

Carvana Co.

CVNA · Peak Distress: Q3 2022 · Bankruptcy avoided via debt restructuring

How the online used-car disruptor built a \$30 billion market capitalisation on negative unit economics, then came within weeks of insolvency before creditor cooperation bought it time to recover.

DISTRESS SCORE CRITICAL DO NOT INVEST	Sector	Automotive E-commerce / Retail
	Peak distress	Q3–Q4 2022 (bonds at 30–40 cents on dollar)
	Total debt peak	~\$8.7 billion
	FY2022 signal	CRITICAL — all four distress indicators simultaneously active
	Outcome	Chapter 11 avoided — April 2023 debt exchange; operational recovery FY2023–FY2024

Executive Summary

Carvana Co. did not file for Chapter 11 bankruptcy. This is important to state plainly, and it distinguishes this case study from the other two in this series. What Carvana experienced in 2022 was a near-death experience — a period in which the distinction between distress and insolvency became a matter of creditor cooperation rather than fundamental financial health. Bonds traded at 30–40 cents on the dollar; multiple sell-side credit analysts publicly discussed Chapter 11 as the base case.

Our early-warning system placed Carvana in the CRITICAL tier on FY2022 data — the highest risk classification, reserved for companies exhibiting all four primary distress signals simultaneously: leverage above 1.0, negative ROA, interest coverage below zero, and declining cash position. The company avoided filing through a debt exchange completed in April 2023 and subsequently achieved genuine operational improvement. By FY2024, leverage had declined to 0.838 and ROA had turned positive at +2.48%. The distress signal was accurate. The outcome was unusual.

The Business and Strategic Context

Founded in 2012 as a subsidiary of DriveTime Automotive, Carvana went public in 2017 at a valuation of approximately \$1.6 billion. The company's proposition was the elimination of the traditional dealership experience: online browsing, digital financing, home delivery, and a seven-day return window. The iconic multi-storey glass vending machine towers served as both logistics hubs and marketing installations.

The business model required enormous upfront capital investment. Each vending tower cost tens of millions to construct. The logistics network required interconnected reconditioning centres and transport infrastructure. Most critically, Carvana actually owned the cars it sold, financing inventory through floor plan credit facilities and long-term bond issuances. The result was a company with a technology growth narrative, capital markets appetite sized to that narrative, and an automotive retailer's balance sheet complexity.

The pandemic years appeared to validate the model. Used-car prices surged as semiconductor shortages constrained new-vehicle supply. Revenue grew from \$3.9 billion in FY2019 to \$12.8 billion in FY2021. The stock reached \$376.83 in August 2021. When the Federal Reserve began its most aggressive rate-hiking cycle in four decades in 2022, used-car prices declined sharply from pandemic peaks, and inventory purchased at 2021 prices had to be sold at 2022 prices. The unit economics, which had never been consistently positive, turned acutely negative.

The Financial Distress Trail

The data below is drawn directly from Compustat North America SEC-filed financial statements. All figures reflect actual reported results.

Metric	FY2019	FY2020	FY2021	FY2022
Total Liabilities / Total Assets	0.907	0.736	0.925	1.121
EBIT / Interest Expense	-3.17x	-3.13x	-0.56x	-2.74x
Return on Assets	-5.57%	-5.64%	-1.92%	-18.25%
Current Ratio	1.57	4.12	1.69	1.77
Cash / Total Assets	~9%	~12%	~8%	~4%
Total Debt (approx.)	~\$1.5B	~\$2.0B	~\$6.4B	~\$8.7B

Source: Compustat North America. All figures from filed 10-K reports.

The canary in the coal mine was the persistence of negative ROA across all four years — unusual for a company that briefly carried a \$30 billion market capitalisation. Every year from 2019 to 2022, Carvana destroyed asset value, funding that destruction with additional debt and relying on equity market enthusiasm rather than operational cash flow to sustain the enterprise.

The leverage ratio crossing 1.0 in FY2022 was the definitive signal. The \$3.3 billion in senior unsecured notes issued in 2021 at rates between 5.5% and 10.25% made sense only under the assumption that profitability was imminent. When gross profit per unit declined from a pandemic peak of approximately \$4,700 to \$2,600 as used-car prices normalised, the interest burden became an existential cash drain. ROA moving from -1.92% to -18.25% in a single year confirmed that this was not a cyclical dip but an accelerating collapse. By late 2022, with cash at approximately 4% of assets and leverage at 1.121, the liquidity runway was measured in quarters, not years.

■ The Early-Warning Signal

Our system elevated Carvana to HIGH risk status on FY2021 data in early 2022, driven by leverage at 0.925, negative ROA in every reported year, and a debt load that had expanded fourfold in twelve months. When FY2022 data became available, the classification moved to CRITICAL: all four primary distress indicators were simultaneously active. Leverage exceeded 1.0, ROA was -18.25%, interest coverage was deeply negative at -2.74x, and cash as a percentage of assets had declined from 12% to 4% in two years.

The firm-specific financial volatility signal — combining leverage magnitude and ROA magnitude — was among the highest in the entire scored universe of 18,000+ companies. The year-on-year deterioration in ROA from -1.92% to -18.25% registered as one of the most extreme single-year profitability deteriorations in the model's 23-year training dataset. When the FY2023 data became available showing leverage declining to 1.054 and ROA turning positive at +6.36%, the risk classification appropriately began to moderate — the model tracks improvement as well as deterioration.

■ Why the Market Underestimated the Risk

The Carvana equity story between 2019 and 2021 was a canonical "growth at any price" investment: investors paid a high multiple of gross profit because the market assumed Carvana would eventually achieve technology-platform economics at scale. The per-unit gross profit improvement from \$1,100 in FY2019 to \$4,700 in FY2021 appeared to support this thesis.

Two errors in this narrative were visible from the balance sheet. First, the gross profit improvement was largely pandemic-driven — a predictable reversion, not a sustainable structural improvement. Second, the software platform analogy was misleading: Carvana's model required physical reconditioning centres and inventory financing that scaled proportionally with revenue. The gross margin structure of a software business was not achievable in automotive retail regardless of the digital interface. The credit market priced Carvana's distress accurately — bonds at 40 cents — six to twelve months before the debt restructuring. The equity market was substantially slower.

■ Key Takeaways for Credit Analysts

- Negative ROA sustained over multiple years is a disqualifying characteristic for companies with high leverage, regardless of gross profit trajectory or revenue growth rate. A company that consistently destroys asset value while adding debt is on a bounded trajectory.

- Pandemic-era tailwinds in asset-intensive businesses create dangerous illusions. Temporary inflation of used-car prices improved Carvana's unit economics in the exact period when the company was raising the most debt — creating a leverage structure sized for an exceptional environment, not a normal one.
- Bonds trading at 40 cents on the dollar are a more reliable distress signal than equity analyst price targets. The credit market consistently prices distress earlier and more accurately than the equity market.
- Floor plan financing creates hidden operational leverage. Declining inventory values simultaneously reduce asset values and tighten available credit — a procyclical double impact not visible in a standard leverage ratio.
- Near-bankruptcy restructurings are not equivalent to operational recovery. The April 2023 debt exchange bought time; Carvana had to resolve the structural profitability question through operations. Many similarly structured companies would not have achieved this.

■ Limitations

Carvana is the most challenging case in this series for a balance-sheet model. Survival was contingent on two factors that financial ratios cannot capture: first, the decision by major bondholders to cooperate in a restructuring rather than enforce their claims; and second, the subsequent normalisation of used-car market conditions and Carvana's operational cost restructuring. The early-warning system correctly issued a CRITICAL signal in 2022 and correctly moderated the assessment as FY2023 data showed improvement. Whether to short a flagged company versus simply avoiding a long position requires this additional qualitative layer.

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