



*Model for Success*<sup>TM</sup>

# **Joint Venture and Waterfall Modeling Bootcamp**

## **Level 3 Certification Preparation**

*Instruction by Bruce Kirsch*

*Principal, Real Estate Financial Modeling*

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# Agenda

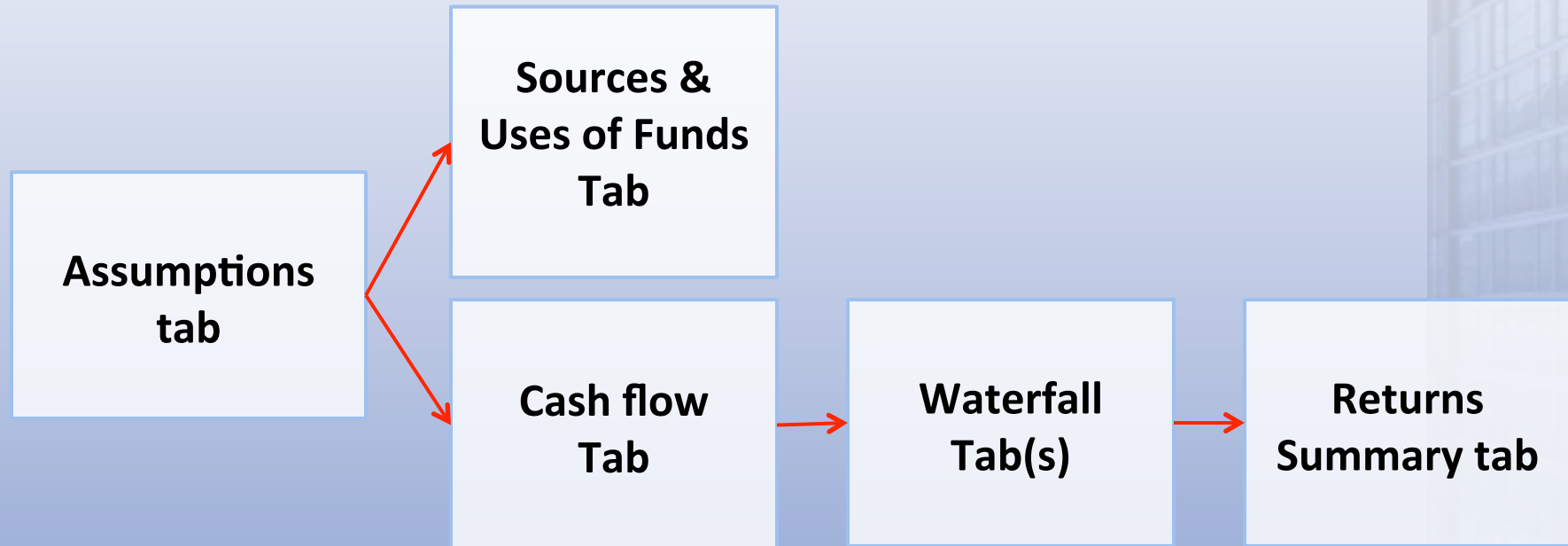


- Rationale behind targeting disproportionate financial reward
- How to achieve disproportionate financial reward
- Preferred Returns and their variations
- Waterfall Distribution overview and Promote modeling
- Look-Back: Internal Rate of Return (IRR) and Equity Multiple
- 3-Tier Waterfall modeling
- Double-Promote, 5-Tier Waterfall modeling
- Sample Partnership Structures
- Claw-Back modeling

# Spreadsheet Formatting Notes

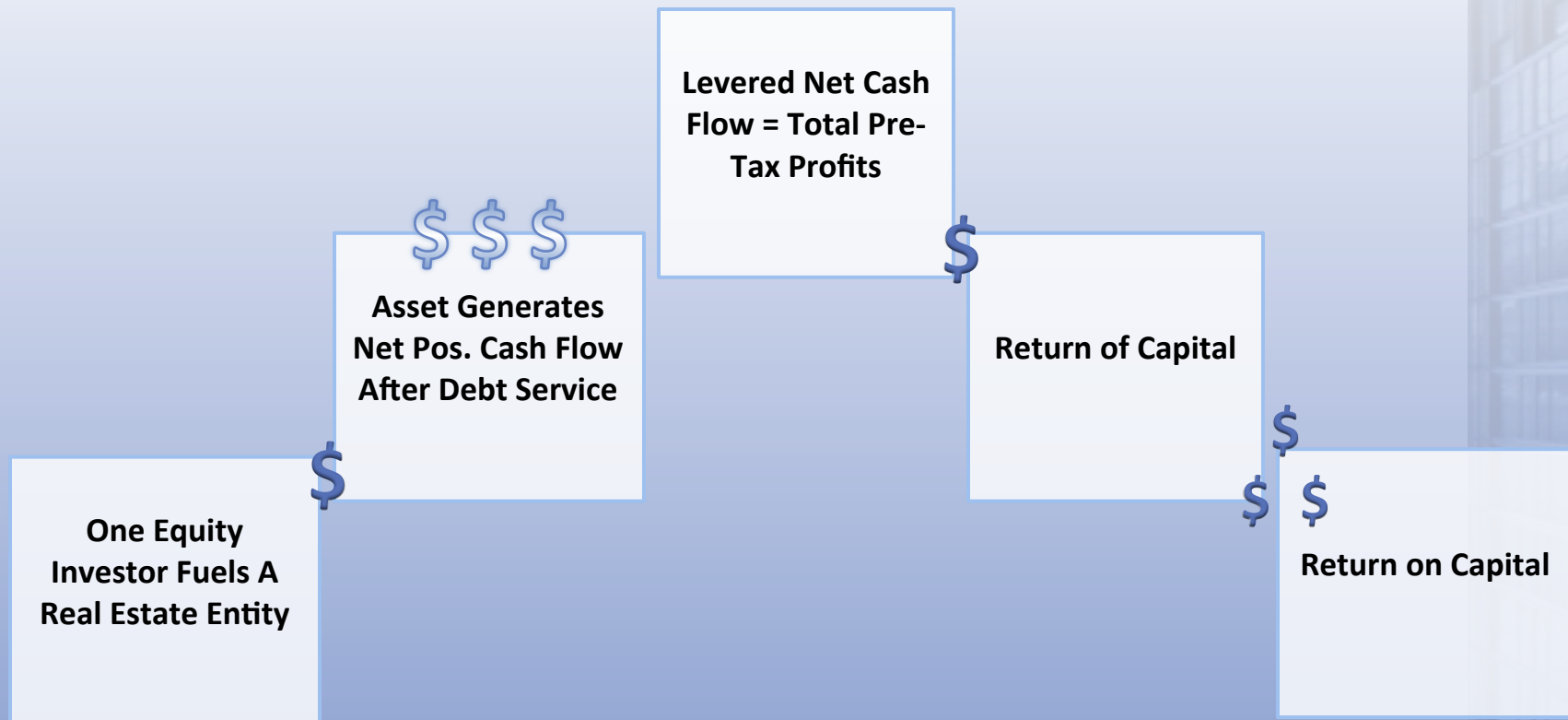
- Inputs/assumptions are in **bold blue type**
- Formula-based outputs are in black and **red**
- Labels in black

# Big-Picture: Spreadsheet Tab Relationships

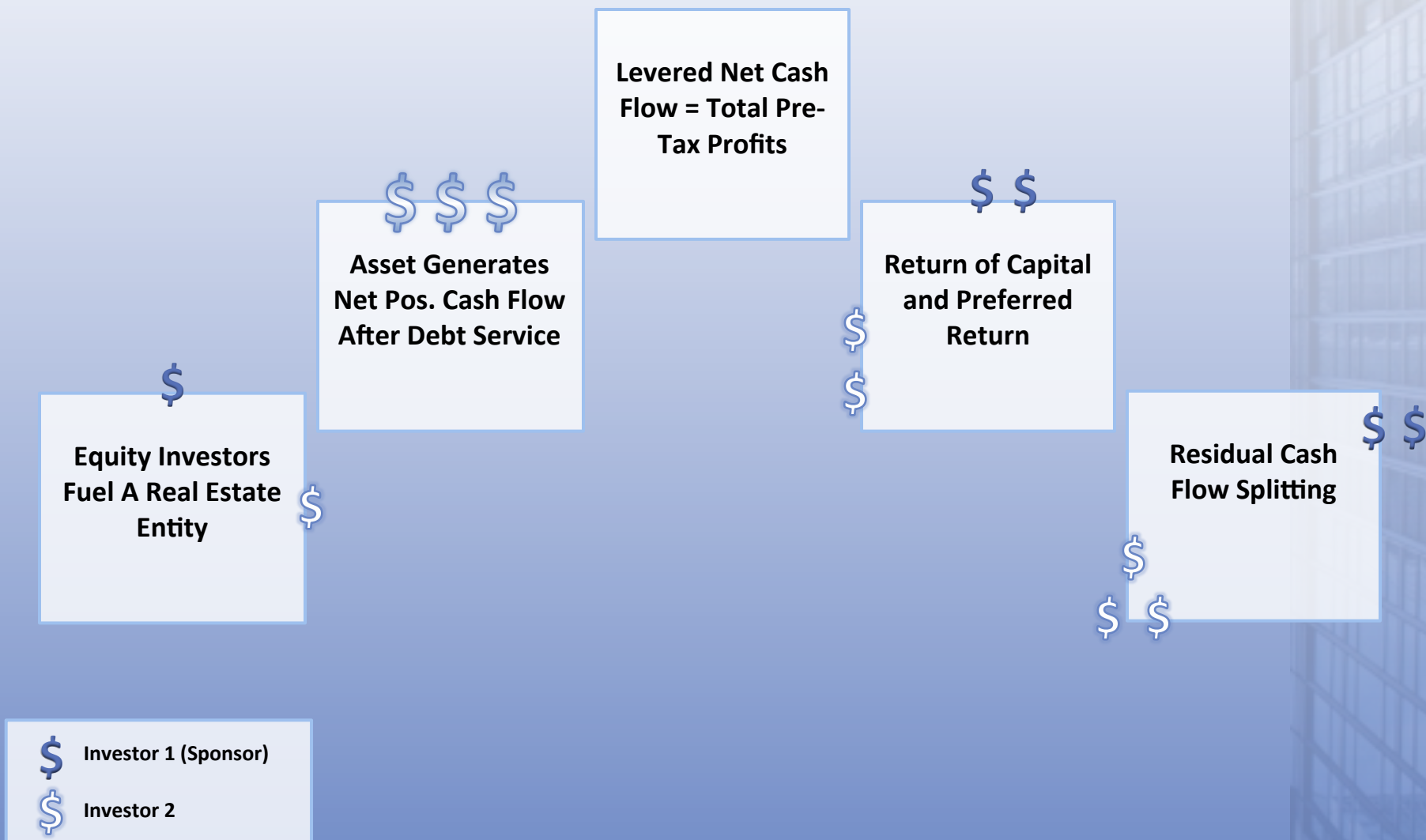




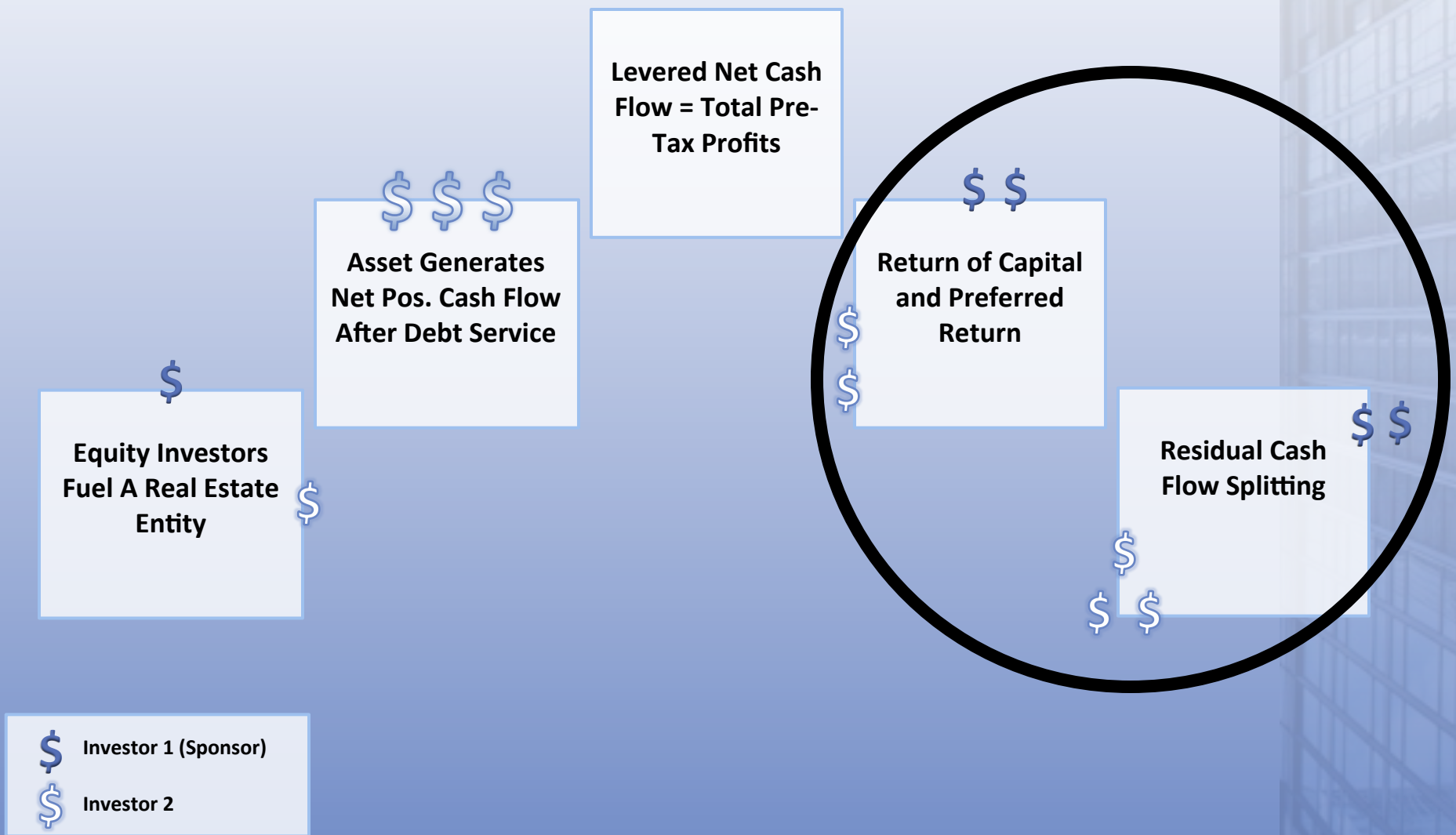
# Big-Picture: One Investor



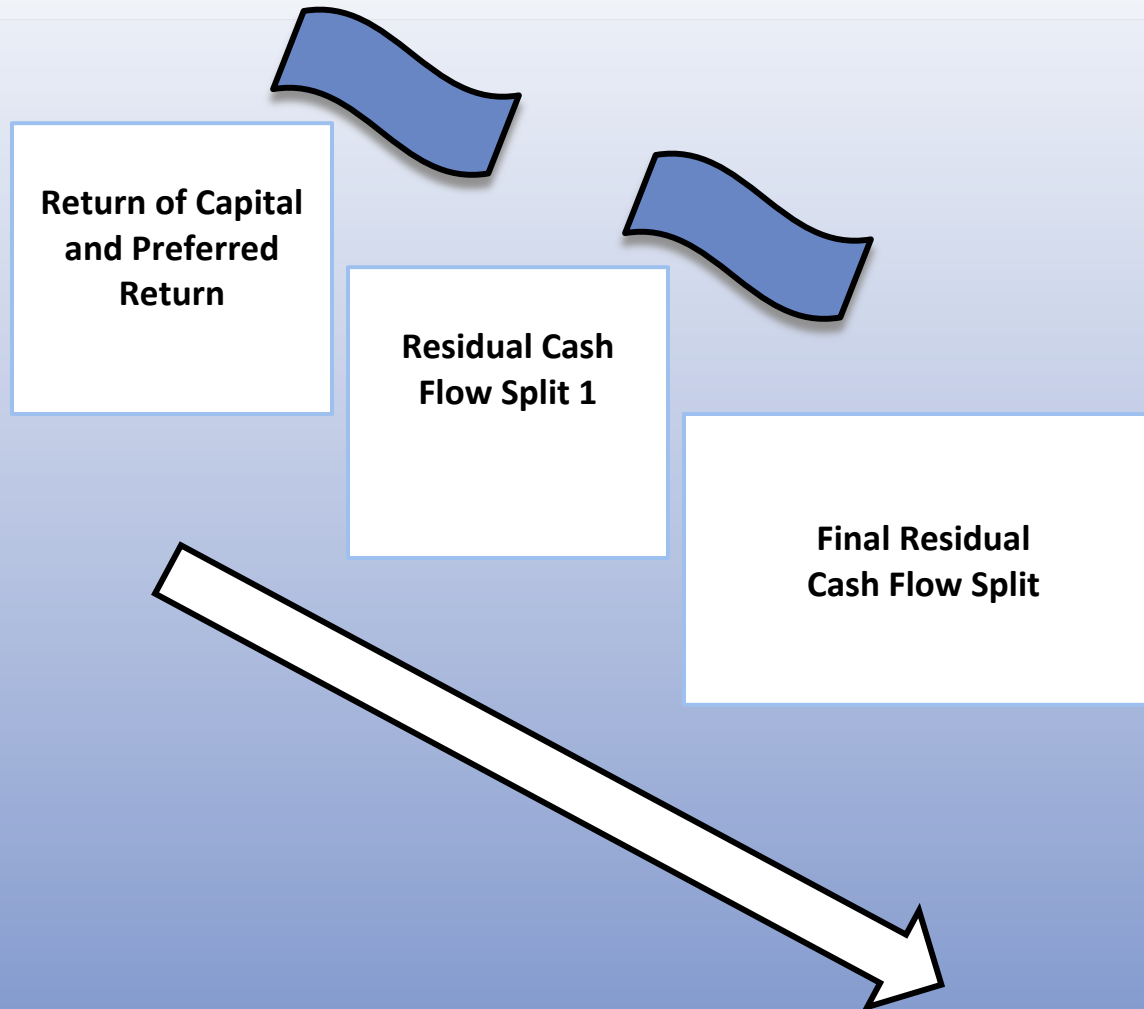
# Big-Picture: Multiple Investors



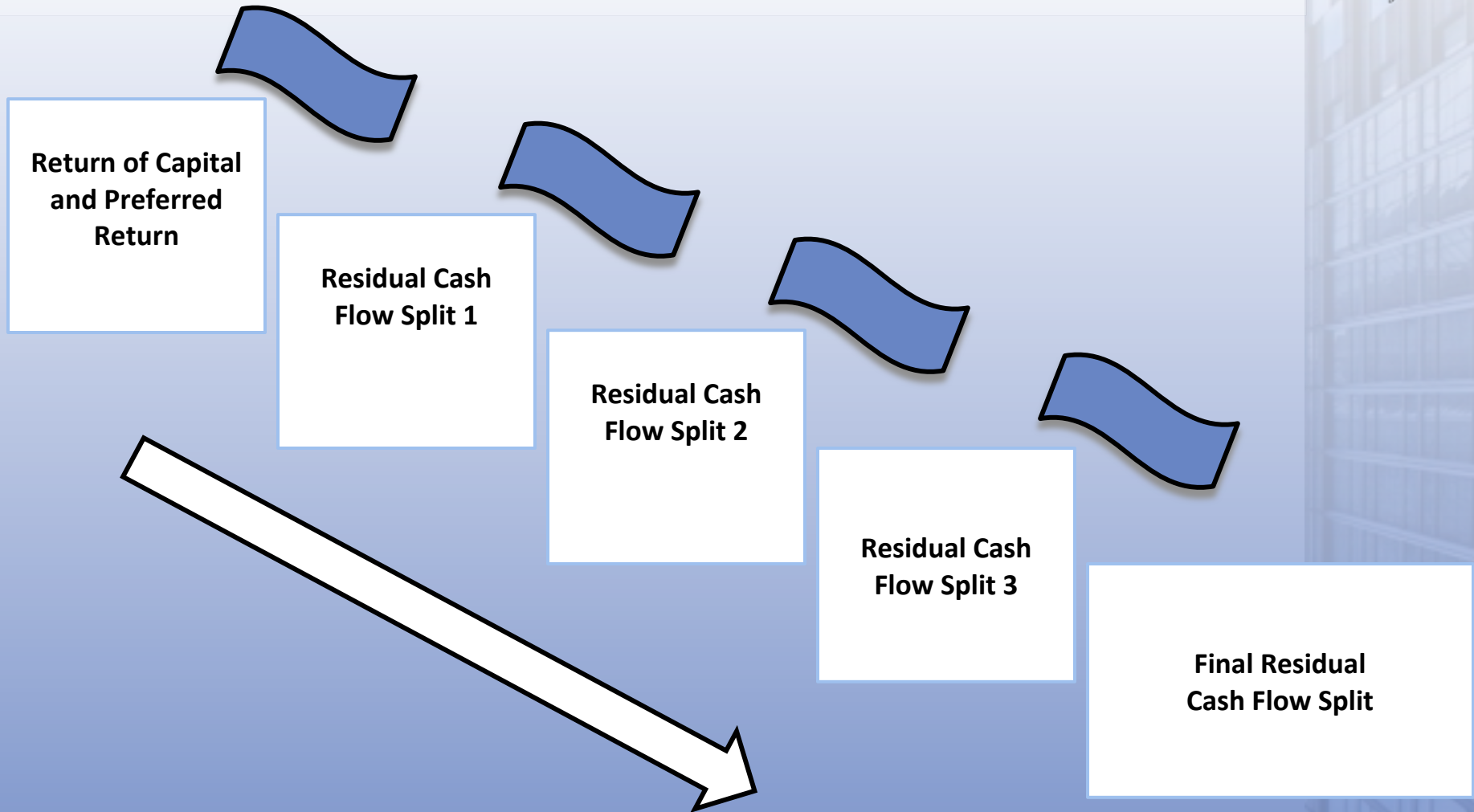
# Big-Picture: Multiple Investors



# Multiple Investor Waterfall – 3 Tiers



# Multiple Investor Waterfall – 5 Tiers





# JV Partnerships – Multiple Parties Teaming Up



# Joint Venture Partnership Cash Flow Splitting



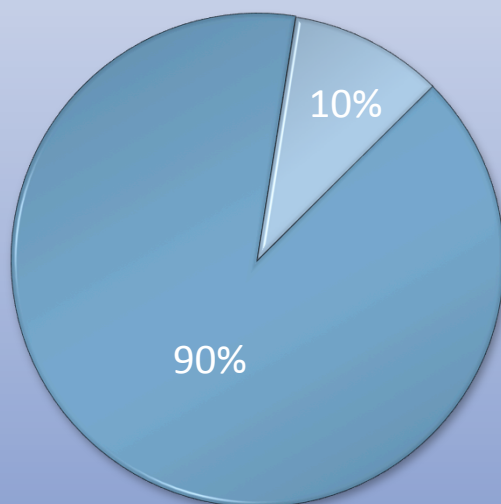
- The fundamental question:

Given **how much** and **when** cash investment goes in to the transaction from each party, and given the different roles that the parties play, **when** should the original capital invested, and **when** and **in what proportion** should the returns on that capital, come out of the transaction to each party?

# Is Proportional (Pro-Rata) Financial Reward Desired?

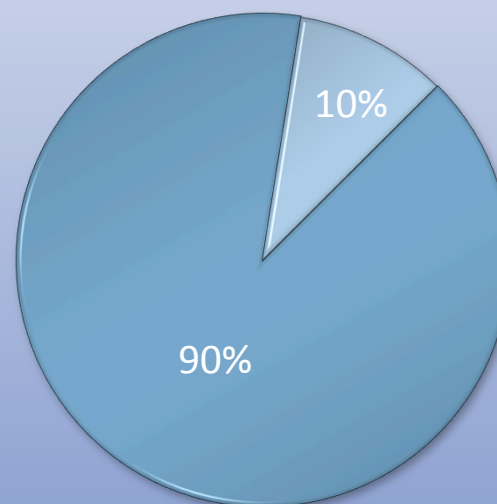
## Financial Risk

■ Third Party Investor   ■ Sponsor



## Financial Reward

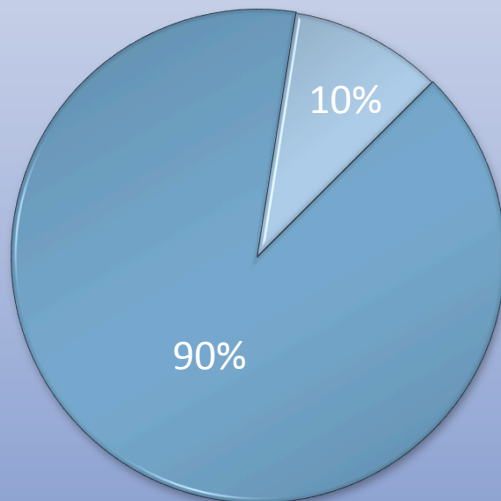
■ Third Party Investor   ■ Sponsor



# Disproportionate Reward To The Sponsor Is Market

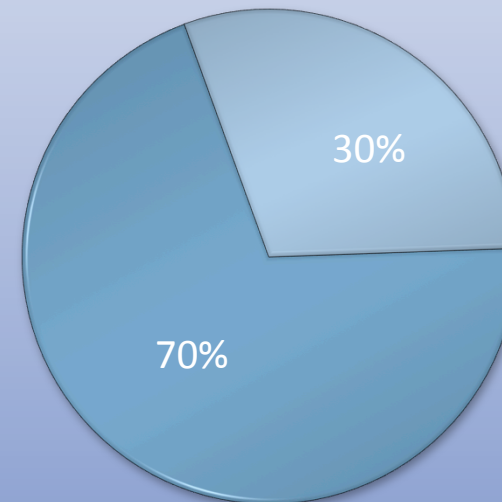
## Financial Risk

■ Third Party Investor ■ Sponsor



## Financial Reward

■ Third Party Investor ■ Sponsor

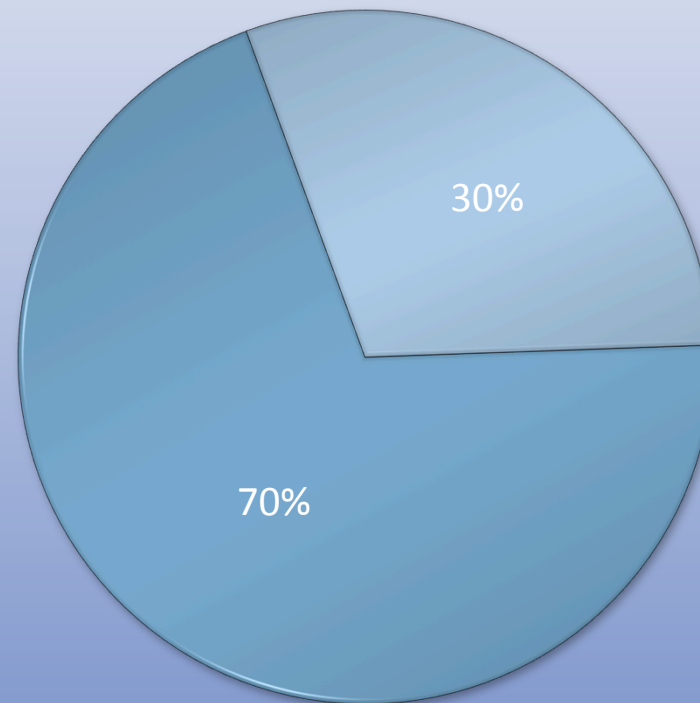


Total Net Cash Flow is weighted disproportionately in favor of the Sponsor...

# To Motivate The Creation Of A Larger Pie For All

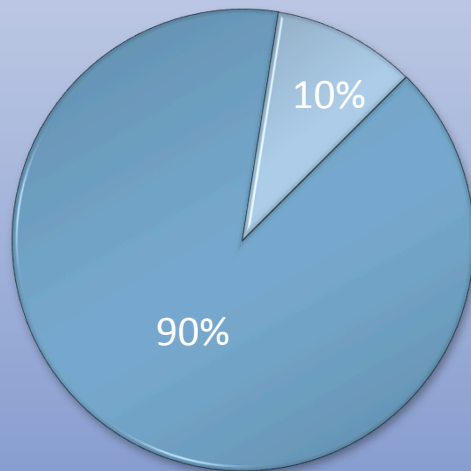
## Financial Reward

■ Third Party Investor   ■ Sponsor



## Financial Risk

■ Third Party Investor   ■ Sponsor



...so that everybody wins bigger.



# How To Achieve Disproportionate Financial Reward



## ▸ Fees to Sponsor

- Development
- Acquisition
- Property management
- Leasing
- Asset management
- Disposition

# How To Achieve Disproportionate Returns



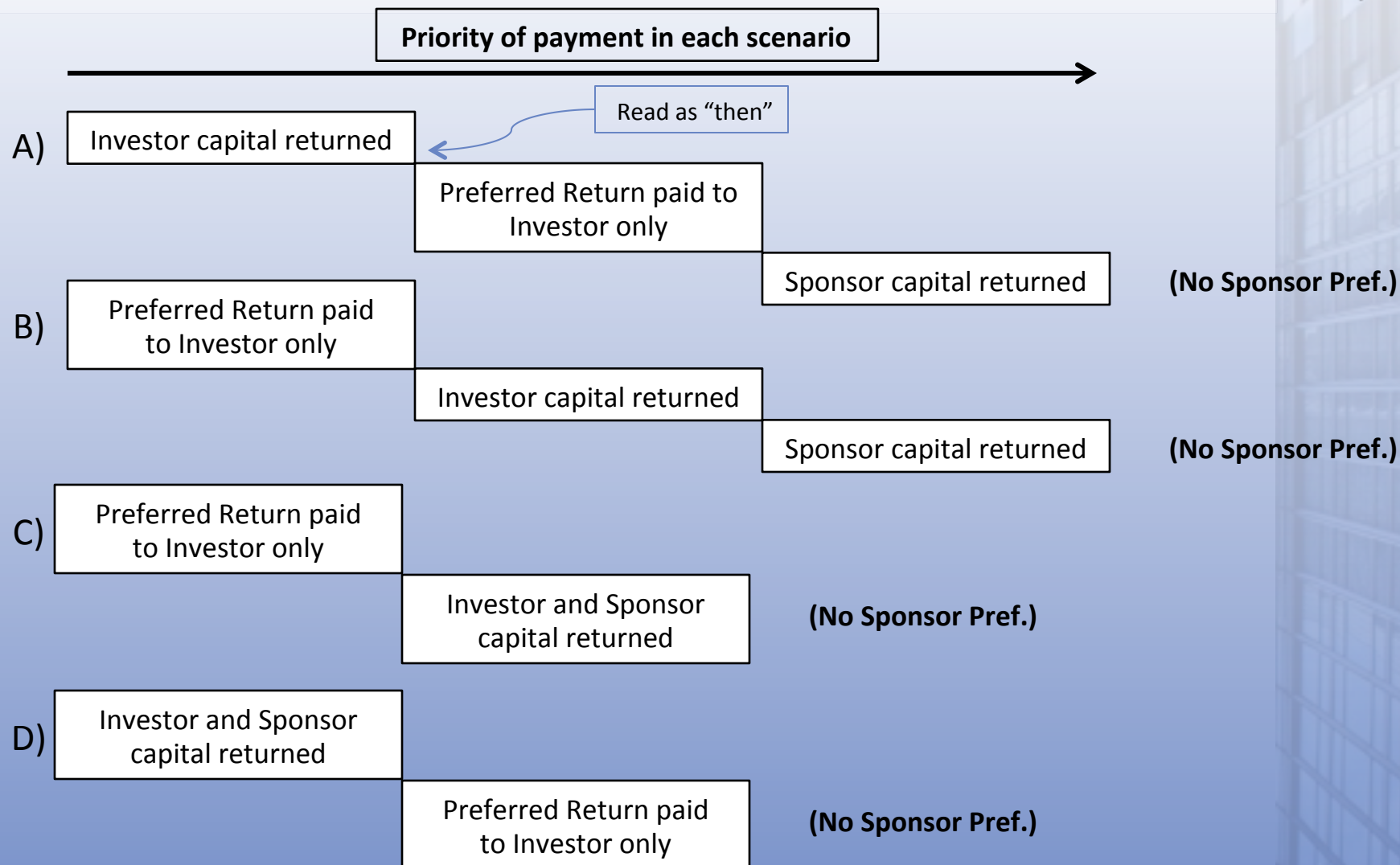
- Profit sharing based on investment performance
- What is the ideal mix?

# Trade Offs For Disproportionate Financial Reward

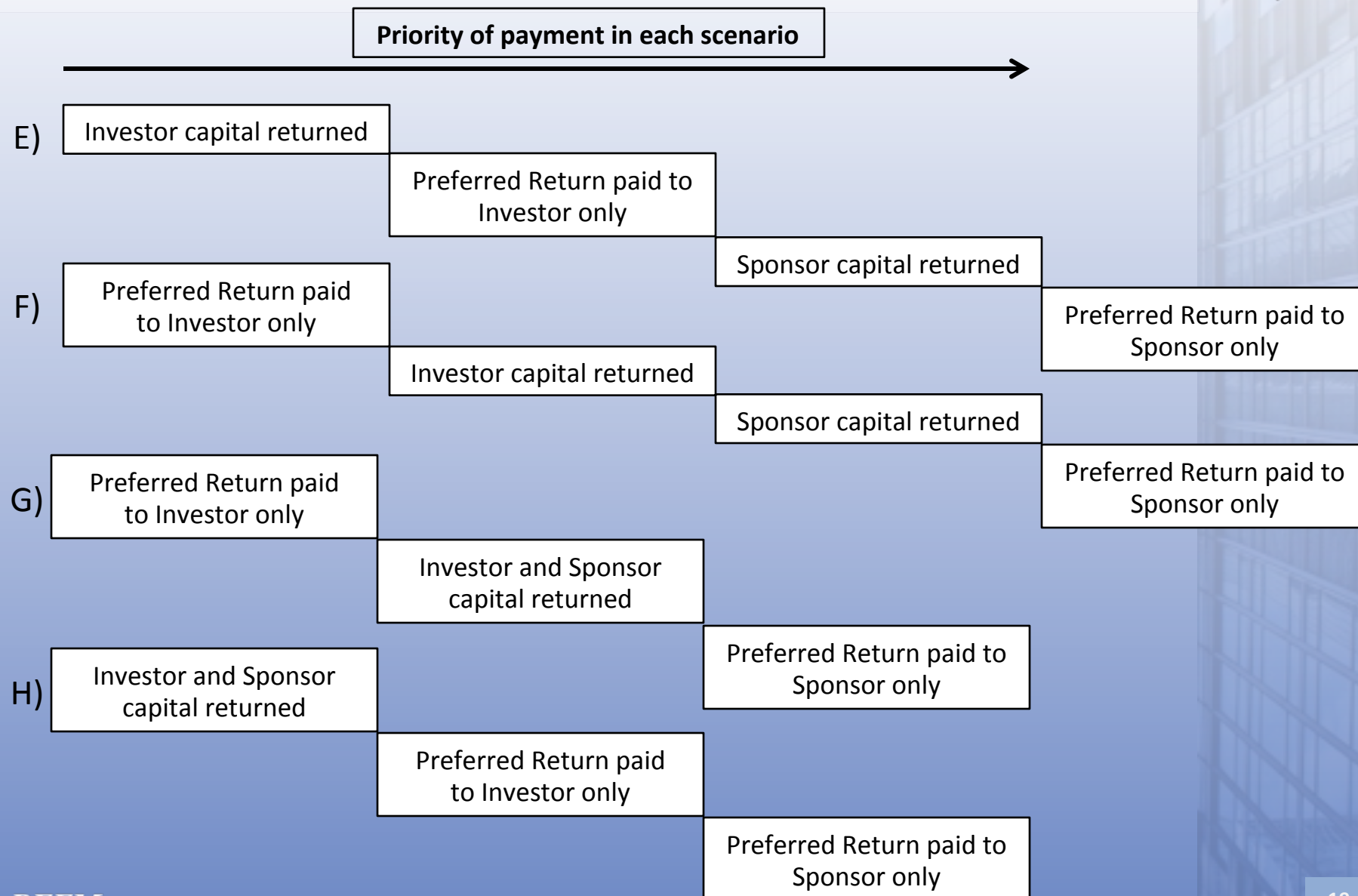


- What does the Investor get in return?
  - A Preferred Return (“Pref”) on the investment
    - First cash flows after return of capital go to the Investor up to a specified % return
    - Note: sometimes the Pref occurs before the return of capital
  - If only going to the Investor, a “safer” (although lower) IRR

# Preferred Return Variations on Priority of Payment

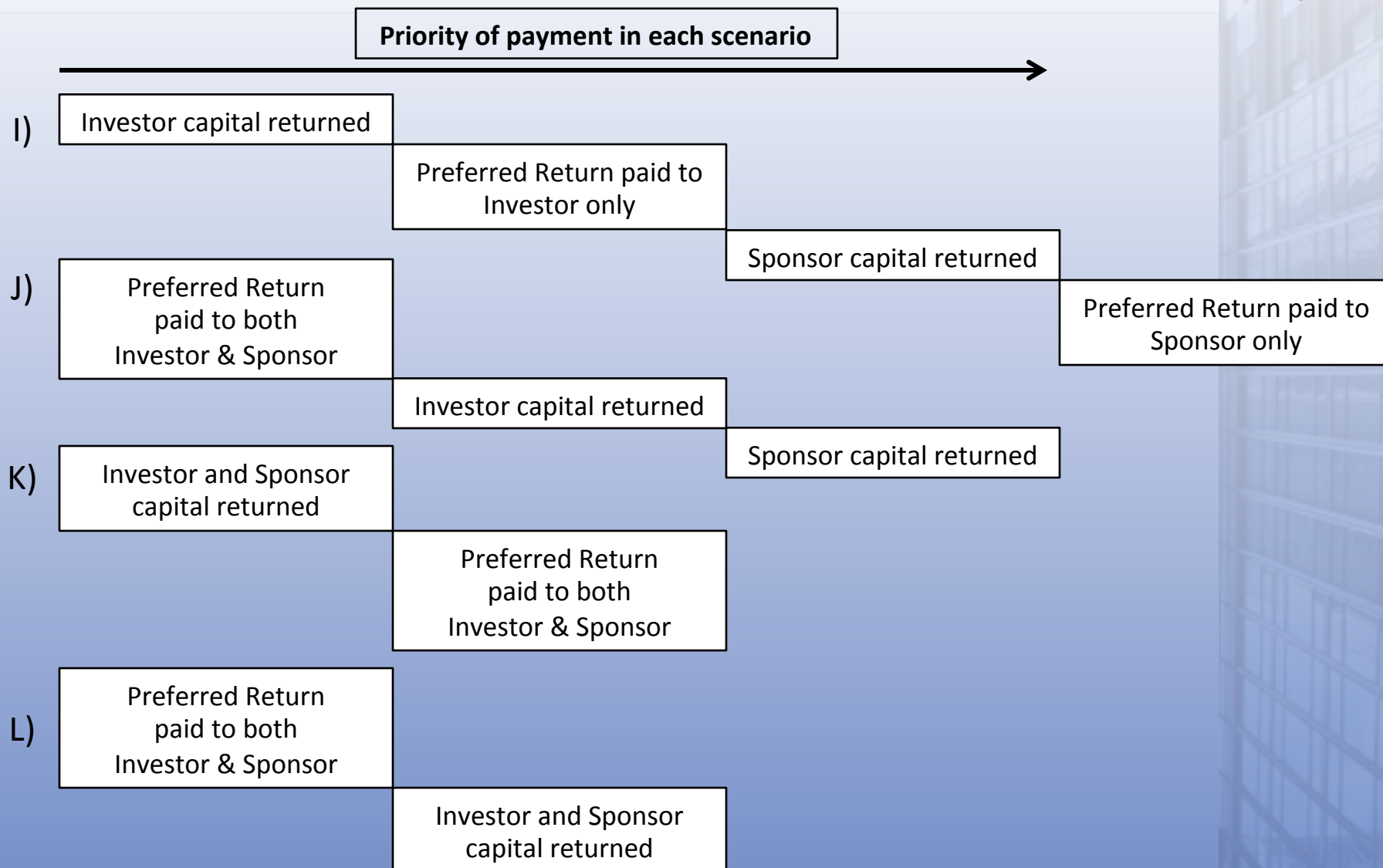


# Preferred Return Variations on Priority of Payment



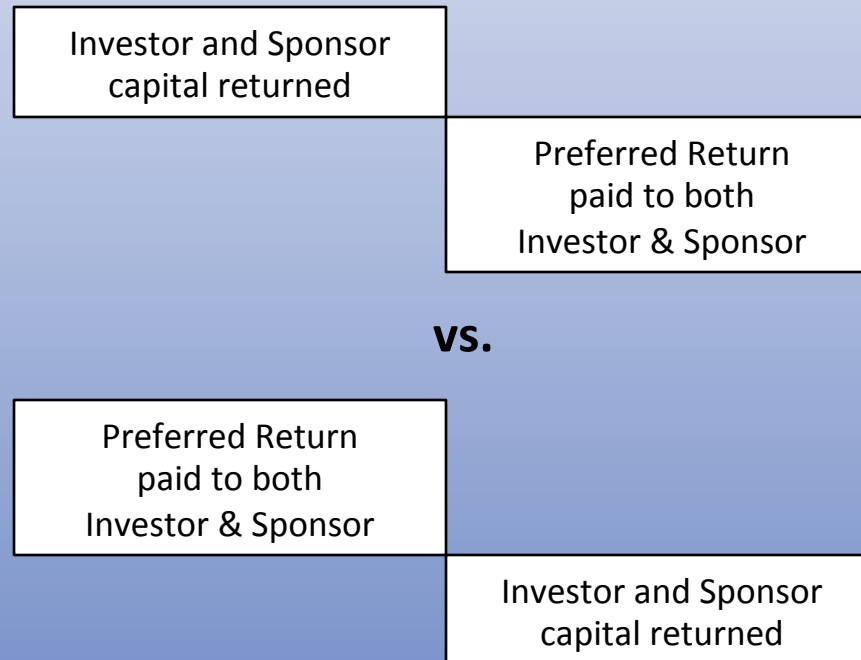


# Preferred Return Variations on Priority of Payment



# Which Priority of Payment Is Best?

- If capital is returned over multiple periods (as opposed to in a single period capital event), the Preferred Return will be lower in the top scenario due to a declining base off of which the Pref is calculated.



# Preferred Return Payments In Context: REFM Cash Flow Chart

## REFM Cash Flow Chart



**Capital is invested into the transaction**

**Asset generates expenses, debt service obligations and income**

**When there is Positive Levered Net Cash Flow...**

**Payment "Type A"**

**Preferred Return Is Paid to all parties receiving the Pref**

**Payment "Type B"**

**Then Capital Is Returned to all parties**

**Payment "Type C"**

**Then Residual Cash Flows Are Paid Out to all parties**

**Total of Payments Made = Total Positive Levered Net Cash Flow**

\* NOTE: There are many exceptions to the priority of payments shown above. This is but one "typical" structure.

# Preferred Returns

- Non-Compounded / Compounded
- Non-Cumulative / Cumulative
- Go To Excel

**Capital is invested into the transaction**

Asset generates expenses, debt service obligations and income

**When there is Positive Levered Net Cash Flow...**

Payment "Type A"

Preferred Return Is Paid to all parties receiving the Pref

Payment "Type B"

Then Capital Is Returned to all parties

Payment "Type C"

Then Residual Cash Flows Are Paid Out to all parties

**Total of Payments Made = Total Positive Levered Net Cash Flow**



# Residual Cash Flow Splitting

**Capital is invested into the transaction**

**Asset generates expenses, debt service obligations and income**

**When there is Positive Levered Net Cash Flow...**

**Payment "Type A"**

**Preferred Return Is Paid to all parties receiving the Pref**

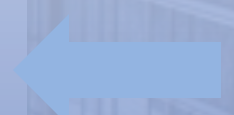
**Payment "Type B"**

**Then Capital Is Returned to all parties**

**Payment "Type C"**

**Then Residual Cash Flows Are Paid Out to all parties**

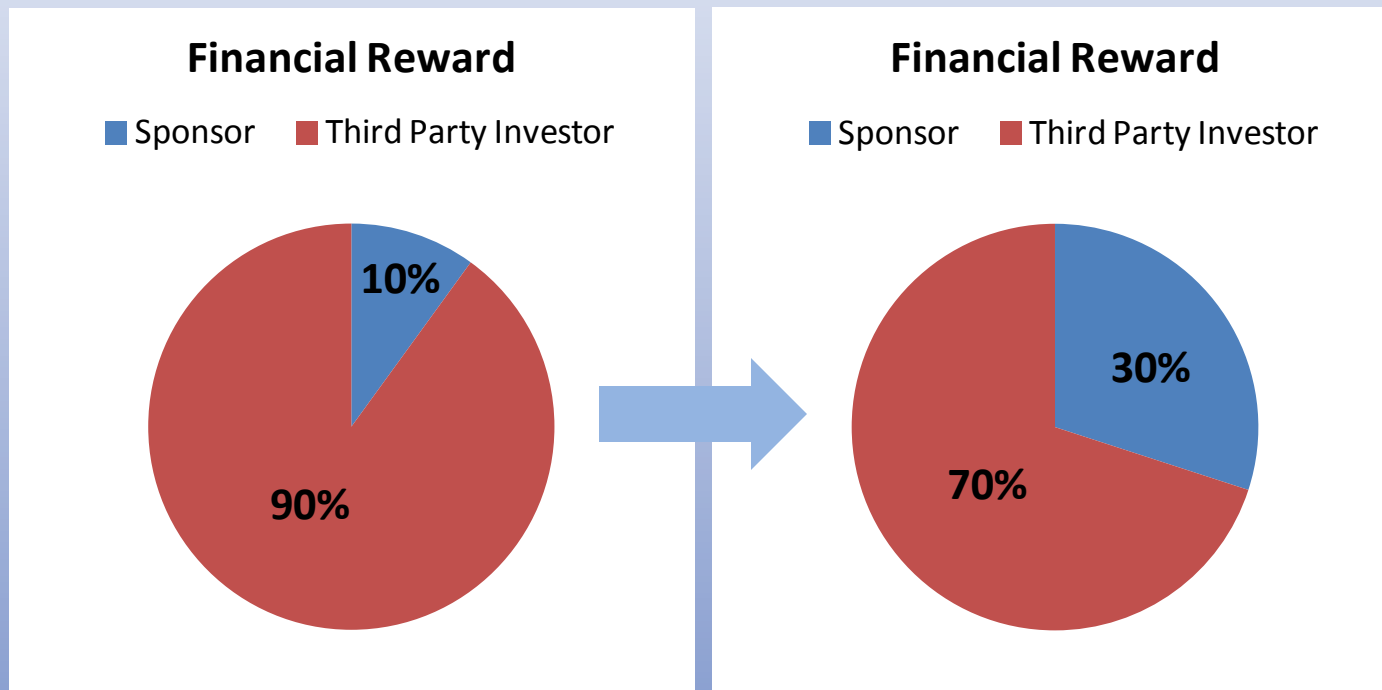
**Total of Payments Made = Total Positive Levered Net Cash Flow**





# Residual Cash Flow Splitting Purpose

- To drive the disproportionate sharing of overall profits



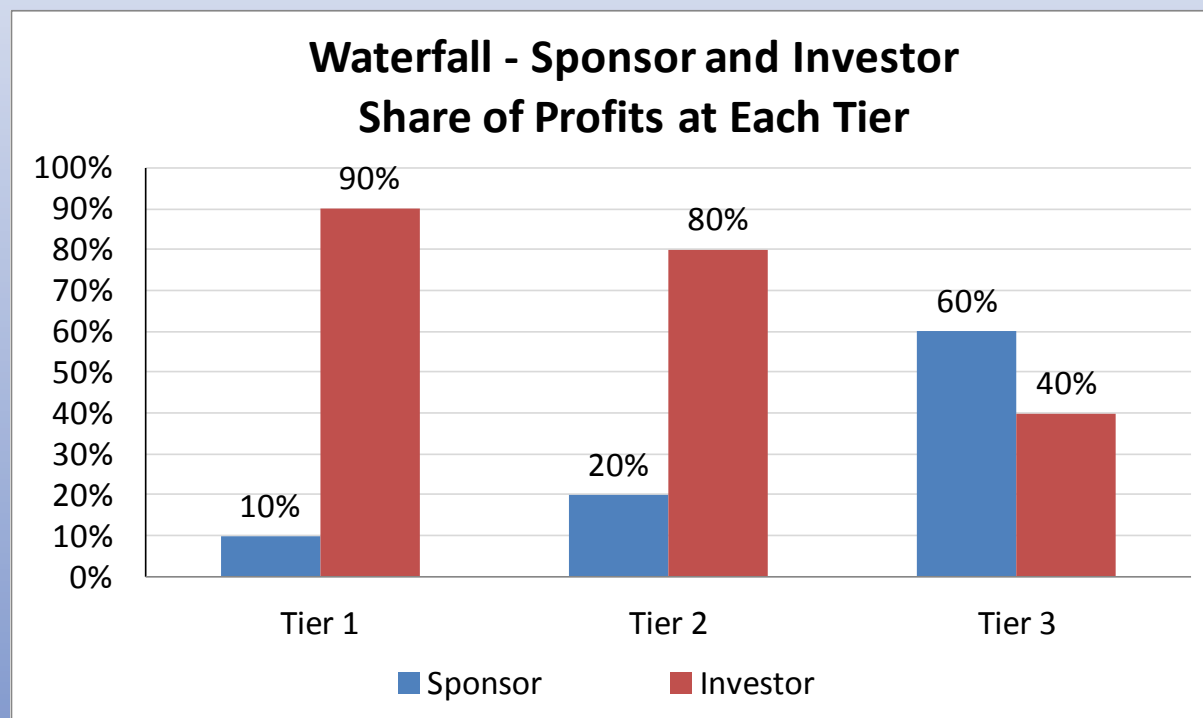
# Residual Cash Flow Splitting Methods



- **Simple:** A single split mechanism, e.g., 50%/50% for all cash flows after the Preferred Return and Return of Capital
- **Complex:** A multiple-tier split mechanism, also known as a waterfall

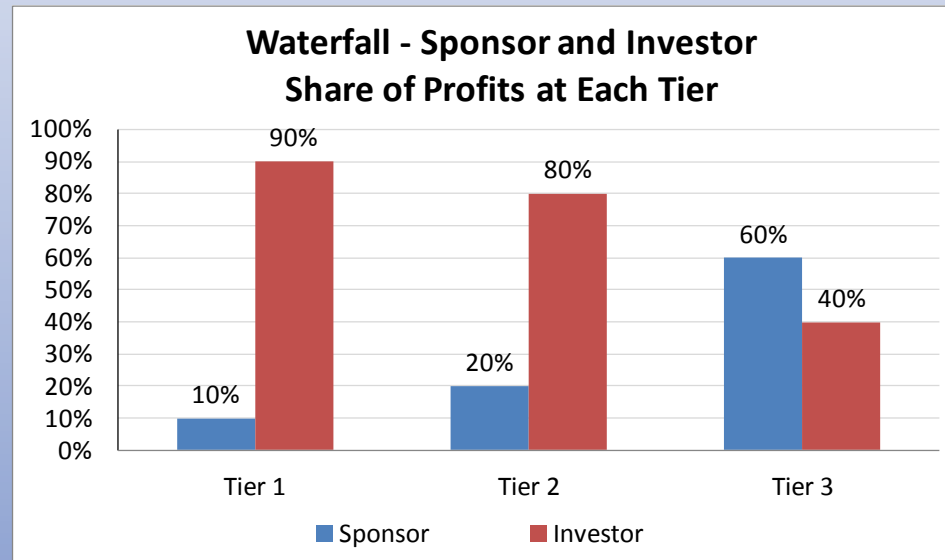
# Waterfall Tiers

- Instead of just a single cash flow split, there are negotiated splits at multiple levels, or “Tiers”



# Waterfall Tiers

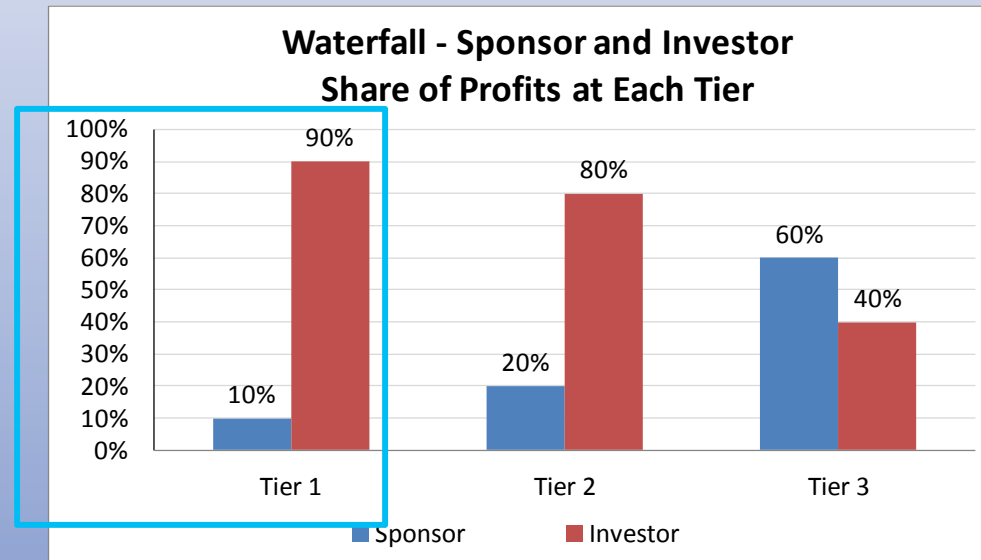
- Each Tier represents a range of investment performance as measured typically by the IRR, or the Equity Multiple



Internal Rate of Return Ranges/Hurdle				
Tier 1	From	0%	through	10%
Tier 2	Above	10%	through	15%
Tier 3			Above	15%

# Waterfall Tiers

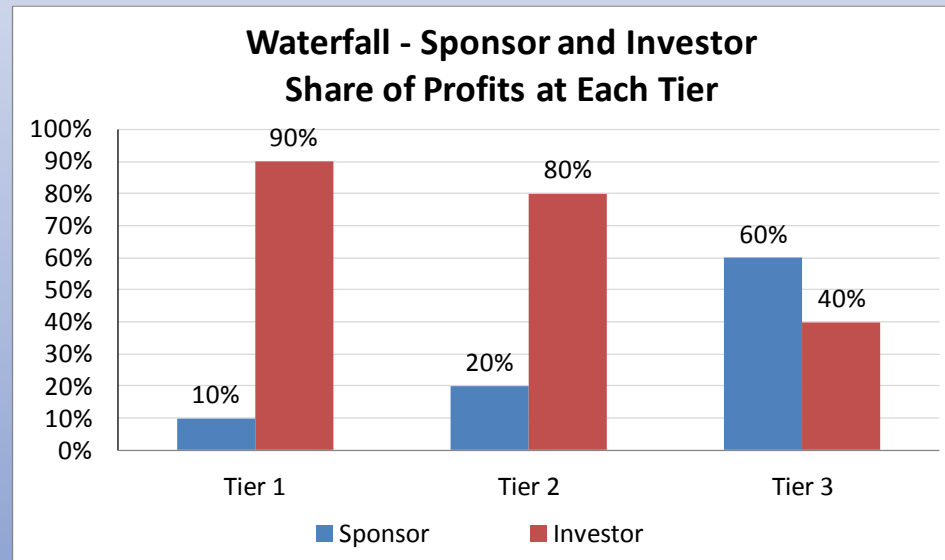
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# Waterfall Tiers

- Each Tier represents a range of investment performance as measured typically by the IRR, or the Equity Multiple

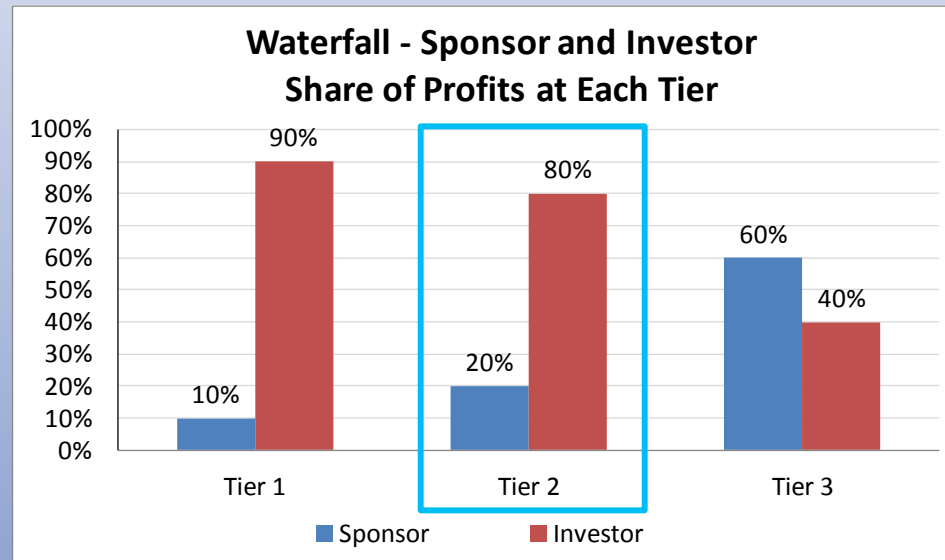


Internal Rate of Return Ranges/Hurdle				
Tier 1	From	0%	through	10%
Tier 2	Above	10%	through	15%
Tier 3			Above	15%

Investor IRR

# Waterfall Tiers

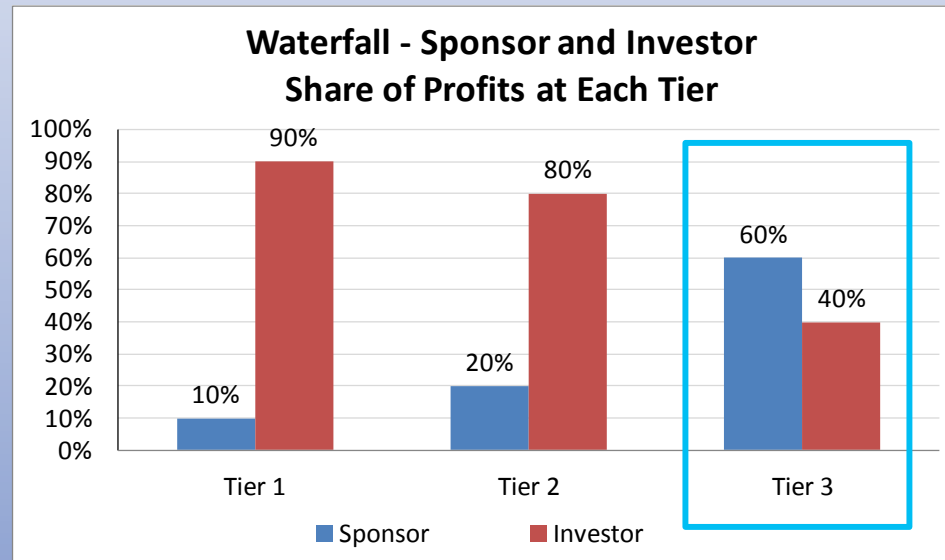
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Tier 1	From	0%	through	10%
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# Waterfall Tiers

- Each Tier represents a range of investment performance as measured typically by the IRR, or the Equity Multiple

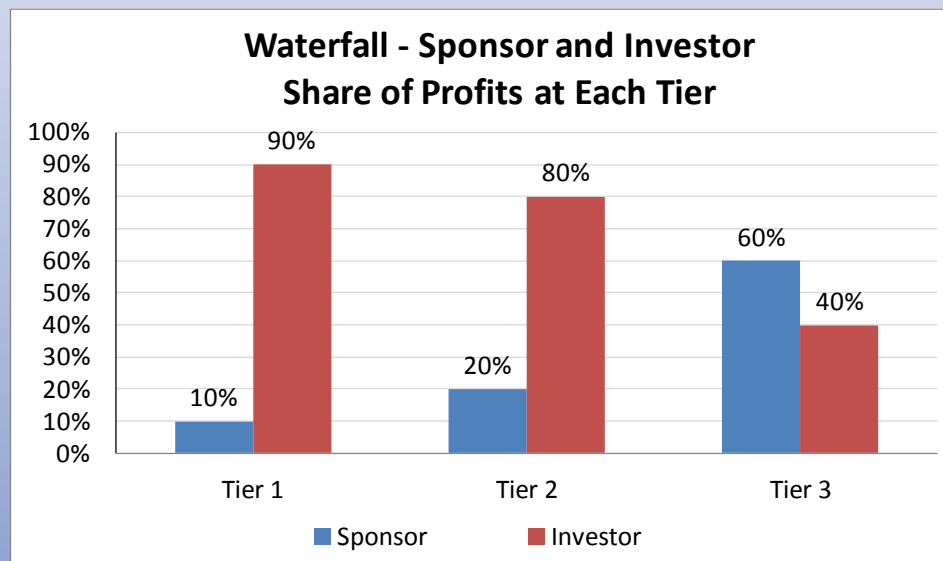


Internal Rate of Return Ranges/Hurdle				
Tier 1	From	0%	through	10%
Tier 2	Above	10%	through	15%
Tier 3		Above		15%



# Waterfall Tiers and Promotes

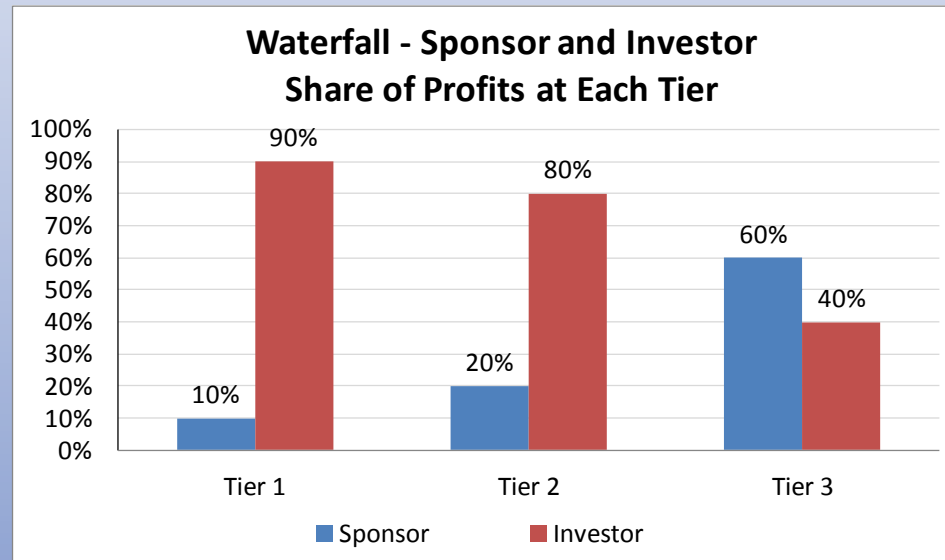
- The Sponsor receives a “Promoted Interest”, or “Promote” (a fancy way of saying “additional share of profits”), of successively larger amounts at each higher-numbered Tier



Internal Rate of Return Ranges/Hurdle				Sponsor Equity Pro- Rata Share	Sponsor Promote	Total Sponsor Profit Share	Investor Profit Share
Tier 1	From	0%	through	10%	0%	10%	90%
Tier 2	Above	10%	through	15%	10%	20%	80%
Tier 3			Above	15%	50%	60%	40%

# Waterfall Tiers and Promotes

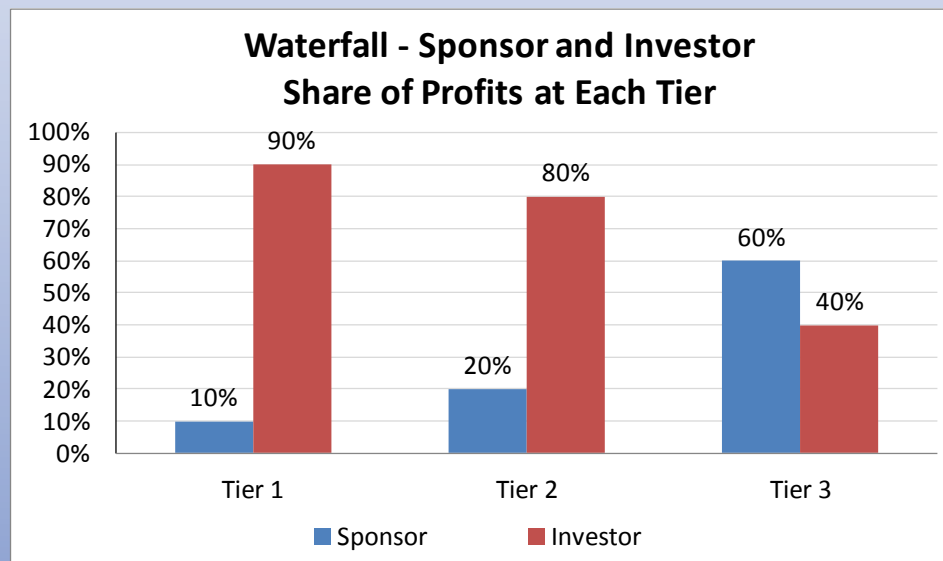
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Internal Rate of Return Ranges/Hurdle					Sponsor Equity Pro- Rata Share	Sponsor Promote	Total Sponsor Profit Share	Investor Profit Share
Tier 1	From	0%	through	10%	10%	0%	10%	90%
Tier 2	Above	10%	through	15%	10%	10%	20%	80%
Tier 3			Above	15%	10%	50%	60%	40%

# Waterfall Tiers and Promotes

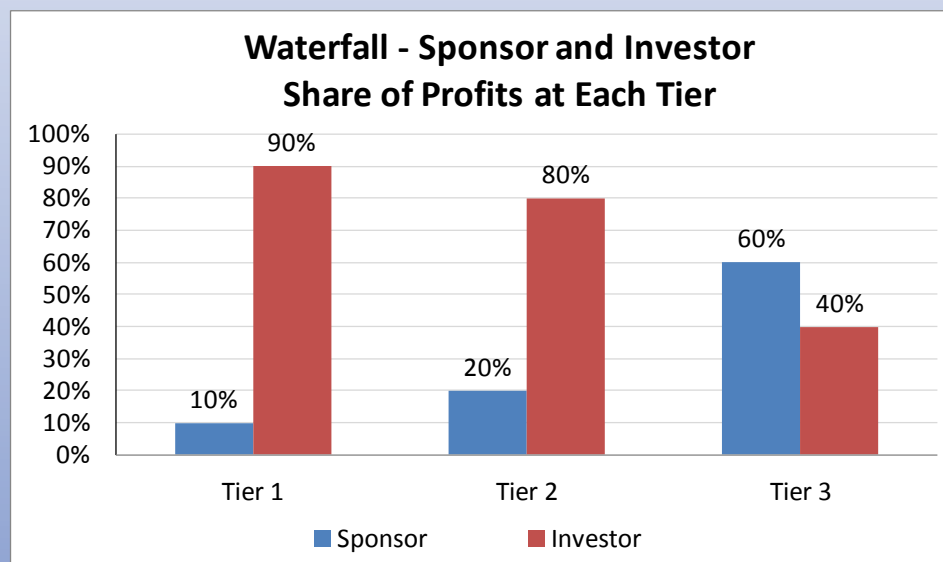
- The Sponsor receives a “Promoted Interest”, or “Promote” (a fancy way of saying “additional share of profits”), of successively larger amounts at each higher-numbered Tier



Internal Rate of Return Ranges/Hurdle					Sponsor Equity Pro- Rata Share	Sponsor Promote	Total Sponsor Profit Share	Investor Profit Share
<b>Tier 1</b>	From	0%	through	<b>10%</b>	10%	<b>0%</b>	10%	90%
<b>Tier 2</b>	Above	10%	through	<b>15%</b>	10%	<b>10%</b>	20%	80%
<b>Tier 3</b>			Above	<b>15%</b>	10%	<b>50%</b>	60%	40%

# Waterfall Tiers and Promotes - Exception

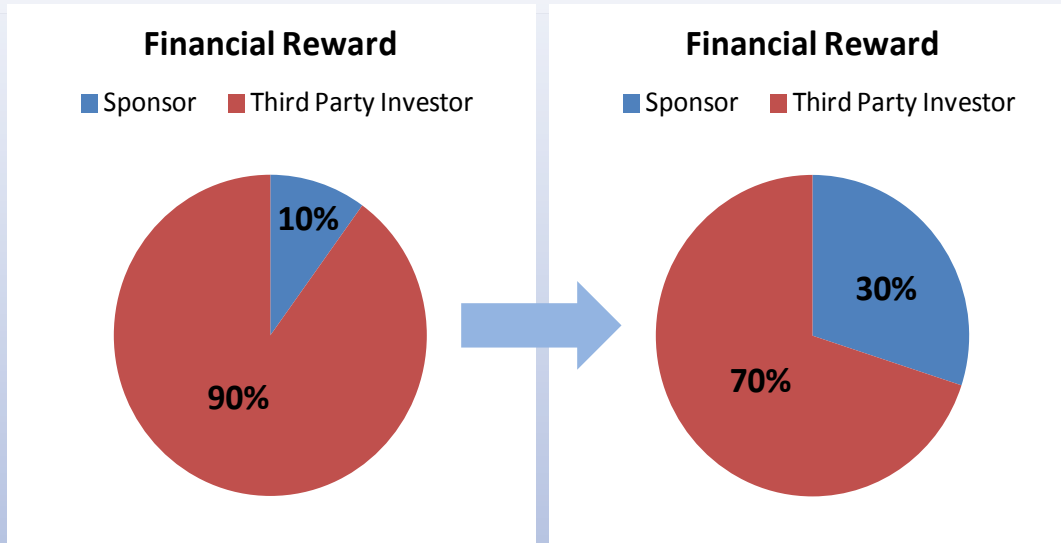
- In some instances, Tier 1 is the Preferred Return, which includes the return of capital, and if the Prefs are Pari Passu (which is customary), there will not be a Promote at Tier 1, as shown below.



Internal Rate of Return Ranges/Hurdle					Sponsor Equity Pro- Rata Share	Sponsor Promote	Total Sponsor Profit Share	Investor Profit Share
<b>Tier 1</b>	From	0%	through	<b>10%</b>	10%	<b>0%</b>	10%	90%
<b>Tier 2</b>	Above	10%	through	<b>15%</b>	10%	<b>10%</b>	20%	80%
<b>Tier 3</b>			Above	<b>15%</b>	10%	<b>50%</b>	60%	40%

# Quick Review

1



2

Through:

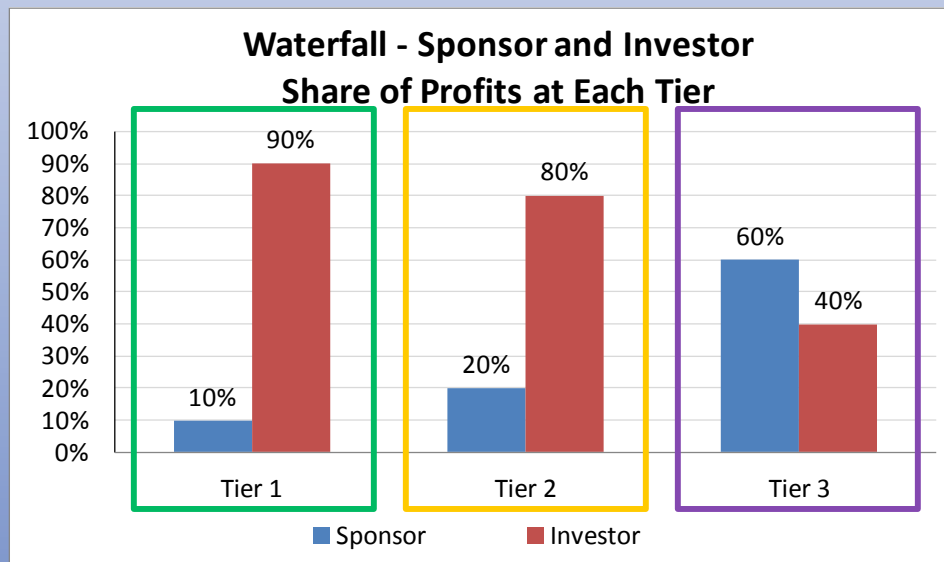
- Fees
- Disproportionate cash flow splits using:
  - Promotes and Tiers

3

Now the question becomes...

# How Does One Isolate Cash Flows Within A Tier?

- By isolating dollars that are responsible for the achievement of each level of investment performance (as measured by an IRR hurdle or an Equity Multiple hurdle), we can measure the dollars and then split them properly.



Internal Rate of Return Ranges/Hurdle				
Tier 1	From	0%	through	10%
Tier 2	Above	10%	through	15%
Tier 3			Above	15%

# Isolating Base and Incremental Dollar Amounts With IRR

- To do this, we need to make sure we truly understand IRR
- What is the IRR if we invest \$100 and don't get it back (i.e., lose all of the invested capital)?

Loss Of All Capital			
	Time 0	Year 1	Year 2
	(\$100)	\$0	\$0
IRR	#NUM!		



Excel cannot calculate an IRR value because it is not 0%, but rather infinitely negative.



# Isolating Base and Incremental Dollar Amounts With IRR

- What is the IRR if we invest \$100 and only get \$100 back?

Return of Capital Only			
	Time 0	Year 1	Year 2
	(\$100)	\$0	\$100
IRR	0.00%		



By definition, the return of capital only will result in a 0% IRR, because there is no return on capital.

# Isolating Base and Incremental Dollar Amounts With IRR

- What is the IRR if we invest \$100 and get \$140 back?

## Return of Capital, and Return on Capital of \$40

Time 0	Year 1	Year 2
(\$100)	\$0	\$140

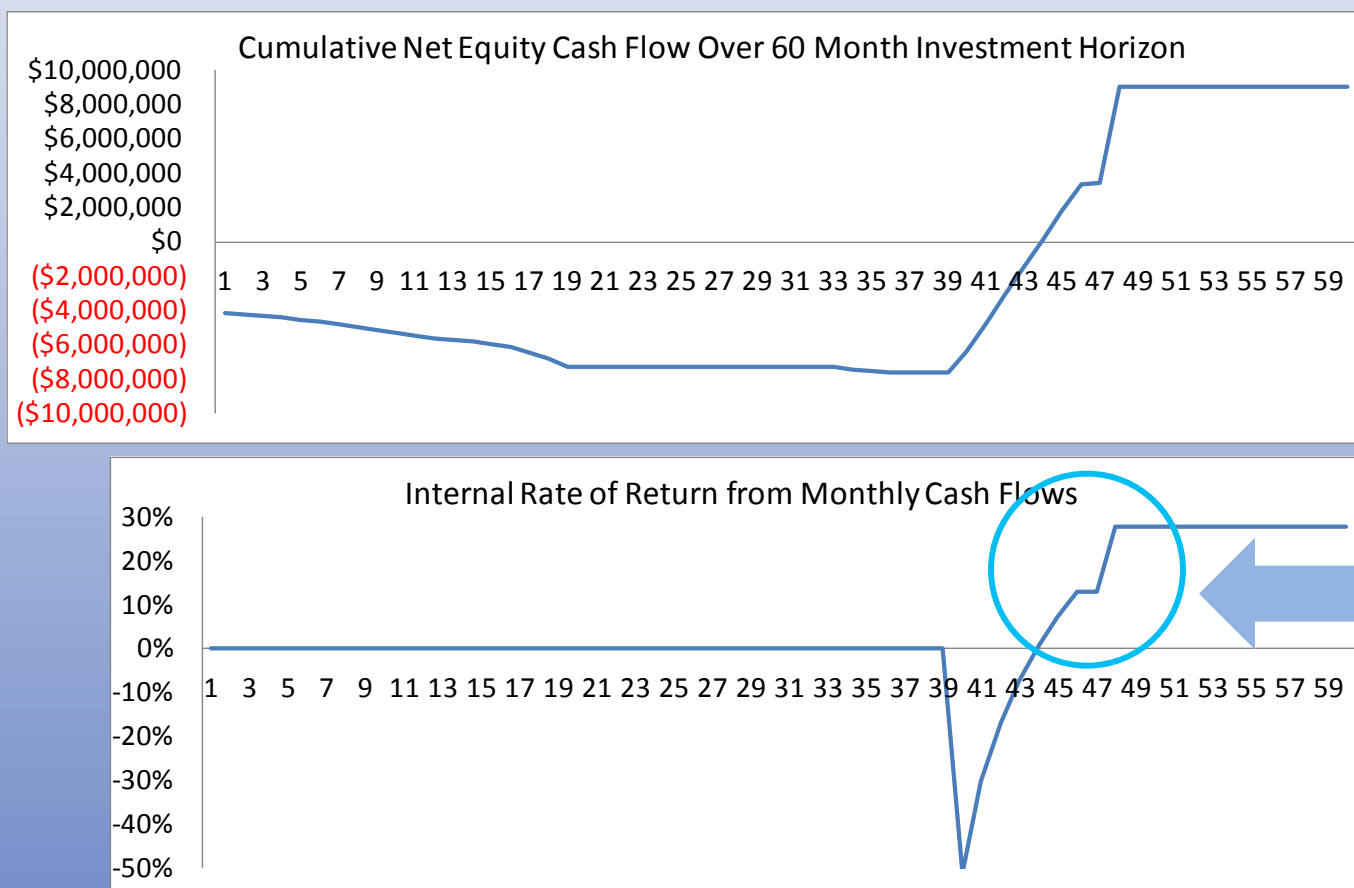
Cumulative IRR	#NUM!	<b>18.32%</b>
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We must understand that the IRR is a cumulative measurement, meaning the transaction's achievement of an 18.32% IRR signifies that the transaction also achieved all Internal Rates of Return less than 18.32%.

# Example of IRRs Achieved By A Transaction

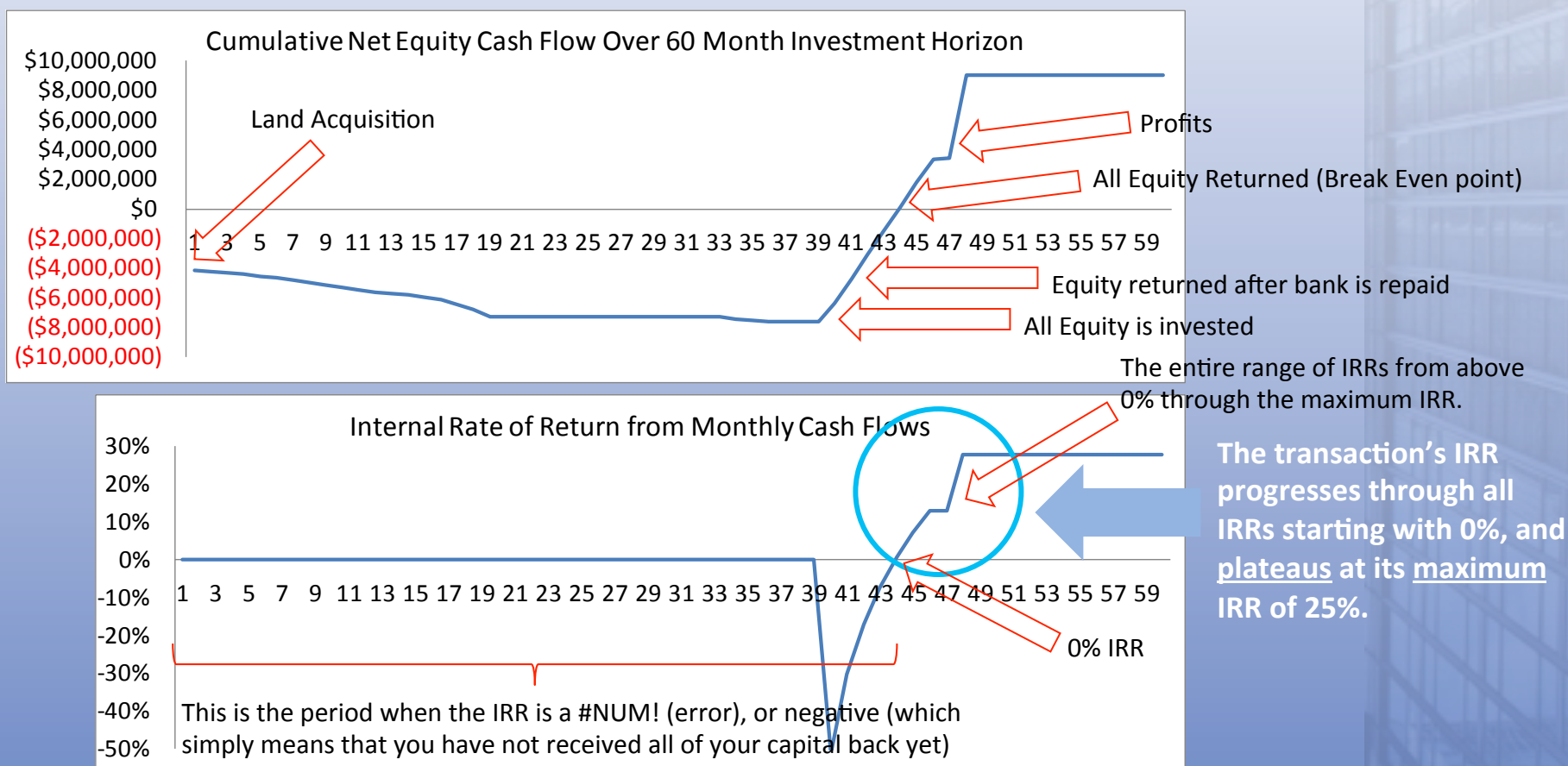
- 60-month condominium transaction with IRR of 25%



The transaction's IRR progresses through all IRRs starting with 0%, and plateaus at its maximum IRR of 25%.

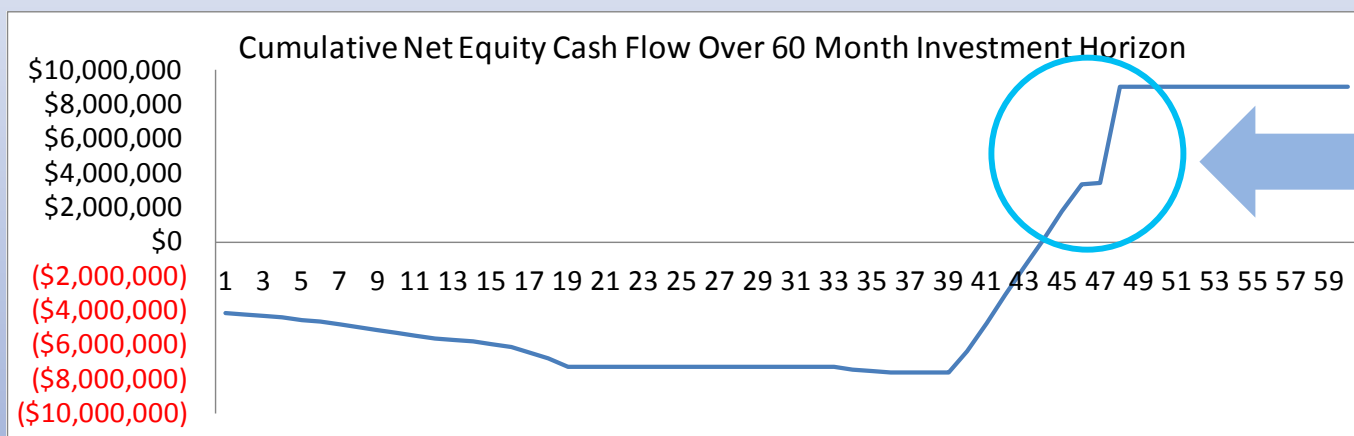
# Example of IRRs Achieved By A Transaction

- 60-month condominium transaction with IRR of 25%

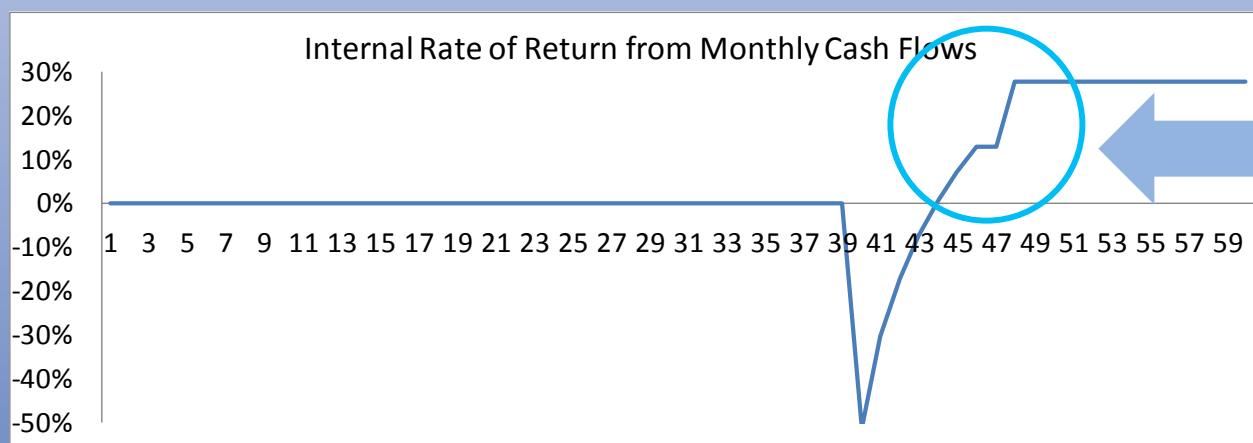


# Example of IRR Achieved By A Transaction

- 60-month condominium transaction with IRR of 25%



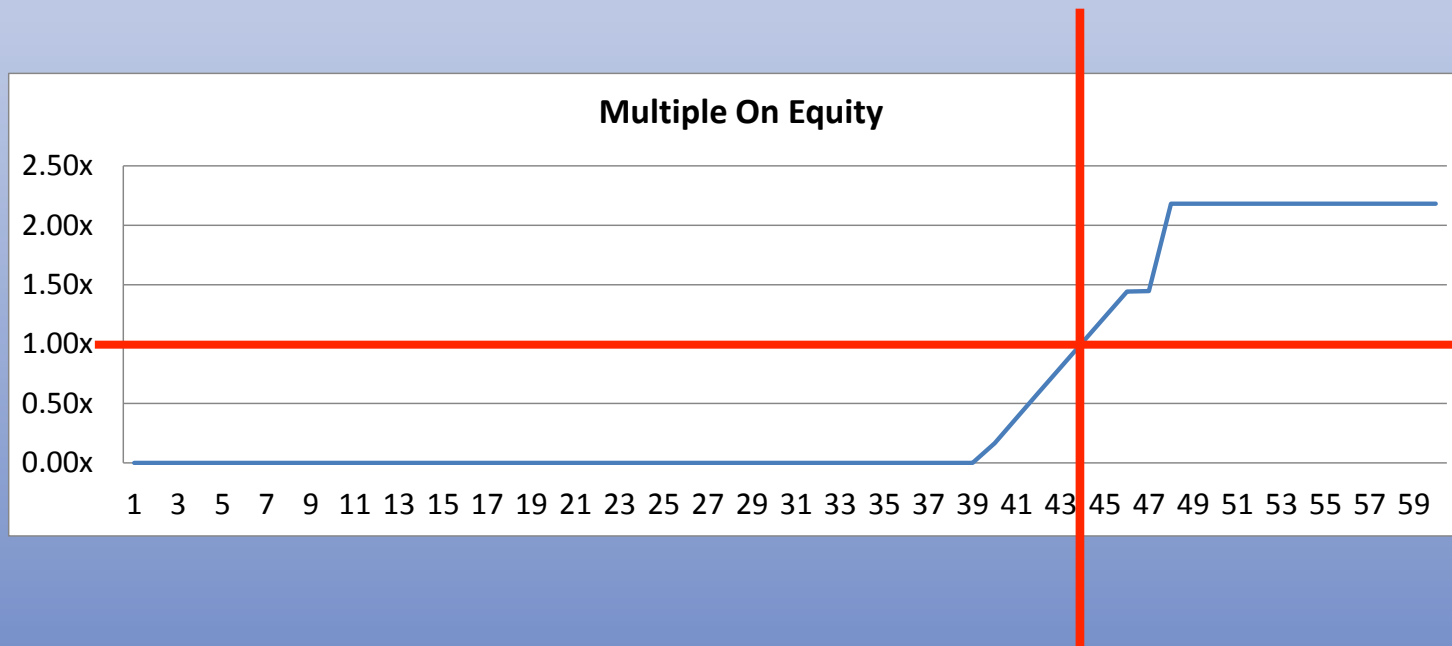
Every incremental dollar of cash flow causes the IRR to become greater.



The transaction's IRR progresses through all IRRs starting with 0%, and plateaus at its maximum IRR of 25%.

# Example of IRR Achieved By A Transaction

- ▶ The Break Even point (Month 44, the point at which the IRR is 0%) is the point at which the Multiple on Invested Equity becomes 1.0x
  - This means that you have received 1.0x your Invested Equity back as of Month 44



# Isolating Base and Incremental Dollar Amounts With IRR

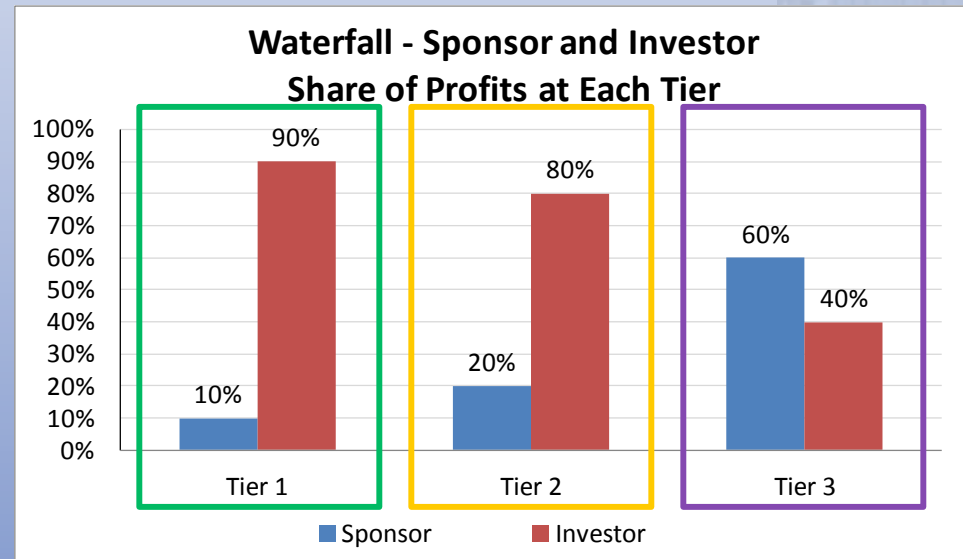
Time 0	Year 1	Year 2
(\$100)	\$0	\$140



**As a whole**, the \$140 drives the IRR to be 18.32%...

Cumulative IRR #NUM! **18.32%**

Internal Rate of Return Ranges/Hurdle				
Tier 1	From	0%	through	10%
Tier 2	Above	10%	through	15%
Tier 3		Above		15%





# Isolating Base and Incremental Dollar Amounts With IRR

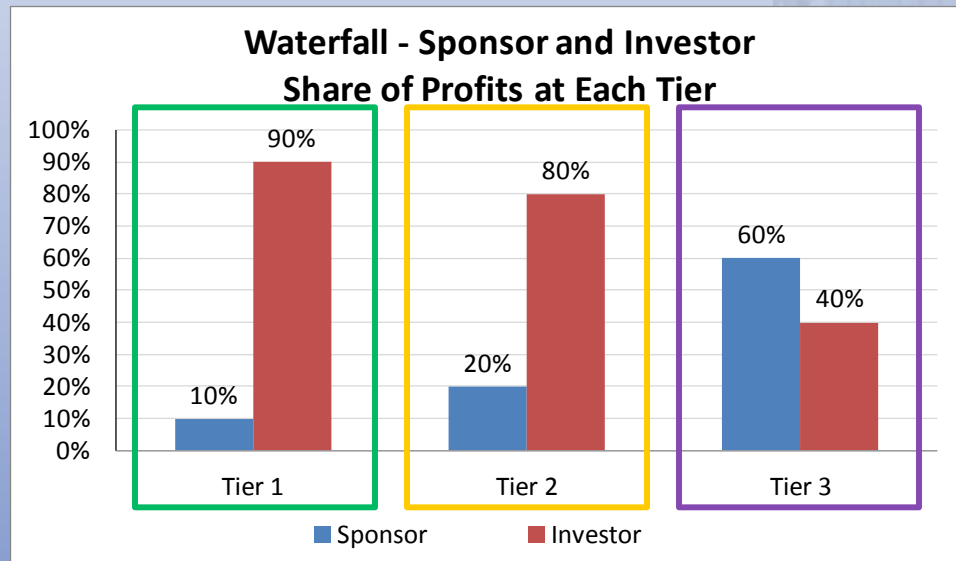
Time 0	Year 1	Year 2
(\$100)	\$0	\$140



Cumulative IRR    #NUM!    **18.32%**

...but **discrete portions** of the \$140 are attributed to each of Tiers **1**, **2** and **3**.

Internal Rate of Return				
Ranges/Hurdle				
Tier 1	From	0%	through	10%
Tier 2	Above	10%	through	15%
Tier 3		Above		15%



# Isolating Base and Incremental Dollar Amounts With IRR

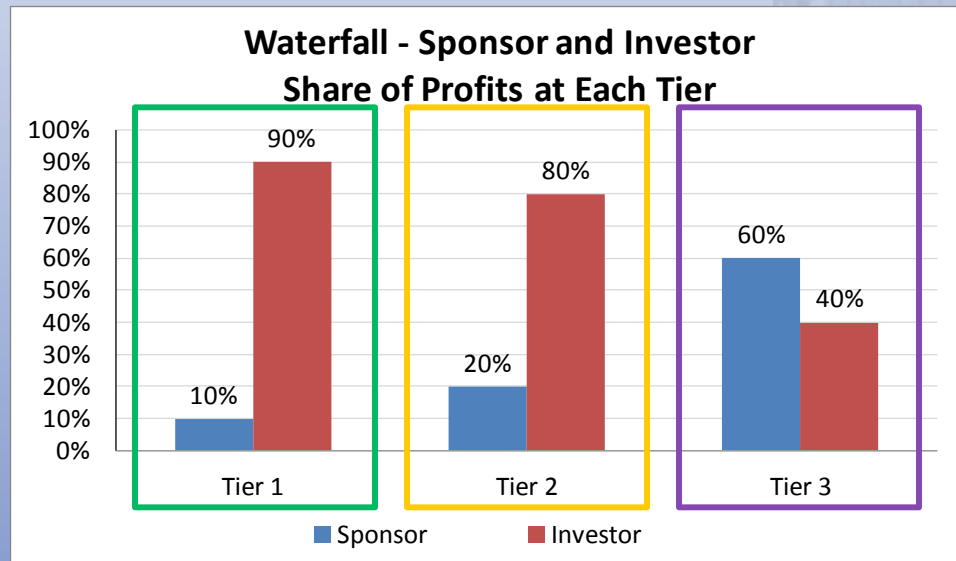
Time 0	Year 1	Year 2
(\$100)	\$0	\$140



Cumulative IRR    #NUM!    **18.32%**

The task is to **tease out** the discrete portions of the total \$140 that “belong” to the range of IRR performance unique to each of Tiers **1**, **2** and **3**...

Internal Rate of Return Ranges/Hurdle				
<b>Tier 1</b>	From	0%	through	<b>10%</b>
<b>Tier 2</b>	Above	10%	through	<b>15%</b>
<b>Tier 3</b>		Above		<b>15%</b>



# Isolating Base and Incremental Dollar Amounts With IRR

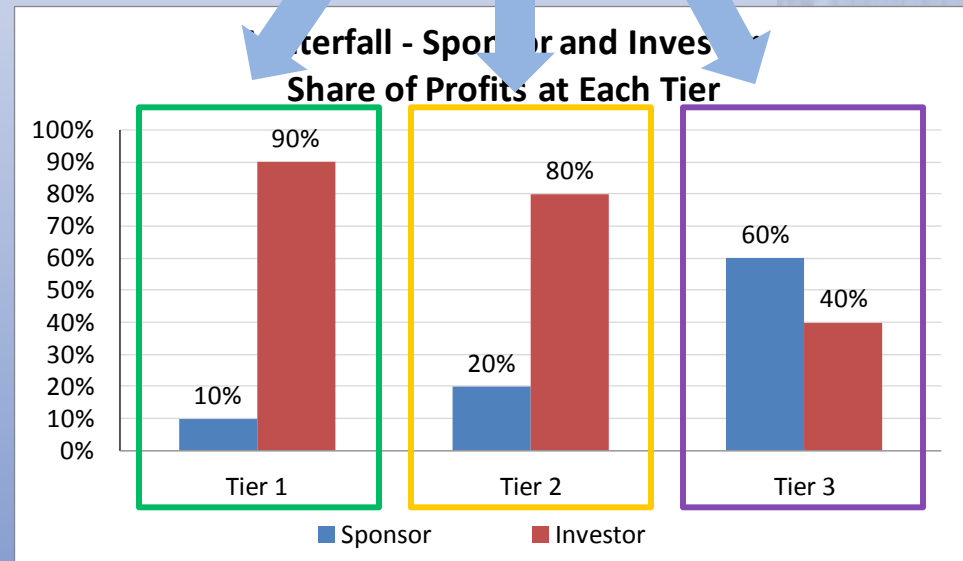
Time 0	Year 1	Year 2
(\$100)	\$0	\$140



Cumulative IRR    #NUM!    **18.32%**

...so we can split the dollars associated with each Tier in the proportions dictated in the waterfall description in the partnership documents.

Internal Rate of Return				
Ranges/Hurdle				
Tier 1	From	0%	through	10%
Tier 2	Above	10%	through	15%
Tier 3	Above			15%



# Look-Back Mechanism

- The Look-Back Mechanism allows us to tease out the base dollar amount to the first hurdle, and the incremental dollar amounts from each hurdle to the subsequent hurdle.

# Look-Back Mechanics Detailed

- If we calculate what cash flow dollar amounts would result in the IRR % specific to each Tier's hurdle rate, then we can tease out just the incremental cash flows that are attributed to each Tier by deducting the known dollar amounts from one another.

# Look-Back Mechanics Detailed

Tier 1 Target IRR		10.00%		
		Time 0	Year 1	
Investment		(\$100)		
Tier 1 Target IRR Cash Flow Required			\$10.00	
If Capital Were Returned In Year 1...			\$100.00	
...Net Cash Flow Would Be	\$10.00	(\$100)	\$110.00	
...And The IRR Would Be	10.00%			
Cumulative IRR >>		#NUM!	10.00%	
		Time 0	Year 1	Year 2
Investment		(\$100)		
Tier 1 Target IRR Cash Flow Required				\$21.00
If Capital Were Returned In Year 2...				\$100.00
...Net Cash Flow Would Be	\$21.00	(\$100)	\$0.00	\$121.00
...And The IRR Would Be	10.00%			
Cumulative IRR >>		#NUM!	#NUM!	10.00%

These are the **base dollar amounts** in each year unique to Tier 1 that would take the IRR from 0% through 10% IRR.

# Look-Back Mechanics Detailed

Tier 2 Target IRR		15.00%		
		Time 0	Year 1	
Investment		(\$100)		
Tier 2 Target IRR Cash Flow Required			\$15.00	
If Capital Were Returned In Year 1...			\$100.00	
...Net Cash Flow Would Be	\$15.00	(\$100)	\$115.00	
...And The IRR Would Be	15.00%			
Cumulative IRR >>		#NUM!	15.00%	
		Time 0	Year 1	Year 2
Investment		(\$100)		
Tier 2 Target IRR Cash Flow Required				\$32.25
If Capital Were Returned In Year 2...				\$100.00
...Net Cash Flow Would Be	\$32.25	(\$100)	\$0.00	\$132.25
...And The IRR Would Be	15.00%			
Cumulative IRR >>		#NUM!	#NUM!	15.00%

These are the dollar amounts in each year that would take the IRR from a 0% through a 15% IRR.

**Note:** Contained within these dollar amounts are the base dollar amounts from the previous slide.



# Look-Back Mechanism Isolating Dollar Amounts

## Comparison of Tier 2 and Tier 1

		Year 1	Year 2
Tier 2 <u>Net</u> Cash Flow Required To Achieve Target Of:	15.00%	\$15.00	\$32.25
Tier 1 <u>Net</u> Cash Flow Required To Achieve Target Of:	10.00%	\$10.00	\$21.00

Assuming Tier 2 is reached, the Net Cash Flows Unique to Tier 2 Only Are...

If Capital Is Returned In Year 1:	If Capital Is Returned In Year 2:
\$5.00	\$11.25

...And All Of These Unique Dollars Will Be Split At The Tier 2 Proportions

If Tier 2 is not reached but Tier 1 is exceeded, the excess dollars will be split at the Tier 2 Proportions

# Animation / Go to Tab 5 in Excel

- ▶ Watch Animation

# What If There Are 3 Equity Players?

- Nomenclature for 2 equity players only

## **Principal = Sponsor**

Owner of the asset  
Developer of the asset  
The party that raises a fund

## **Investor/Third Party Investor**

Invests in the transaction  
Invests in the fund

# What If There Are 3 Equity Players?

- Nomenclature for 3 equity players

## **Principal/ Sponsor**

Owner  
/developer

## **Partner**

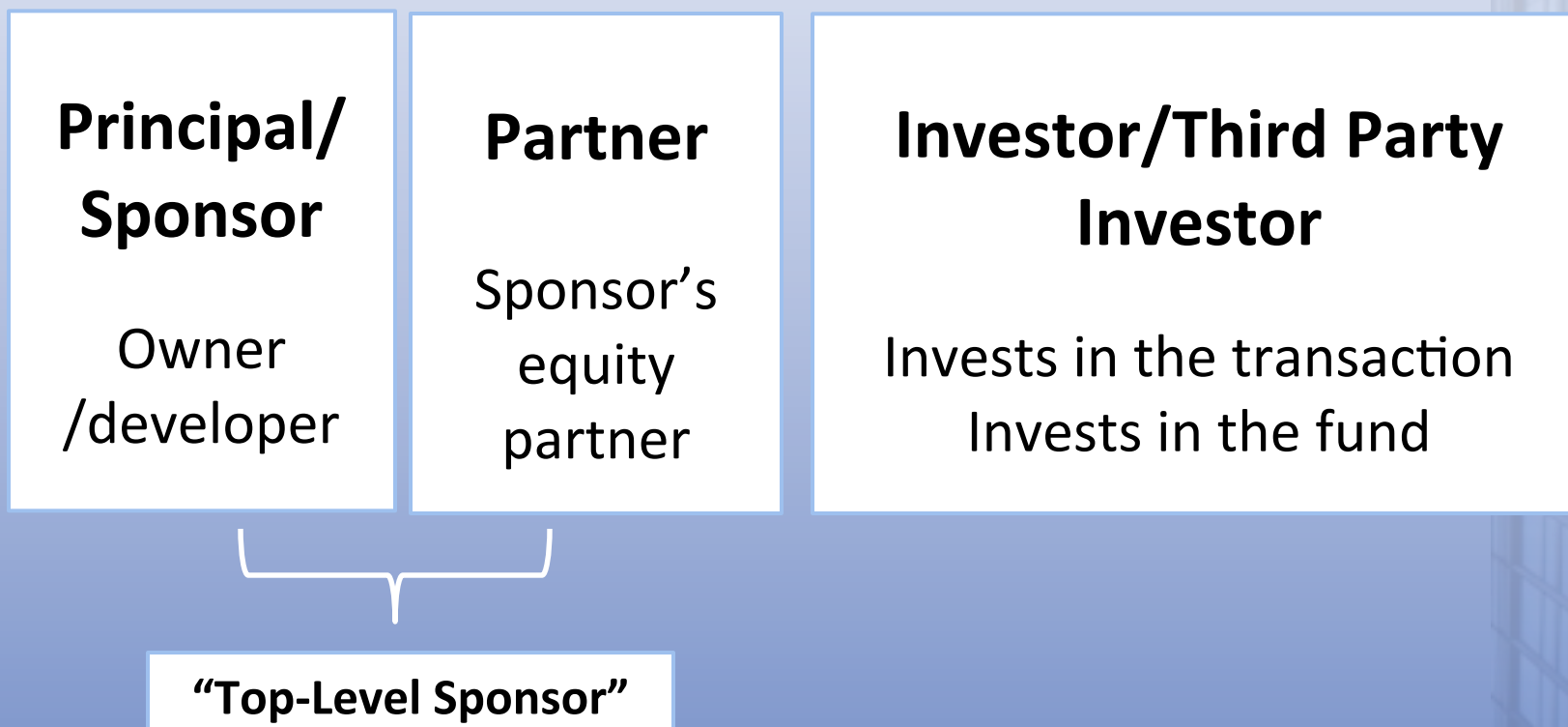
Sponsor's  
equity  
partner

## **Investor/Third Party Investor**

Invests in the transaction  
Invests in the fund

# What If There Are 3 Equity Players?

- Nomenclature for 3 equity players



# Top-Level Sponsor Example

- ▶ Local developer (principal/sponsor) and an entity of a Global insurance company (partner) team to pursue transactions in a particular geographic submarket

**Principal/  
Sponsor**

Owner  
/developer

**Partner**

Sponsor's  
equity  
partner

# Teaming Up With Third Party Capital

## Principal/ Sponsor

Owner  
/developer

## Partner

Sponsor's  
equity  
partner

## Investor/Third Party Investor

Invests in the transaction  
Invests in the fund

**"Top-Level Sponsor"**  
JV Entity

**First JV Partnership  
Formed**



# Teaming Up With Third Party Capital

## Top-Level Sponsor JV Entity

Comprised of both Sponsor  
and Partner

## Investor/Third Party Investor

Invests in the transaction  
Invests in the fund

**First JV Partnership  
Formed**

# Teaming Up With Third Party Capital

## Top-Level Sponsor JV Entity

Comprised of both Sponsor  
and Partner

## Investor/Third Party Investor

Invests in the transaction  
Invests in the fund

**Second JV Partnership  
Formed**

# How Equity Might Be Broken Out - \$20MM

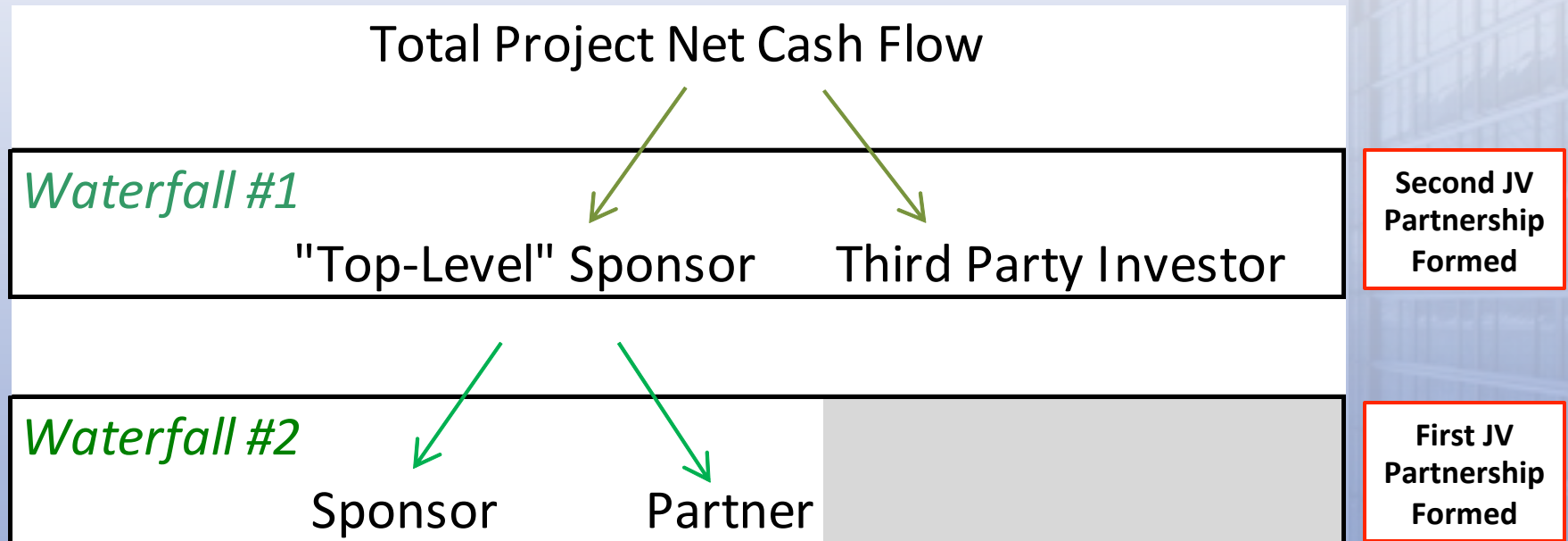
First JV  
Partnership  
Formed:  
90/10

Sponsor Equity	% Total Equity <b>1.00%</b>	Amount \$200,000
Partner Equity	<b>9.00%</b>	\$1,800,000
Third Party Investor Equity	<u><b>90.00%</b></u>	<u>\$18,000,000</u>
	100.00%	<b>\$20,000,000</b>

“Top-Level  
Sponsor”

Second JV  
Partnership  
Formed:  
90/10

# Double-Promote Structure for 3 Equity Players



# Transaction Waterfall Characteristics

- Tiers
  - Minimum of 2, no maximum (but 5 is likely the limit)
    - Tier 1 is sometimes the Preferred Return
- Promotes
  - At final tier, or
  - At intermediate tiers, or at all tiers
- Accruals
  - Measured monthly (IRR) or daily (XIRR) or quarterly (IRR)
- Accrual Distributions
  - Monthly, quarterly, semi-annually, annually

# Advanced Mechanism: Claw-back

- Benefits Investor/LP
  - Proceeds from a capital event would be distributed not according to a Waterfall but 100% to LP until a certain IRR is hit, with 0% to the GP. The clawback takes back previous GP distributions and/or original GP equity.
- More common when the Sponsor has no capital in the transaction but shares in cash flow after a nominal Pref and promote on a capital event.