general motors

Case study 4

Liability Management at General Motors

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Agenda

- ✓ Company Overview
- ✓ Current Liability Management Policy
- ✓ Rate View
- ✓ Interest Exposure Measurement
- ✓ Interest Rate Risk Management Instruments
- ✓ Recommendation

Company overview

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World's largest automaker in 1991 and the nation's largest industrial company

Automotive

Chevrolet, Pontiac, Oldsmobile, Buick, Cadillac, GMC Truck, Saturn, Holdens, OPEL, Vauxhall

General Motors Acceptance Corporation (GMAC)

GM Hughes Electronics

Electronic Data Services (EDS)

Financials

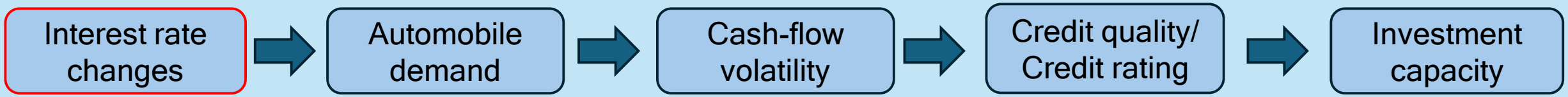
Auto business suffered a second year of large operating losses. In 1990: $3.4mln In 1991: $6.2mln Stock price decreased from $3 to 1.6	Nonauto business produced profits in 1991

! In December 1991, cutback to close 21 factories; cut 74,000 jobs; slash capital spending over four years was announced.

Current Liability Management Policy

GM's current interest rate management policy: focuses on cash-flow stability

"From demand sensitivity to investment capacity"



- GM's automobile demand is highly interest-rate sensitive
- GM's North American automotive revenues and operating cash flows are influenced by interest rates, and a 1% decline in auto loan rates increases the dollar volume of cars sold by 0.2%

- Interest-rate movements cause operating cash-flow volatility
- Cash-flow stability is also essential for maintaining GM's credit quality

- In GM's case, a credit-rating downgrade would make external financing difficult, potentially forcing a contraction of auto operations
- Such financing constraints would ultimately limit GM's capacity to invest in long-term projects and new technologies

Accordingly, interest rate management should prioritize cash-flow stability and the preservation of investment capacity, while equity market value effects remain secondary.

Interest rate control policy

Asset Nature	Auto operations behave as **Fixed-Rate Assets**	**Revenue does not "float":** Unlike banks, GM's cash inflows don't increase when rates rise. To avoid a profit squeeze, GM must ensure its **debt costs stay fixed** to match its fixed-rate revenues.
“Home Base” Debt Mix	Policy-driven target for the liability portfolio	**75%–80% Fixed / 20%–25% Floating:** This specific split provides **"greatest insulation"** from rising rates while allowing GM to capture savings from lower short-term rates.
Maturity Policy	Structural mandate for long-term stability	**Minimum 5-Year Maturity:** GM policy dictates that all domestic auto debt must be long-term. This prevents the firm from being **forced to refinance** during temporary interest rate spikes.
Capital Structure	Protection of credit ratings and liquidity	**Target Coverage Ratios:** GM tracks debt-to-capital and cash flow coverage to maintain its rating. A rating decline would make **raising funds very difficult**, leading to an "unintended shrinkage" of auto activities.

GM’s rate view and interest exposure measurement

General Motors' Rate View

Management's assessment of future interest-rate conditions

- Expectations about the level of interest rates
- Views on interest-rate volatility
- Assessment of the shape and evolution of the yield curve
- Based on inputs from banks, economists, and internal GM forecasts
- Recognized as "an art, not a science" and subject to forecast error

Guides tactical decisions, not core liability structure

- GM maintains a predefined fixed/floating "home base" for its debt
- The rate view is used to decide temporary deviations around this base
- Influences the choice and timing of interest-rate derivatives
- Helps determine whether GM tilts slightly toward fixed or floating exposure

Protects cash flows and credit quality

- GM's operating cash flows are highly sensitive to interest rates
- Heavy reliance on rate views would expose GM to forecast risk
- Volatile cash flows could weaken interest coverage and credit ratings
- Credit-rating downgrades could restrict external financing

Reduce borrowing costs while staying within risk limits

- Allows GM to capture cost-saving opportunities when market conditions are favorable
- Avoids speculative positioning based solely on interest-rate forecasts
- Ensures liability management remains consistent with conservative risk policy
- Preserves GM's long-term investment capacity

GM's interest exposure measurement

Current GM exposure

GM's primary method of measuring interest rate exposure revolves around the **Fixed/Floating mix** of its debt portfolio :

- **The "Home Base" Policy**: Management established a long-term target or "home base" mix of 75%-80% fixed-rate and 20%-25% floating-rate debt.
- **Asset/Liability Rationale**: GM justifies this fixed-heavy mix because its North American automotive operations behave like fixed-rate assets. Since auto sales are sensitive to interest rates *(a 1% decrease in rates leads to a 0.2% increase in sales volume),* a high fixed-rate debt portfolio provides insulation for GM's cash flows during periods of rising rates and slow markets.
- **Current Positioning:** As of February 1992, GM's debt was roughly **83.3% fixed-rate**, which was slightly above its "home base" target but within its flexible management range of 50% to 100%

Suggested Alternative Measurements

- **Duration Gap Analysis:** Instead of a simple percentage mix, GM should measure the **Duration** of its liabilities compared to the duration of its automotive assets. Duration measures the price sensitivity of an instrument to interest rate changes. A "duration gap" would tell GM exactly how much the market value of its equity would drop if rates rose by 1%.
- **Earnings at Risk (EaR):** GM could calculate the potential impact of interest rate volatility on its **Net Income.**
- **Value at Risk (VaR):** Using historical volatility data (like that in **Exhibit 4**), GM could estimate the maximum potential loss in the value of its debt portfolio over a specific timeframe. This provides a more statistical, risk-adjusted view than a simple percentage target.

Proposed Reporting:

Internal Management Reporting :
Sensitivity Matrix; Mark to Market Valuation

External Financing Reporting:
Effective Interest Rate Disclosure; Maturity and Repricing Schedule

Interest Rate Risk Management Instruments

Bello's Alternatives overview

Option	Mechanism	Benefits	Considerations
1) Interest-Rate Swap	Pay floating (LIBOR), receive fixed rate	Transforms fixed debt to floating; reduces costs if short-term rates stay low or decline	Exposed to rising short-term rates; increases interest expense if rates spike
2) Selling Caps	GM receives a premium for committing to pay the difference if LIBOR exceeds a strike	Upfront premium reduces the all-in cost of borrowing.	GM must pay out if rates rise sharply above the cap level (e.g., 9% or 10%)
3) Selling Swaptions	GM sells the right to a counterparty to force GM into a "pay floating/receive fixed" swap	Generates immediate cash premium to lower financing costs	Counterparty will exercise only when rates are high, forcing GM to pay high floating rates
4) Treasury Options (Bull Spread)	Buy call options on 5-yr Treasury notes; sell calls at a higher strike price	Speculative strategy to profit from the expected rally (decline in rates) in the bond market	Potential loss of the net premium paid if the market does not rally as expected
5) Do Nothing	Issue the $400M notes at the fixed 7.5/8% coupon without derivatives.	Maximum protection against rising rates; aligns with the "predominantly fixed" policy	Opportunity cost: GM fails to benefit from the expected decline in interest rates

Alternative 1 – Selling Swaptions

A swaption is an option on an interest rate swap. GM considered two swaption proposals, referred to as “2-by-5” and “3-by-5.” Under these contracts, GM’s counterparty had the right, but not the obligation, to enter into a one-year interest rate swap with GM starting either two or three years after the contract date. In the swap, the counterparty would pay a fixed rate and receive LIBOR. In exchange for writing the swaptions, GM received an upfront cash premium.

Exercise Period	Maturity of Swap	Fixed rate	Av. Premium (in basis points)	Amortized premium over 5 years
2 years (2 by 5)	3 years	9%	0.99%	0.19%
3 years (3 by 5)	2 years	9%	1.03%	0.21%

Calculation:

Cost	2 by 5	3 by 5
Pre-exercise period	**7.43%** (7.63%-0.19%)	**7.42%** (7.63%-0.21%)
After-exercised period (if exercised)	LIBOR+(7.63%-9%)	LIBOR+(7.63%-9%)

Counterparty will exercise the option if rates are high -> GM pays high floating rates offset in part by premium

Counterparty will not exercise the option if rates are low -> GM pays high fixed rates but lowered its all-in costs

Alternative 2- Selling 5-Year Interest-Rate Caps

By selling a 9% interest-rate cap to a bank counterparty, GM leverages its existing protection against rising rates (provided by the fixed-rate notes) to earn a premium and reduce its overall borrowing costs.

Market Data: 5-Year Cap at 9% Strike Price.

Premium Income: (177+213)/2=195 bps (1.95%).

Annualized Subsidy: 1.95%/ 5 (years) = 0.39% reduction in annualized interest

Scenarios	LIBOR	All-in Cost	Impact
Base Case	NA	7.625%	Issuing Fixed-Rate Note without derivatives.
Favorable	LIBOR ≤ 9%	7.235%	GM keeps the full 195 bps premium; no payout.
Break-even	LIBOR = 9.39%	7.625%	Premium income exactly offsets the cap payout.
Risk Case	LIBOR > 9.39%	7.235%+(LIBOR-9%)	Payout exceeds premium; GM pays (LIBOR - 9%).

Alternative 3 – Swaps

An interest rate swap is a contractual agreement where two parties exchange periodic interest payment obligations–typically fixed for floating–calculated on a specified notional principal. Because the principal itself never changes hands, the swap allow a firm to transform the economic character of its debt without altering the original bond agreement.

Component	Interest Rate (%)	Description
Fixed Outflow (Bond Coupon)	7.625%	The fixed interest GM must pay to the bondholders
Fixed Inflow (Swap Receipt)	7.150%	The mid-market fixed rate GM receives from the swap bank. Represents also the rate at which the Swap equals the Fixed Note
Net Fixed "Gap"	0.475%	The remaining fixed cost GM must cover after the swap
Floating Outflow (Swap Payment)	LIBOR	The variable market rate GM agrees to pay the swap bank
Total Cost	LIBOR + 0.475%	The final formula for GM's periodic interest expense

- If LIBOR < 7.15%: The swap is successful, generating immediate interest savings compared to the 7.625% fixed coupon
- If LIBOR > 7.15%: The swap results in a loss, as floating payments exceed the original fixed-rate obligation

Alternative 4 – Treasury Bond Option

The Treasury Bond Option (Bull Spread) is a short-term strategy using 5-year Treasury call options, reflecting GM's view that interest rates will fall over 60 days. By buying a lower-strike call and selling a higher-strike call, GM can benefit from rising Treasury prices while limiting cost and downside risk. At the time, the 5-year Treasury traded at 98.095, yielding 6.66%. This approach offers potential short-term gains and reduces the effective cost of debt compared with doing nothing

Description	Calculation Method	Result / Value	Strategic Significance
Long Call Option	Buy $400M Notional x 98.095 Strike (0.625 premium)	($2,500,000)	Gives GM the right to buy Treasury notes at current prices if rates fall
Short Call Option	Sell $400M Notional x 99.045 Strike (0.328 premium)	$1,312,000 Revenue	Offsets the cost of the long call; caps the maximum profit at a 20 bps yield drop
Net Upfront Cost	Long Call Cost – Short Call Revenue	($1,188,000)	The total "bet" GM is placing on its 60-day interest rate forecast
Maximum Gross Profit	0.95 point spread (99.045 – 98.095) × $400M	$3,800,000	The maximum value of the spread if the market rallies significantly
Net Maximum Profit	Max Gross Profit – Net Upfront Cost	$2,612,000	Potential savings that can be used to reduce the first year's interest expense.

The Treasury option strategy is further supported by bank forecasts reported in Exhibit 6, which estimate the 3-month Treasury rate to average 3.9%, well below the current five-year Treasury yield of 6.66%. This outlook is consistent with GM's internal expectation of declining interest rates and supports the use of a bull spread, which allows the firm to benefit from rising bond prices as yields fall

Alternative 5 – Do Nothing

The following table details the all-in cost and cash flow projections for the baseline strategy, which involves issuing the $400 million, 5-year fixed-rate note, in strict alignment with GM's 'home base' policy of maintaining a predominantly fixed-rate debt structure.

Description	Calculation Method	Result / Value	Strategic Significance
Gross Proceeds	$400M Notional x 99.976	$399,904,000	The total amount raised before fees and discounts.
Issuance Costs	$1.8M (Commissions) + $175k (Expenses)	$1,975,000	Total upfront friction costs to execute the deal.
Net Proceeds	Gross Proceeds – Issuance Costs	$397,929,000	The actual cash available to GM at Time 0
Annual Interest	$400M Notional × 7.625% Coupon	$30,500,000	Paid as $15.25M semiannual installments
Total Interest	$15.25M × 10 semiannual payments	$152,500,000	Total interest cost over 5 years
Principal Repayment	Face value of the note at maturity	$400,000,000	The final bullet payment in Year 5
All-in Cost (Yield)	Total Interest + Principal Repayment	$552,500,000	Total capital sustained by GM

Years	1992	1993	1994	1995	1996	1997		*Interest rate*	7.625%
CF	$397,929,000	$ - 30,500,000.00	$ - 30,500,000.00	$ - 30,500,000.00	$ - 30,500,000.00	$ - 430,500,000.00		*Tot interest*	$ -152,500,000.00

Final Recommendation

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Based on our analysis, we recommend using a 5-year interest rate swap together with a 60-day Treasury bull spread. By applying this strategy, GM can reduce interest costs by about $48.52 million over five years

Years	Avg 6-months LIBOR Rate (%)	+ Fixed Spread	= Synthetic Rate	Net Cash Outflow	Fixed Rate (7,625%)	Yearly Savings
1992	4.31%	0.475%	4.385%	$17.54 M	30,50 M	$12.96 M
1993	3,44%	0.475%	3.915%	$15.66 M	30,50 M	$14.84 M
1994	4.57%	0.475%	5.045%	$20.18 M	30,50 M	$10.32 M
1995	6.29%	0.475%	6.765%	$27.06 M	30,50 M	$3.44 M
1996	5.41%	0.475%	5.885%	$23.54 M + 400 M	30,50 M	$6.96 M

In addition, the Treasury bull spread reflects our expectation of declining interest rates and offers the possibility of earning an extra $2.61 million from Treasury bond options. This potential gain comes with a significantly increasing risk given by the speculative nature of the instrument.

Converting the interest rate on the new offering to floating aligned with GM's strategy of returning to its home-base target of 75%–80%, given that its current exposure stood at 83%.

Source: https://www.macrotrends.net/2519/6-month-libor-rate-historical-chart