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Distribution Waterfalls & Promote

European and American waterfalls, catch-up, clawback

Course Book

Five modules, one joint venture, one fund, every figure computed.

Educational material. Not investment advice. Prepared with AI assistance.

About this course

This course builds distribution waterfalls the way a fund controller, an asset manager or an LP analyst checks them: tier by tier, in Excel, with every number reconciled. Modules 1 to 3 work on one real estate joint venture, Harbor Point, Building B, the deal of the Real Estate Modeling course; modules 4 and 5 move to a small fund of three deals, Calder Ridge Value-Add Fund I, to compare a European and an American waterfall and settle the clawback. It is written for analysts and associates in real estate and private equity, fund accountants and controllers, investor relations and LP teams, and anyone who has to read a promote clause and say what it pays.

Module	What you compute
1. Return of capital and the preferred return	What a distribution waterfall is, the order of the tiers, the hurdle account, and an 8% compounded preferred return on the Building B joint venture.
2. Catch-up and carried interest	The GP catch-up, full or partial, the promote that follows, and why a catch-up brings the GP back to its target share of the profit.
3. Promote tiers, IRR and multiple hurdles	Promote tiers set on IRR hurdles or on equity multiples, the GP commitment, and the IRR and multiple of each partner.
4. European and American waterfalls	Whole-fund against deal-by-deal carried interest on a three-deal fund: who is paid first, how much, and when.
5. Clawback, escrow and classic pitfalls	The clawback of an American waterfall, the escrow that secures it, simple against compounded pref, and the timing of distributions.

How to use this book

- Each module has objectives, a lesson, a worked example on the case, the pitfalls, a summary and three practice questions (answers at the end).
- Read the module, then open the Case Workbook at the module's sheet: every number in this book is a live formula there, and the Checks sheet reconciles them.
- Then build the module exercise in the Exercise Workbook (32 answers checked green or red) and take the module quiz in the Quiz App or your learner account.
- After module 5, take the final exam online: 40 questions, 60 minutes, 80% to pass. Video lessons are being added to the course at no extra cost.

Conventions

- Annual periods; every flow at the end of its year, year 0 being the closing. Hurdles compound annually.
- The GP co-invests like an LP and earns the promote on top. The pro rata distributions to all partners are called the pool.
- Deal figures in US$ thousands (k), fund figures in US$ millions (m). No management fees, expenses or taxes in the waterfalls.
- The Real Estate course's monthly flows are rounded here to four annual dates, so the IRRs differ slightly from that course.

MODULE 1

Return of capital and the preferred return

What a distribution waterfall is, the order of the tiers, the hurdle account, and an 8% compounded preferred return on the Building B joint venture.

Objectives

- Read the order of the tiers of a distribution waterfall.
- Build a hurdle account at a compounded preferred return.
- Split tier 1 between return of capital and preferred return.
- Explain why tier 1 pays the partners exactly the pref, as an IRR.

The lesson

A distribution waterfall is the set of rules, written in a joint venture agreement or a limited partnership agreement (LPA), that decides who receives each dollar of distributable cash, and in what order. Cash falls through the tiers like water through a series of pools: a tier must be full before anything reaches the next one. Most waterfalls have four tiers: return of capital, preferred return, catch-up, and a split in which the GP earns its promote or carried interest.

The running deal is Harbor Point, Building B, the speculative warehouse of the Real Estate Modeling course. Westlake Pension Plan (the LP) puts up 90% of the equity and Calder Ridge Partners (the GP) 10%. The equity is $11,850.0k at year 0 and $750.0k at year 1, $12,600.0k in all. The building distributes $1,000.0k of lease-up cash in year 2 and $20,200.0k when it is sold in year 3. Before any promote, the deal returns 19.70% a year, a multiple of 1.68x and a profit of $8,600.0k.

The tool that makes any IRR hurdle easy is the **hurdle account**. It starts at zero. Each year it grows at the pref rate, rises with the contributions and falls with the tier 1 distributions. While it is positive, every dollar goes to the partners pro rata; the day it reaches zero, the partners have earned exactly the pref as an IRR and tier 1 is closed. Because the balance compounds, unpaid pref earns pref: this is a compounded pref, the market default for an IRR-based hurdle.

Hurdle account: $\text{opening}_t = \text{closing}_{t-1} \times (1 + \text{pref})$. $\text{Tier 1}_t = \text{MIN}(\text{cash}_t, \text{opening}_t + \text{contributions}_t)$. $\text{Closing}_t = \text{opening}_t + \text{contributions}_t - \text{tier 1}_t$.

Inside tier 1, the agreement usually says that distributions repay capital first and pay the pref second. With a compounded hurdle the order does not change the amount of tier 1, only its label, which matters for reporting and sometimes for tax. The GP's co-investment is capital like the LP's: it shares tier 1 pro rata. In this course the pro rata distributions to all partners are called the **pool**; the promote is paid on top of the pool.

Worked example: tier 1 of Building B

Step 1: year 0, the hurdle account takes the first contribution. Step 2: year 1, it grows by 8% and takes the second contribution. Step 3: year 2, it grows by 8% and the lease-up cash is deducted; no capital has been returned yet, so the whole distribution is return of capital. Step 4: year 3, it grows by 8% again and the sale pays it off.

US$ 000	Year 0	Year 1	Year 2	Year 3	Total
Equity contributed	11,850.0	750.0	0.0	0.0	12,600.0
Cash available	0.0	0.0	1,000.0	20,200.0	21,200.0
Hurdle account, opening	0.0	12,798.0	14,631.8	14,722.4	
Pref accrued	0.0	948.0	1,083.8	1,090.5	3,122.4
Tier 1 paid	0.0	0.0	1,000.0	14,722.4	15,722.4
Hurdle account, closing	11,850.0	13,548.0	13,631.8	0.0	
of which return of capital	0.0	0.0	1,000.0	11,600.0	12,600.0
of which preferred return	0.0	0.0	0.0	3,122.4	3,122.4

Tier 1 pays $15,722.4k: the $12,600.0k of capital and $3,122.4k of pref. What is left, $5,477.6k, is the profit above the pref that the next tiers will share. The LP receives $14,150.1k of tier 1 and the GP $1,572.2k on its co-investment. The Checks sheet of the Case Workbook verifies that the net present value at 8% of tier 1 less the contributions is zero: tier 1 is the pref, nothing more, nothing less.

Pitfalls

- Accruing a full year of pref on a contribution made at the year end (the year-1 contribution starts to accrue in year 2 in an annual model).
- Deducting a year-end distribution before growing the balance for that year: the order changes the hurdle.
- Treating the pref as a debt. If the deal does not earn it, nobody owes it.
- Leaving the GP co-investment out of tier 1, or giving it the promote twice.

Summary

- Tiers in order: return of capital, pref, catch-up, split. A tier fills before the next opens.
- The hurdle account compounds at the pref; tier 1 ends when it reaches zero. Building B: tier 1 of $15,722.4k, pref of $3,122.4k.
- Tier 1 is shared pro rata by the LP and the GP co-investment.

Practice questions

1. With a 10% pref instead of 8%, what is the hurdle account of Building B at the end of year 1?
2. Why is the year-2 distribution entirely return of capital?
3. How much profit is left after tier 1 at 8%?

Reading the clause

A typical drafting, paraphrased:

> *Distributable Cash shall be distributed: first, to the Members pro rata in proportion to their Capital Contributions until each Member has received an amount equal to its unreturned Capital Contributions plus a return of 8% per annum, compounded annually, thereon.*

Four words decide the model: **pro rata** (the GP co-investment shares the tier), **unreturned** (the pref runs on capital still out), **per annum compounded annually** (a compounded pref, so a hurdle account) and **thereon** (the pref attaches to each contribution from its own date). If the clause says cumulative but not compounded, read it as a simple pref and ask.

Build it in Excel

The key formulas of the sheet M1 Pref of the Case Workbook, as they are written there. Rebuild them in a blank sheet, then compare with the workbook: every value must match.

Line	Cell	Formula
Hurdle account, opening, year 3	M1 Pref!G7	=F11*(1+Inputs!$D$11)
Before distribution	M1 Pref!G9	=G7+G5
Tier 1 paid	M1 Pref!G10	=MIN(G6,G9)
Hurdle account, closing	M1 Pref!G11	=G9-G10
Return of capital	M1 Pref!G13	=MIN(G10,G12+G5)
Preferred return paid	M1 Pref!G15	=G10-G13
Deal IRR	M1 Pref!D19	=IRR(D18:G18)

Input cells used: Inputs!$D$11: preferred return, compounded annually.