



Asset-Liability Management

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Today's Learning Conversations

- Understanding Asset-Liability Management
- Recognizing the importance of Weighted Average Interest (WAI) and Weighted Average Maturity (WAM)
- Learning how to implement effective Asset-Liability management and monitoring tools



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What is Asset Liability Management?

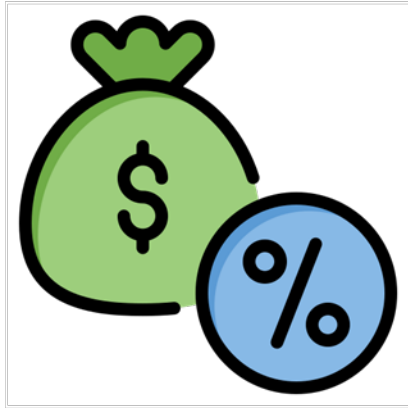
- Asset-liability management (ALM) is the process whereby a financial institution's total assets and liabilities are controlled and managed simultaneously in an integrated fashion.
- Addresses the protection of both income and capital from interest rate risk.
- Interest rate risk management aims to maintain interest rate risk exposures within acceptable levels.



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What are some tools used in Asset-Liability Management?



Weighted Average
Interest



Weighted Average
Maturity



Principal and Interest
Cash Flow



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Weighted Average Interest Rate



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What is Weighted Average Interest?

- Weighted average interest rate (WAI) is an average adjusted to reflect the contribution of each loan to the total debt.
- Multiplies each loan's interest rate by the loan balance and divides the sum by the total loan balance.
- Each loan's interest rate contributes to the weighted average in proportion to the loan's percentage of the total debt.



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How is WAI used in Asset-Liability Management?

- The difference in WAI between loans and investments will indicate any **potential gaps** in interest being charged for loans made to clients and investments used to make these loans.



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WAI Example – Loans Receivable

<u>Loan Number</u>	<u>Loan Balance</u>	<u>Interest Rate</u>	<u>Annual Interest</u>
19-0118	60,000	5.00%	3,000
20-0121	50,000	8.00%	4,000
20-0122	40,000	10.00%	4,000
20-0129	5,000	15.00%	750
20-0130	<u>80,000</u>	3.00%	<u>2,400</u>
Total Principal Balance	\$235,000	Total Annual Interest	\$14,150
	Average Interest Rate	8.20%	
	Weighted Average Interest Rate	6.02%	



Activity - Calculating WAI for Notes Payable

<u>Loan Number</u>	<u>Loan Balance</u>	<u>Interest Rate</u>	<u>Annual Interest</u>
N15-001	90,000	3.00%	
N19-001	10,000	4.00%	
N19-002	80,000	2.00%	
N19-012	25,000	4.00%	
N19-013	20,000	5.00%	
Total Principal Balance		Total Annual Interest	
	Average Interest Rate		
	Weighted Average Interest Rate		
	Spread between LR (6.02%) & Calculated NP		



Answers - Calculating WAI for Notes Payable

<u>Loan Number</u>	<u>Loan Balance</u>	<u>Interest Rate</u>	<u>Annual Interest</u>
N15-001	90,000	3.00%	2,700
N19-001	10,000	4.00%	400
N19-002	80,000	2.00%	1,600
N19-012	25,000	4.00%	1,000
N19-013	20,000	5.00%	1,000
Total Principal Balance	\$225,000	Total Annual Interest	\$6,700
Average Interest Rate		3.60%	
Weighted Average Interest Rate		2.98%	
Spread between LR (6.02%) & Calculated NP		3.04%	



Weighted Average Maturity



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What is Weighted Average Maturity?

- Weighted average maturity (WAM) is the weighted average amount of time until the loans made to borrowers and investments received for lending capital mature.
- Each loan's maturity date contributes to the weighted average in proportion to the loan's percentage of the total debt.
- Calculated by determining the weight of each maturity in the average, multiplying this calculated weight by the loan or investment maturity, and summing the weighted maturities.

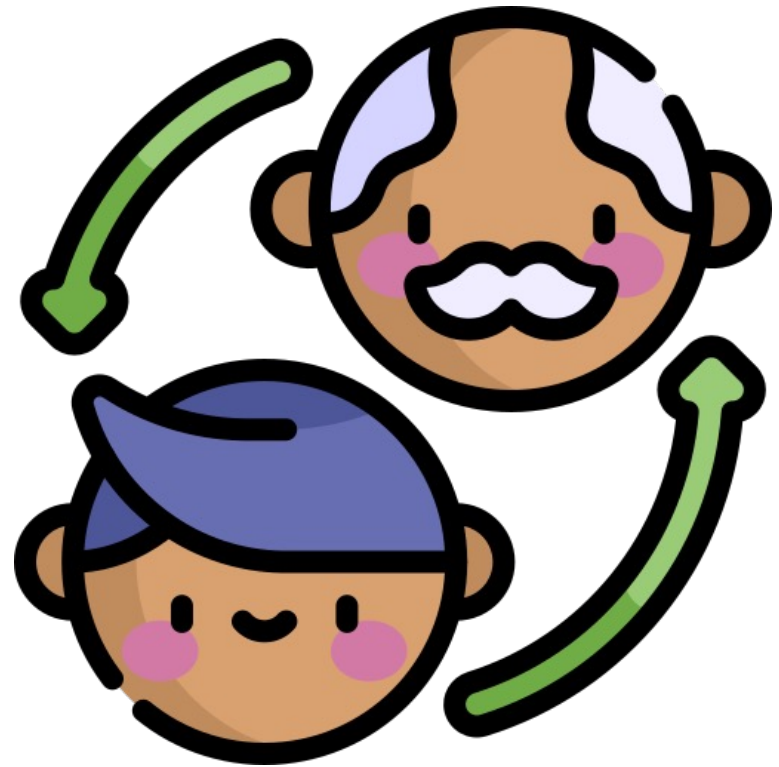


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How is WAM used in Asset-Liability Management?

- The difference in WAM between loans and investments will indicate any potential gaps in the maturity date for loans made to clients and investments used to make these loans.



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WAM Example – Loans Receivable

<u>Loan Number</u>	<u>Loan Balance</u>	<u>Weight (%) of Portfolio</u>	<u>Origination Date</u>	<u>Maturity Date</u>	<u>Months to Maturity</u>	<u>Weighted Maturity</u>
20-0121	100,000	10%	8/1/22	8/1/29	84	8.4
20-0122	300,000	30%	9/1/22	9/1/24	24	7.2
20-0123	400,000	40%	10/1/22	10/1/25	36	14.4
20-0127	50,000	5%	11/1/22	11/1/27	60	3.0
20-0129	150,000	15%	12/1/22	12/1/23	12	1.8
Total Balance	\$1,000,000	100%				
					Average Maturity in Months	43.0
					Weighted Average Maturity in Months	34.8



Answers - Calculating WAM for Notes Payable

<u>Loan Number</u>	<u>Loan Balance</u>	<u>Weight (%) of Portfolio</u>	<u>Origination Date</u>	<u>Maturity Date</u>	<u>Months to Maturity</u>	<u>Weighted Maturity</u>
N19-001	100,000	10%	4/1/23	4/1/25	24	2.4
N19-002	500,000	50%	3/1/23	3/1/27	48	24.0
N19-007	50,000	5%	5/1/23	5/1/29	72	3.6
N19-008	50,000	5%	6/1/22	6/1/27	60	3.0
N19-011	300,000	30%	1/1/23	1/1/28	60	18.0
Total Balance	\$1,000,000	100%				
Average Maturity in Months				52.8		
Weighted Average Maturity in Months				51.0		
Spread between LR (34.8 months) & Calculated NP				-16.2		



Principal & Interest Cash Flow



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What is Principal & Interest Cash Flow?

- Compares interest earned per year on loans made to borrowers to the interest paid on funds per year received from investors.
- Compares principal payments received per year from borrowers to those paid per year to investors.

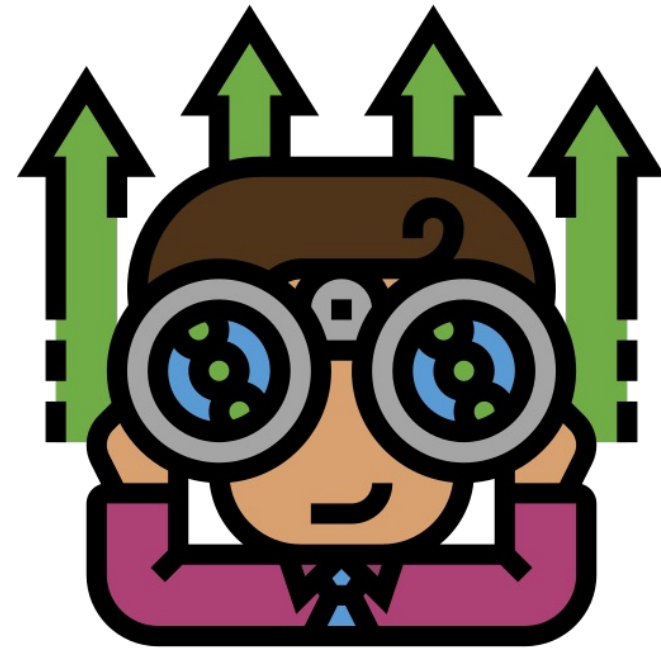


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How is Principal & Interest Cash Flow used in Asset-Liability Management?

- Reveals gaps in cash flow for both principal and interest years in advance



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Cash Flow Comparison Table

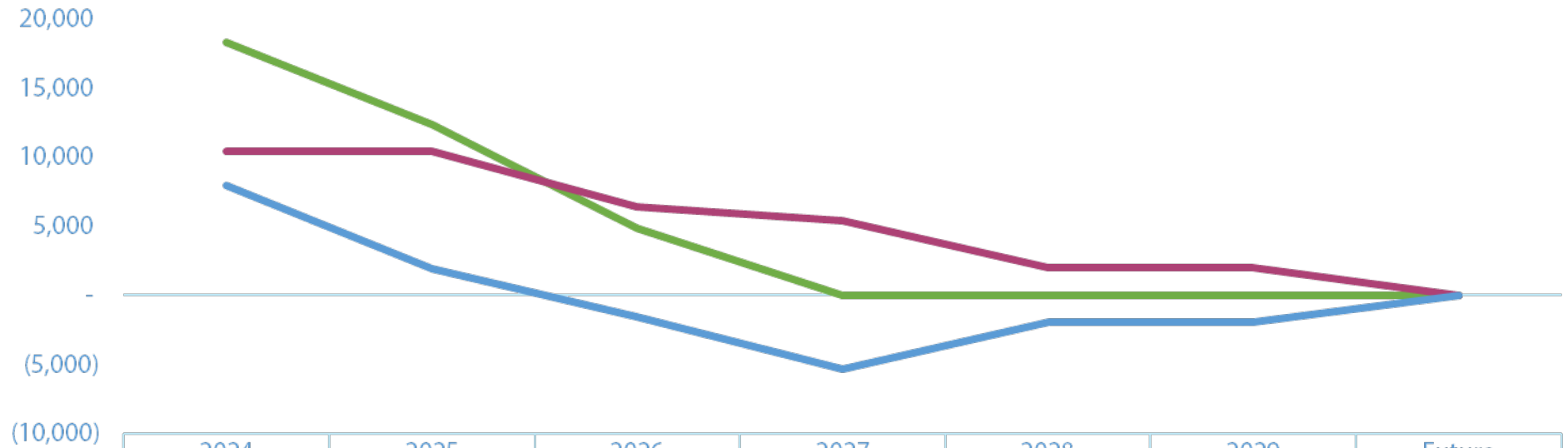
	<u>12/31/24</u>	<u>12/31/25</u>	<u>12/31/26</u>	<u>12/31/27</u>	<u>12/31/28</u>	<u>12/31/29</u>
Loans Receivable Interest	18,300	12,300	4,800	-	-	-
Notes Payable Interest	<u>10,400</u>	<u>10,400</u>	<u>6,400</u>	<u>5,400</u>	<u>2,000</u>	<u>2,000</u>
Net (Receivable – Payable)	7,900	1,900	(1,600)	(5,400)	(2,000)	(2,000)
	<u>12/31/24</u>	<u>12/31/25</u>	<u>12/31/26</u>	<u>12/31/27</u>	<u>12/31/28</u>	<u>12/31/29</u>
Loans Receivable Principal	150,000	210,000	80,000	-	-	-
Notes Payable Principal	<u>-</u>	<u>100,000</u>	<u>50,000</u>	<u>180,000</u>	<u>-</u>	<u>100,000</u>
Net (Receivable – Payable)	150,000	110,000	30,000	(180,000)	-	(100,000)



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Interest Payment Cash Flow



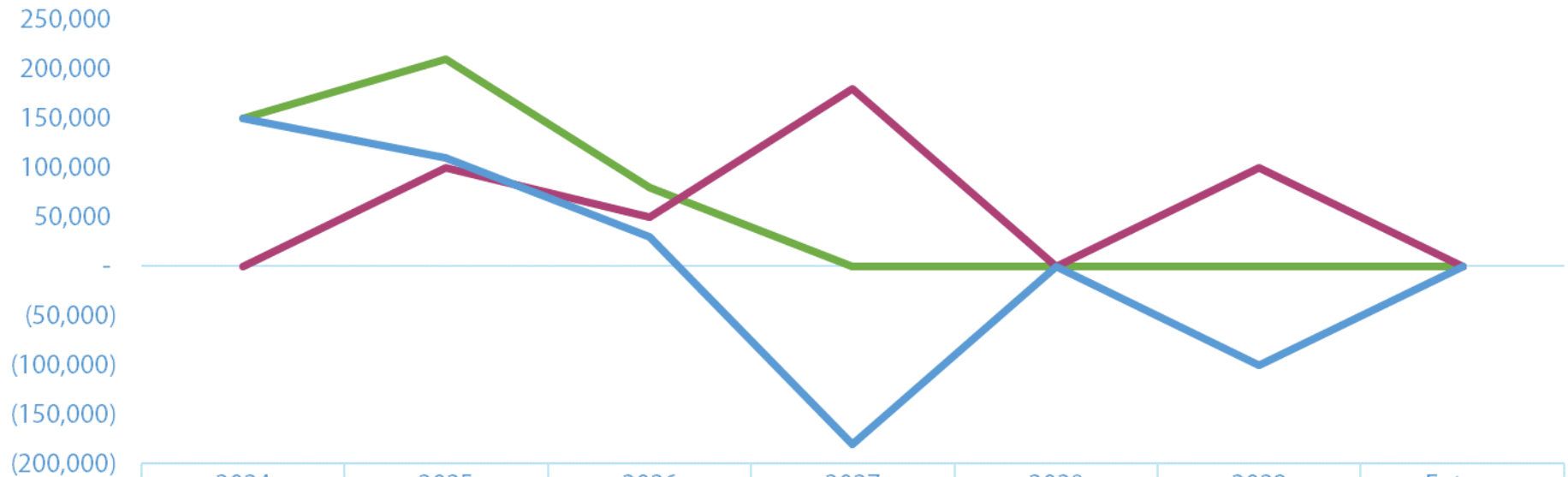
	2024	2025	2026	2027	2028	2029	Future
Loans Receivable (Incoming)	18,300	12,300	4,800	-	-	-	-
Notes Payable (Outgoing)	10,400	10,400	6,400	5,400	2,000	2,000	-
Net	7,900	1,900	(1,600)	(5,400)	(2,000)	(2,000)	-



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Principal Payment Cash Flow



	2024	2025	2026	2027	2028	2029	Future
Loans Receivable (Incoming)	150,000	210,000	80,000	-	-	-	-
Notes Payable (Outgoing)	-	100,000	50,000	180,000	-	100,000	-
Net	150,000	110,000	30,000	(180,000)	-	(100,000)	-



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Talking Circle – Storytelling

What are you currently doing for Asset and Liability Management?



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