BANKEONE®

Asset and Liability Management

2206 - Banking

2024/2025

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Our Team

BANK ONE.



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Bank One Corperation

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Headquarters: Columbus, Ohio, USA

Growth & Operating Strategy

- * Retail & mid-market customer focus
- ◆ "Uncommon Partnership" → decentralized people, centralized processes
- ✤ 76+ acquisitions since 1969
- Emphasis on non-dilutive M&A

Innovation & Risk Management

- First movers in interest rate swaps & AIRS
- Used swaps to control earnings sensitivity
- Synthetic investments for **liquidity & regulatory capital efficiency**

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Strong ALCO governance system



Bank One Corporation Overview

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- Founded: 1968
- Industry: Banking and Financial Services
- Structure: 78 banks, 10 non-banking organisations
- Assets: \$76.5 billion as of the early 1990s

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Bank One Corporation

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Nature of the problem faced by Bank One in November 1993

PROBLEM

WHY THIS MATTERS



	Limited GAAP disclosure rules and complex accounting made assessment difficult
HOW BANC ONE COULD RESPONSE	WAIT
	LIMIT OR ABANDON SWAPS
	DISCLOSE MORE INFORMATION
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Measurement of interest rate risk exposure at Bank One





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Interest rate risk management at Bank One

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Interest Rate Risk Management



Integrated ALM framework

- Combines interest rate positioning & balance sheet stability
- Reduces need for constant restructuring



Duration analysis to assess sensitivity

- Projects earnings and capital impact
- Aligns asset/liability duration to limit volatility



Maintains earnings stability across rate cycles manages risk proactively, not reactively

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Positioned for rising/stable interest rates Assumes long-term economic trends favor rate

Rationale for Asset-Sensitive Strategy



Floating-rate assets > liabilities

increases

- Assets reprice quickly → higher income in rate hikes
- Liability costs increase slowly → stable funding



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Strategic upside exposure

Controlled risk with potential for increased net income

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Derivatives as part of interest rate risk management

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Reasons for using derivatives

Hedging

Use of derivatives to reduce earnings sensitivity and align assets and liabilities.

Enhanced liquidity

Swaps maintain liquidity better than fixed-rate securities.

Basis risk management

Basis swaps mitigate mismatches between different floating-rate indices (e.g., LIBOR vs. Prime), reducing the risk of spread volatility.

Optimize regulatory capital requirements

Swaps were treated as off-balance sheet instruments, lowering regulatory capital requirements under Basel I rules.

Gain flexibility

Derivatives allow quick adjustments to market changes while maintaining strong metrics.

Possible alternatives for derivatives

Balancing assets

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By purchasing fixed-rate securities to offset fixed-rate liabilities, asset sensitivity is reduced while aligning maturity and interest rate profiles, mitigating the impact of interest rate fluctuations on earnings.

Adjustment of loan and deposit mix

By reducing floating-rate loans or increasing fixed-rate liabilities, the alignment helps synchronize repricing intervals between assets and liabilities, reducing exposure to interest rate volatility

Natural hedging

This method can be employed by matching assets and liabilities with similar maturities or interest rate indices. This minimizes mismatches without relying on derivatives.

Bank one uses derivatives for various reasons, mostly due to the flexibility for their application. However, there are alternatives available.

Which approach would be most suitable for Bank One?

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Derivatives - Scenario Analysis

		Twin A	Twin B (No
	Bank One	(Swaps on	investment
\$ in billions	(stylized)	BS)	activities)
E	Balance Sheet		
	Assets		
Floating-rate assets			
Variable-rate loans	\$33.8	\$33.8	\$33.8
Add. money market ass.	0	0	31.8
Fixed-rate Assets			
Fixed-rate loans	18.6	18.6	18.6
Fixed-rate investments	13.4	13.4	0
Additional Treasury sec.	0	18.4	0
Other assets	8.4	8.4	8.4
Total Assets	\$74.2	\$92.6	\$92.6
Liab	ilities and Equi	ty	
Floating-rate liabilities			
Total deposits	28.1	46.5	46.5
Fixed-rate liabilities	26.1	26.1	26.1
Other liabilities	13.4	13.4	13.4
Total liabilities	67.6	86	86
Total shares	6.7	6.7	6.7
Total	\$74.2	\$92.6	\$92.6
Off-ba	alance-sheet it	ems	
Swaps	\$18.4	\$0.0	\$0.0
Income	Statement (red	luced)	
Interest Income			
Total interest income	5.47	6.26	5.66
Interest expense from:			
Deposits	1.84	1.84	1.84
Add. wholesale deposits	0.00	0.57	0.57
Total interest expense	1.83	2.40	2.40
Income from Swaps	0.46	0.00	0.00
Netinterest	4.09	3.85	3.25
Non-interest expense	2.37	2.37	2.37
Taxes	0.59	0.50	0.30
Netincome	1.14	0.98	0.58

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Performance M	easures			
let interest margin	6.22%	4.58%	3.86%	Ear
let interest margin (excl. swaps)	5.52%	4.58%	3.86%	Cap
Return on assets	1.53%	1.06%	0.63%	Risl
Return on Equity	17.89%	15.42%	9.19%	Liqu
-1 capital	10.4%	10.5%	8.8%	Ear
arnings sensitivity	-3.30%	-3.30%	12.88%	

	Summary		
Earnings	High	Better	Low
Capital	High	Low	Low
Risk Capital	Good	High	Low
Liquidity	Good	Low	High
Earnings Sensitivity	Liability	Liability	Asset
	Sensitive	Sensitive	Sensitive



Derivatives offer advantages like higher liquidity, lower regulatory capital requirements, and flexibility to adjust interest rate exposure dynamically without reshuffling the asset portfolio. These benefits preserve key financial metrics like ROA and enable quick responses to market changes.

While alternatives like balancing assets or adjusting the loan-deposit mix can achieve similar results, they have drawbacks such as reduced liquidity, higher capital requirements.

Off-balance Swaps distort reported earnings and risk to some extend, due to their accounting treatment. However, they enhance the ability to manage interest rate exposure effectively. The use of off-balance sheet swaps stabilises financial performance while keeping the balance sheet lean and optimising liquidity.

Conclusion



Using derivatives remains the most efficient option for Bank One due to their flexibility, costeffectiveness, and ability to maintain liquidity. While alternative methods are viable, they lack the adaptability offered by derivatives.

Swaps reduce reported risk by stabilizing earnings and mitigating interest rate sensitivity, but perceived risk increases among investors due to concerns over transparency and complexity.

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Recap - Interest rate swaps

Definition

A financial contract where two parties exchange interest payment streams, typically swapping fixed-rate payments for floating-rate payments, based on a notional principal amount

Applications

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 - **Hedging:** Converting variable-rate debt to fixed-rate to mitigate interest rate volatility
 - Speculation: Profiting from anticipated changes in interest rates without
 holding underlying assets
 - **Arbitrage:** Exploiting differences between interest rate environments for financial gain

Structure

Notional Principal	The hypothetical amount upon which interest payments are calculated; this principal is not exchanged
Fixed Leg	Payments based on a predetermined fixed interest rate
Floating Leg	Payments based on a variable interest rate , often tied to benchmarks like SOFR or EURIBOR
Payment Frequency	Intervals at which payments are exchanged, such as quarterly or semi-annually
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Types Bank One uses:

- Fixed-for-Floating Swap (AIRS)
- Floating-for-Floating Swap (Basis Swap)

Swap Transaction

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Amortizing Interest Rate Swaps (AIRS)

Definition

Underlying Asset	 Mortgage-backed securities (MBS) Collateralized mortgage obligations (CMOs)
Purpose	 Replicate cashflows of MBS/CMOs Notional amount decreases over time based on prepayment rates

Implications for Bank One



Manage portfolios with **prepayment-sensitive assets**, such as mortgage loans

Structure



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Align its swap cash flows with the **amortization schedule** of its underlying loans, improving **hedging accuracy**



Benefit from **higher effective yields** than comparable fixed-rate investments (like CMOs) or plain vanilla swaps

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Basis swap

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Definition

Underlying Asset	 Refers to the specific indices used for each leg of the swap (like LIBOR, EURIBOR or Prime) No traditional assets like bonds or loans
Purpose	• Pay a floating rate tied to one index (e.g., Prime) and receive a floating rate tied to another index (e.g., LIBOR)

Structure



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Implications for Bank One



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The risks associated with using derivatives





Although Bank One uses derivatives to reduce its risk (to interest rate changes), other risks associated with the usage of derivatives occur and could potentially threaten Bank One's business in volatile market conditions.

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Creation vs. Destruction of value in the case of Bank One

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Value Creation

- Adjustment of interest rate sensitivity without restructuring of BS.
- Decrease in interest rate exposure without heavily decreasing liquidity, supporting Bank One's acquisition strategy.
- AIRS allows to maintain stable earnings amidst volatile market conditions (NIM 6.2% vs. 3.9% without).
- Higher ROA (1.5% vs. 1.1%) and ROE (17.9% vs. 15.4%).



Value Destruction

- Market skepticism and investor concerns lowered stock price of Bank One.
- Complexity of swaps and offbalance-sheet accounting treatment are the main drivers for misperception.
- Swap portfolio overstated Bank One's reported margins by 1.3%.
- Tangible equity-to-asset ratio overstated by 1.6%.
- Derivatives used prudently or speculative?

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Recommendation

- Clarification regarding functionality of swaps as hedging tool rather than speculative instrument.
- Provision of sensitivity analyses that quantity their impact under various interest rate scenarios.
- Diversification of risk management approach by incorporating more BS adjustments.
- Improvement of communication and alignment with best practices in reporting.

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THANK YOU FOR LISTENING



References

BANKTONE

Bartoletti, S. (2012, April). *The missing piece in liquidity calculations*. Journal of Accountancy. https://www.journalofaccountancy.com/issues/2012/apr/20114183/

- Basel Committee on Banking Supervision. (2006). Part 2: The First Pillar Minimum Capital Requirements I. Calculation of minimum capital requirements. https://www.bis.org/publ/bcbs128b.pdf
- CFI Team. (2025). *Asset and Liability Management (ALM)*. Corporate Finance Institute. https://corporatefinanceinstitute.com/resources/management/asset-and-liability-management-alm/

Chen, J., & King, T.-H. D. (2014). Corporate hedging and the cost of debt. *Journal of Corporate Finance*, 29, 221–245. https://doi.org/10.1016/j.jcorpfin.2014.09.006

- Esty, B., Tufano P., & Headley J.S., (2008). Bank One Corporation: Asset and Liability Management. Harvard Business School Case Study No: 294-079.
- Ganti, A. (2022, September 29). Natural Hedge Definition. Investopedia. https://www.investopedia.com/terms/n/natural-hedge.asp Group of Thirty. (1993). Derivatives: Practice and Principles Global Derivatives Study Group. https://sushilparajuli.com/wpcontent/uploads/2024/02/Derivatives-practices-and-principles.-Group-of-Thirty-Global-Derivatives-Study-Group.-July-1993.pdf
- Kallur, V. (2016). Special issue papers Bank's asset and liability management: A chief risk officer's perspective. https://www.henrystewartpublications.com/sites/default/files/RMFI0051_KALLUR_9_4.pdf

References

BANKTONE

McPhail, L., Schnabl, P., & Tuckman, B. (2024). Do Banks Hedge Using Interest Rate Swaps? *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.4784341

PricewaterhouseCoopers. (2025). *Asset and Liability Management Modernization for Insurance*. PwC. https://www.pwc.com/us/en/industries/financial-services/library/alm-insurance-modernization.html

Pwc. (2017). In depth: Achieving hedge accounting in practice under IFRS 9. PWC.

https://www.pwc.com/hu/hu/szolgaltatasok/ifrs/ifrs_9/ifrs9_kiadvanyok/achieving_hedge_accounting_in_practice_under_ifrs9.pdf

Saunders A., & Cornett M.M. (2017). Financial Institutions Management A Risk Management Approach.

http://213.55.90.4/admin/home/Dmu%20Academic%20Resource/FBE/Accounting%20And%20Finace/2nd%20Year/Anthony%20Sa unders_%20Marcia%20Millon%20Cornett%20-

 $\% 20 Financial\% 20 Institutions\% 20 Management _\% 20 A\% 20 Risk\% 20 Management\% 20 Approach - McGraw-1000 Management\% 20 Approach - McGraw-10000$

Hill%20Education%20(2017).pdf

Yan, J. (2013). Asset Liability Management throughout Macroeconomic Cycle in Financial Institutions. https://dspace.mit.edu/bitstream/handle/1721.1/80669/857767940-MIT.pdf