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Hypothetical Liquidation at Book Value (HLBV) – Deep Dive Case Study

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HLBV – Basic Concepts



Hypothetical Liquidation at Book Value (HLBV) Method

- HLBV is a balance sheet-oriented approach to the equity method of accounting which provides a methodology for allocating pre-tax GAAP income or loss to an investor
- HLBV calculates the amount each partner would receive if the partnership were liquidated at book value at the end of each measurement period. The change in the allocated amount to each partner during the period is book income/loss allocated to that partner (adjusted for distributions and contributions)

Hypothetical Liquidation at Book Value (HLBV) Method *(cont.)*

- Generally, the HLBV Method is not considered appropriate where the conventional equity method can be applied
- Challenges to conventional application of equity method:
 - Investee's capital structure provides different rights and priorities to its owners or ownership percentages are not specified (or varies over the life of the investment)

Concept of HLBV Method

- Partnership assumes liquidation of assets at **book value**
- Determine how much to allocate to each partner
- The change in the allocated amount to each partner during the period is book income/loss allocated to that partner (adjusted for distributions and contributions)

HLBV – Modeling Concepts



Modeling HLBV Method

- In order to determine the amount allocated to each partner, an analysis of the partners' capital accounts (as adjusted per the liquidation provisions of the partnership agreement) must be performed
 - Note that the mechanics of HLBV involves a complex combination of GAAP and tax concepts
- Calculate income tax provision in order to determine after-tax net income from investment

Note: The following discussion of HLBV modeling concepts assumes that HLBV is being calculated in the context of a traditional partnership flip structure. Tax and accounting issues related to the partnership flip structure are covered separately in other sessions.

Modeling HLBV Method – Common Liquidation Waterfall

- Distribute proceeds from the realization of the net assets upon dissolution of the partnership (project entity) to:
 - Partners with deficit capital accounts to bring capital accounts to zero
 - Sponsor: distribute amounts up to original capital contribution
 - Tax equity investor: distribute amounts until target IRR achieved
 - Flip point is determined on after-tax basis and post-tax amounts needed to achieve flip point need to be converted to pre-tax amounts
 - All remaining proceeds are distributed 95% to sponsor and 5% to tax equity investor

Modeling HLBV Method – Other Liquidation Waterfall Provisions

- Allocate gain / (loss) to Tax Equity up to their 'GAAP Exposure'
- Allocate gain / (loss) related to items of OCI (i.e., effective cash flow hedges) [95.00%] to Sponsor
- Allocate gain to achieve higher IRR than Flip Rate (in effect, a liquidation 'penalty')
- Allocate gain / (loss) to achieve target capital account balances / ratios
- Fixed-date flip – no allocation to tax equity to achieve Target IRR

HLBV Method – Calculation

1. Calculate partnership's pre-tax GAAP income
 - Determine partnership's GAAP capital account
2. Calculate partnership's taxable income
 - Determine partnership's 704(b) capital account
 - Allocate taxable income, cash distributions and capital contributions to partners in accordance with partnership agreement to determine each partner's 704(b) capital account
3. Compute tax gain on hypothetical liquidation of partnership
4. Allocate tax gain in accordance with liquidation provisions in partnership agreement
 - Allocate gain to partners with negative 704(b) capital account
 - Allocate gain to tax equity investor until its target IRR is achieved
 - Allocate remaining gain in accordance with tax allocations

HLBV Method – Calculation

5. Calculate adjusted 704(b) capital accounts (i.e., 704(b) capital account plus allocations of hypothetical tax gain from liquidation waterfall)
 - Partner's claim on partnership book value
6. Determine change in each partner's claim on partnership book value during the period (adjusted for contributions and distributions)

= ALLOCATION OF BOOK INCOME UNDER HLBV

HLBV Example



HLBV Example – Step 1

	Year 1	Year 2	Year 3	Year 4	Year 5
Pre-Tax GAAP Income	1,000,000	1,250,000	1,500,000	2,000,000	2,500,000
<u>GAAP Capital Account - Partnership</u>					
Beginning Balance	-	249,250,000	245,500,000	244,000,000	244,250,000
(+) Net Income / (Loss)	1,000,000	1,250,000	1,500,000	2,000,000	2,500,000
(-) Cash Distributions	(1,750,000)	(5,000,000)	(3,000,000)	(1,750,000)	(4,000,000)
(+) Capital Contributions	250,000,000				
Ending Balance	249,250,000	245,500,000	244,000,000	244,250,000	242,750,000

HLBV Example – Step 2

	Year 1	Year 2	Year 3	Year 4	Year 5
Taxable Income	(5,800,000)	(17,300,000)	(19,300,000)	(21,000,000)	(18,500,000)
704(b) Capital Account - Partnership					
Beginning Balance	-	242,450,000	220,150,000	197,850,000	175,100,000
(+) Net Taxable Income / (Loss)	(5,800,000)	(17,300,000)	(19,300,000)	(21,000,000)	(18,500,000)
(-) Cash Distributions	(1,750,000)	(5,000,000)	(3,000,000)	(1,750,000)	(4,000,000)
(+) Capital Contributions	250,000,000				
Ending Balance	242,450,000	220,150,000	197,850,000	175,100,000	152,600,000

HLBV Example – Step 2 (cont.)

	Year 1	Year 2	Year 3	Year 4	Year 5
<u>704(b) Capital Account - Tax Equity</u>					
Beginning Balance	-	143,645,500	124,768,500	104,611,500	83,209,000
(+) Net Taxable Income / (Loss)	(5,742,000)	(17,127,000)	(19,107,000)	(20,790,000)	(18,315,000)
(-) Cash Distributions	(612,500)	(1,750,000)	(1,050,000)	(612,500)	(1,400,000)
(+) Capital Contributions	150,000,000				
Ending Balance	143,645,500	124,768,500	104,611,500	83,209,000	63,494,000
	Year 1	Year 2	Year 3	Year 4	Year 5
<u>704(b) Capital Account - Sponsor</u>					
Beginning Balance	-	98,804,500	95,381,500	93,238,500	91,891,000
(+) Net Taxable Income / (Loss)	(58,000)	(173,000)	(193,000)	(210,000)	(185,000)
(-) Cash Distributions	(1,137,500)	(3,250,000)	(1,950,000)	(1,137,500)	(2,600,000)
(+) Capital Contributions	100,000,000				
Ending Balance	98,804,500	95,381,500	93,238,500	91,891,000	89,106,000

HLBV Example – Step 3

	Year 1	Year 2	Year 3	Year 4	Year 5
Calculate Tax Gain on Liquidation					
HLBV Proceeds (GAAP Capital Account)	249,250,000	245,500,000	244,000,000	244,250,000	242,750,000
Partnership Tax Basis	242,450,000	220,150,000	197,850,000	175,100,000	152,600,000
Gain / (Loss) on Liquidation	6,800,000	25,350,000	46,150,000	69,150,000	90,150,000

HLBV Example – Step 4

Step 4A – Allocate Gain to Restore Negative Capital Accounts

	Year 1	Year 2	Year 3	Year 4	Year 5
Gain Available to Allocate	6,800,000	25,350,000	46,150,000	69,150,000	90,150,000
Partners' Unadjusted 704(b) Capital Accounts					
Tax Equity	143,645,500	124,768,500	104,611,500	83,209,000	63,494,000
Sponsor Equity	98,804,500	95,381,500	93,238,500	91,891,000	89,106,000
Allocation of Gain to Restore Tax Equity					
Negative Capital Account	0	0	0	0	0
Allocation of Gain to Restore Sponsor					
Negative Capital Account	0	0	0	0	0
Partners' 704(b) Capital Accounts After Step 4A					
Tax Equity	143,645,500	124,768,500	104,611,500	83,209,000	63,494,000
Sponsor Equity	98,804,500	95,381,500	93,238,500	91,891,000	89,106,000
Gain Available to Allocate After Step 4A	6,800,000	25,350,000	46,150,000	69,150,000	90,150,000

HLBV Example – Step 4

Step 4B – Allocate Gain to Tax Equity Investor Until Target IRR Achieved

	Year 1	Year 2	Year 3	Year 4	Year 5
Gain Available to Allocate	6,800,000	25,350,000	46,150,000	69,150,000	90,150,000
Partners' 704(b) Capital Accounts After Step 4A					
Tax Equity	143,645,500	124,768,500	104,611,500	83,209,000	63,494,000
Sponsor Equity	98,804,500	95,381,500	93,238,500	91,891,000	89,106,000
Gain Allocation to Achieve Tax Equity IRR	-	5,800,000	23,900,000	46,300,000	61,800,000
Partners' 704(b) Capital Accounts After Step 4B					
Tax Equity	143,645,500	130,568,500	128,511,500	129,509,000	125,294,000
Sponsor Equity	98,804,500	95,381,500	93,238,500	91,891,000	89,106,000
Gain Available to Allocate After Step 4B	6,800,000	19,550,000	22,250,000	22,850,000	28,350,000

HLBV Example – Step 4

Step 4C – Allocate Remaining Gain in Accordance with Tax Allocations

	Year 1	Year 2	Year 3	Year 4	Year 5
Gain Available to Allocate	6,800,000	19,550,000	22,250,000	22,850,000	28,350,000
Partners' 704(b) Capital Accounts After Step 4B					
Tax Equity	143,645,500	130,568,500	128,511,500	129,509,000	125,294,000
Sponsor Equity	98,804,500	95,381,500	93,238,500	91,891,000	89,106,000
Tax Equity - 5.00%	340,000	977,500	1,112,500	1,142,500	1,417,500
Sponsor - 95.00%	6,460,000	18,572,500	21,137,500	21,707,500	26,932,500
Partners' 704(b) Capital Accounts After Step 4C					
Tax Equity	143,985,500	131,546,000	129,624,000	130,651,500	126,711,500
Sponsor Equity	105,264,500	113,954,000	114,376,000	113,598,500	116,038,500
Gain Available to Allocate After Step 4C	-	-	-	-	-

HLBV Example – Steps 5 and 6

	Year 1	Year 2	Year 3	Year 4	Year 5
HLBV Book Income - Tax Equity					
Claim on Partnership Book Value - Beginning	-	143,985,500	131,546,000	129,624,000	130,651,500
Claim on Partnership Book Value - Ending	143,985,500	131,546,000	129,624,000	130,651,500	126,711,500
Change in Claim on Book Value	143,985,500	(12,439,500)	(1,922,000)	1,027,500	(3,940,000)
(+) Cash Distributions	612,500	1,750,000	1,050,000	612,500	1,400,000
(-) Capital Contributions	(150,000,000)				
HLBV Book Income - Tax Equity	(5,402,000)	(10,689,500)	(872,000)	1,640,000	(2,540,000)
	Year 1	Year 2	Year 3	Year 4	Year 5
HLBV Book Income - Sponsor					
Claim on Partnership Book Value - Beginning	-	105,264,500	113,954,000	114,376,000	113,598,500
Claim on Partnership Book Value - Ending	105,264,500	113,954,000	114,376,000	113,598,500	116,038,500
Change in Claim on Book Value	105,264,500	8,689,500	422,000	(777,500)	2,440,000
(+) Cash Distributions	1,137,500	3,250,000	1,950,000	1,137,500	2,600,000
(-) Capital Contributions	(100,000,000)				
HLBV Book Income - Sponsor	6,402,000	11,939,500	2,372,000	360,000	5,040,000

For Discussion Purposes Only

- The example discussed in this presentation are intended to facilitate a discussion related to selected accounting and tax concepts relevant to HLBV modeling. The examples are not intended to illustrate a partnership (or a project entity) that complies or does not comply with the accounting and tax rules. Please consult your accounting and tax advisors when modeling the concepts discussed throughout the deck. The rules are very complex and each set of facts and circumstances are unique.





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