	Year 4	SALE Year 5
CoC Distributions	$31,117	$3,631	$6,462	$9,010	$5,705	$6,308
Return of Initial Investment	$0	$0	$0	$68,908	$0	$31,092
Proceeds from Refi/Sale	$78,954	$0	$0	$0	$0	$78,954
Total Distributions (in)/out	-$100,000	$3,631	$6,462	$77,919	$5,705	$116,354
EMx	2.10x					

Findings:

- → Higher IRR from Scenario 1 due to return of capital earlier in the deal

OVERALL ASSUMPTIONS

$100,000 investment

Value-add project

Stabilize by year 3

5-year hold

EMx Examples

INPUTS

- ✓ Cash Flow
- ✓ Capital Event
- ✓ Return of Capital
- ✗ Time

4

BONUS SCENARIO!

Same as scenario 1 with 10 year hold

	Total	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	SALE Year 10
CoC Distributions	$105,054	$3,631	$6,462	$9,010	$8,621	$10,142	$11,286	$11,880	$13,209	$14,638	$16,176
Return of Initial Investment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$100,000
Proceeds from Refi/Sale	$165,511	$0	$0	$0	$0	$0	$0	$0	$0	$0	$165,511
Total Distributions (in)/out	-$100,000	$3,631	$6,462	$9,010	$8,621	$10,142	$11,286	$11,880	$13,209	$14,638	$281,687
EMx	3.71x										

Findings:

→ Longer holds result in higher EMx

OVERALL ASSUMPTIONS

$100,000 investment

Value-add project

Stabilize by year 3

10-year hold

Wrap Up

Bringing it All Together

EMx Examples

OVERALL ASSUMPTIONS | $100,000 investment | Value-add project | Stabilize by year 3 | 10-year hold

1 SCENARIO 1

Typical project outlay

CoC: 7.6%
AAR: 24.3%
IRR: 18.6%
EMx: 2.21

						SALE
	Total	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Capital Account	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000
CoC Distributions	$37,866	$3,631	$6,462	$9,010	$8,621	$10,142
CoC Return	**7.6%**	**3.6%**	**6.5%**	**9.0%**	**8.6%**	**10.1%**
Proceeds from Refi/Sale	$83,521	$0	$0	$0	$0	$83,521
Total Profit Distributions	$121,386	$3,631	$6,462	$9,010	$8,621	$93,662
AAR	24.3%					
Return of Initial Investment	$100,000	$0	$0	$0	$0	$100,000
Total Distributions (in)/out	-$100,000	$3,631	$6,462	$9,010	$8,621	$193,662
IRR	18.6%					
EMx	2.21x					

Average
Cash flow + Capital Events / Investment / Years
Time-based
NOT Time-based

2 SCENARIO 2

Poor cash flow in year 1

CoC: 7.6%
AAR: 29.4%
IRR: 20.9%
EMx: 2.47

						SALE
	Total	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Capital Account	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000
CoC Distributions	$37,779	$424	$5,621	$8,876	$10,599	$12,259
CoC Return	**7.6%**	**0.4%**	**5.6%**	**8.9%**	**10.6%**	**12.3%**
Proceeds from Refi/Sale	$109,075	$0	$0	$0	$0	$109,075
Total Profit Distributions	$146,854	$424	$5,621	$8,876	$10,599	$121,334
AAR	29.4%					
Return of Initial Investment	$100,000	$0	$0	$0	$0	$100,000
Total Distributions (in)/out	-$100,000	$424	$5,621	$8,876	$10,599	$221,334
IRR	20.9%					
EMx	2.47x					

Average
Cash flow + Capital Events / Investment / Years
Time-based
NOT Time-based

3 SCENARIO 3

Identical to Scenario 1 with refinance end of year 3

CoC: 11.5%
AAR: 22.0%
IRR: 20.7%
EMx: 2.10

				REFINANCE		SALE
	Total	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Capital Account	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000
CoC Distributions	$31,117	$3,631	$6,462	$9,010	$5,705	$6,308
CoC Return	**11.5%**	**3.6%**	**6.5%**	**9.0%**	**18.4%**	**20.3%**
Proceeds from Refi/Sale	$78,954	$0	$0	$0	$0	$78,954
Total Profit Distributions	$110,071	$3,631	$6,462	$9,010	$5,705	$116,354
AAR	22.0%					
Return of Initial Investment	$31,092	$0	$0	$68,908	$0	$31,092
Total Distributions (in)/out	-$100,000	$3,631	$6,462	$77,919	$5,705	$116,354
IRR	20.7%					
EMx	2.10x					

Average
Cash flow + Capital Events / Investment / Years
Time-based
NOT Time-based

In Summary

Metric	Calculation Inputs: Cash From Operations	Cash From Capital Events	Return of Capital	Time
CoC | Avg Cash on Cash Operational metric that calculates the % of cash income earned on the cash invested in a property	✓	✗	✗	✓
AAR | Average Annual Return Average yearly return percentage that includes the proceeds from capital events.	✓	✓	✗	✓
IRR | Internal Rate of Return The rate at which the net present value of all cash flows (both positive and negative) from a property investment equal zero. IRR considers all investment flows and is sensitive to investment timing.	✓	✓	✓	✓
EMx | Equity Multiple A multiple that indicates how many times the investor's initial equity has been returned through the investment period.	✓	✓	✓	✗

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Cash on Cash Additional Details

Cash on Cash **DETAIL**

INPUTS

- ✓ Cash Flow Capital
- ✗ Event Return of
- ✗ Capital
- ✓ Time

DEFINITION

Operational Performance Metric

- This is an important OPERATIONAL METRIC that measures the percentage of cash income earned on the cash invested in a property.
- Usually represented as an average over the hold period.

CALCULATION

Cash Flow / Total Investment

- CoC is derived by dividing the annual income after expenses, debt, reserves, and fees divided by the total investment.
- CoC is calculated on the capital in the deal for each period.
- If a refinance returns a portion of partner capital, the CoC in the following period is calculated based on the capital remaining in the deal.

WHEN TO USE

Evaluate Operational Performance Health

- CoC is a great operational metric to evaluate the projected health of the asset.
- High CoC deals are often viewed as less risky as it does not require the sale for returns.
- Good CoC deals are less market volatile and have less risk when accompanied with fixed debt.

TIPS

Factors to Consider

- Debt: A refinance will usually improve CoC. End of interest only will impact CoC.
- CoC is not the same as Preferred Return. Preferred Return is a hurdle in the partnership returns structure.
- When CoC is close to IRR then there is not much deal appreciation.
- Evaluate CoC for every year. Value-add deals are often lower in earlier years.
- Ensure that CoC is not using other injections of cash to boost CoC returns.