Dear Commissioner:

I respectfully submit this proposal for enhancing the regulatory framework governing Registered Investment Advisors (RIAs) to better serve retail investors through comprehensive disclosure, professional standards, and accountability measures. As equity markets evolve and become increasingly complex, we have an unprecedented opportunity to strengthen investor protection while elevating the professional standards of investment advisory services.

I write as the CEO of an investment data science firm dedicated to advancing investor protection, drawing on 45 years of market experience spanning multiple market cycles. This perspective has shown me both the tremendous value that skilled investment advisors provide to their clients and the critical importance of ensuring investors have complete, transparent information to make informed decisions about their financial futures. [See Exhibit I.]

My commitment to investor protection began in 2000 when I alerted the SEC to concerning financial reporting practices at major corporations like Cisco and GE. The subsequent market corrections, including Cisco's 83.3% decline from September 2000 to October 2002, reinforced my belief that transparency and rigorous disclosure standards are essential to market integrity and investor protection. [See Exhibits II, III, IV, and V.]

The Opportunity: Building a More Transparent and Professional Advisory Industry

The investment advisory industry serves millions of Americans in achieving their financial goals. To strengthen this vital service and protect investors—particularly middle-income Americans and retirees—we propose ten concrete reforms that will enhance transparency, demonstrate advisor competence, and ensure clients receive the professional-level service they deserve.

These reforms leverage modern data science capabilities to provide investors with clear, actionable information while establishing professional standards that benefit both advisors and their clients.

Ten Positive Reforms to Strengthen Investor Protection

1. Clear Investment Risk Classification System

Current Standard: Investment accounts are generally classified by broad investment objectives (growth, income, balanced) with limited standardization across firms. Risk assessment typically relies on general questionnaires about client preferences.

Enhancement Opportunity: Current classifications don't provide clear risk boundaries or consistent definitions. Clients often misunderstand their portfolio's actual risk level, and advisors have wide discretion in interpreting risk categories without standardized criteria.

Proposed Solution: Implement a standardized risk labeling system for all client accounts: Conservative, Moderate, Growth-Oriented, or Speculative. Each category would have specific allocation guidelines and require investments to meet defined risk criteria for that classification.

Benefits:

- Investors gain immediate clarity about their portfolio's risk level
- Advisors can demonstrate appropriate asset allocation decisions with clear standards

- Enhanced accountability through transparent, standardized risk categorization
- Reduced disputes through consistent industry-wide definitions

2. Personalized Risk Tolerance Documentation

Current Standard: Risk tolerance is typically assessed through general questionnaires asking about comfort with volatility and loss scenarios, often without specific numerical parameters or action protocols.

Enhancement Opportunity: Current assessments are subjective and don't establish clear loss thresholds or response procedures. When losses occur, clients often claim they weren't adequately informed about downside risks, while advisors point to general risk disclosures.

Proposed Solution: Require written acknowledgment of maximum acceptable losses for each client (e.g., 20%), with pre-agreed action plans if thresholds are approached. This would include specific triggers for portfolio review and potential defensive actions.

Benefits:

- Clients make quantified, informed decisions about acceptable risk levels
- Advisors have clear guidance for portfolio management during volatile periods
- Reduced potential for disputes through documented, specific risk agreements
- Enhanced fiduciary protection through explicit client consent

3. Historical Context Education

Current Standard: Risk disclosures typically include general statements about market volatility and past performance not guaranteeing future results, without specific historical context about extended loss periods.

Enhancement Opportunity: Clients often have unrealistic expectations about market behavior, particularly regarding the duration and severity of market downturns. General risk warnings don't convey the reality of extended periods where equity investments may underperform or lose value.

Proposed Solution: Provide all clients with standardized educational materials showing historical market performance, including extended periods of negative returns and comparative performance of various asset classes during different market conditions (Exhibit VI shows NASDAQ performance 2000-2016 as an example).

Benefits:

- Investors understand realistic market behavior and potential extended loss periods
- Better-informed investment decisions based on historical precedent rather than recent performance
- Reduced unrealistic return expectations and improved long-term investment discipline
- Enhanced informed consent through comprehensive historical context

4. Enforcement of Stated Investment Methods and Documentation Standards

Current Standard: Investment advisors must disclose their methods of analysis and investment strategies in Form ADV Part 2A, Item 8 ("Methods of Analysis, Investment Strategies and Risk of Loss"). However, there is limited oversight to ensure advisors actually follow their stated methodologies when making individual investment selections. Analysis of hundreds of Form ADVs reveals that Item 8 responses typically contain generalizations that provide little value for distinguishing one advisor from another beyond broad categories like "We buy ETFs, bond funds or individual securities." More concerning, comparison of Item 8 disclosures with actual portfolio holdings (using SEC filings and WhaleWisdom.com data) reveals significant gaps between stated practices and actual implementation. For example, advisors frequently claim to be "value investors" who avoid high P/E or P/S ratios, yet their top 50 holdings often show average P/E ratios of 35 and P/S ratios of 10—directly contradicting their written disclosures. [See Exhibit VII.]

Enhancement Opportunity: Many advisors list sophisticated analytical methods and disciplined investment strategies in their Form ADV filings but then select investments for client portfolios that don't align with their stated approaches. Current enforcement mechanisms don't require advisors to demonstrate how individual investment decisions follow their disclosed methods, creating a significant gap between stated practice and actual implementation.

Proposed Solution: Strengthen enforcement of Form ADV Item 8 disclosures by requiring advisors to maintain detailed documentation showing how each investment recommendation follows their stated methods and strategies:

Documentation Requirements:

- Written analysis demonstrating application of the specific analytical methods disclosed in Form ADV Part 2A to each stock in a client’s portfolio
- 20 quarters of fundamental trend analysis consistent with stated investment approach
- Comprehensive financial condition assessment using disclosed evaluation criteria
- Detailed valuation analysis employing the specific methodologies claimed in regulatory filings
- Clear explanation of how each selection aligns with disclosed investment strategies

Enforcement Mechanisms:

- Regular audits comparing actual investment selections against stated methodologies
- Requirement to update Form ADV if actual practices differ from disclosed methods
- Enhanced penalties for material discrepancies between stated and actual practices
- Client notification requirements when investment approaches deviate from filed disclosures

Benefits:

- Ensures advisors actually employ the sophisticated methods they claim to use
- Provides accountability for stated investment expertise and analytical capabilities
- Creates transparency between disclosed practices and actual client service delivery
- Establishes meaningful consequences for misleading or inaccurate Form ADV disclosures

- Protects clients from advisors who claim expertise they don't actually employ
- Strengthens the integrity of the advisory registration and disclosure system

5. Enhanced Suitability Standards for Conservative Portfolios

Current Standard: Suitability rules focus primarily on matching investments to client risk tolerance and timeline, without specific criteria for what constitutes appropriate investments for conservative accounts.

Enhancement Opportunity: Conservative investors may unknowingly receive inappropriate investments simply because they align with stated risk tolerance. Current rules don't establish minimum financial quality standards for conservative portfolios, allowing speculative investments in contrast to client objectives.

Proposed Solution: Establish strong disclosure requirements for advisors to indicate to clients and prospective clients the financial criteria that they use to select investments in conservative accounts. For example, an advisor might select stocks based on criteria including, but not limited to, the following:

- Strong balance sheet fundamentals (positive tangible equity, reasonable leverage)
    - For example: positive earnings in 4 of the last 5 years
- Reasonable valuation based on conservative growth assumptions
- Demonstrated business stability and predictable cash flows

It is not my intention that the SEC mandate a specific standard to which advisor stock purchases should be held. Rather, I urge the SEC to require advisors to be detailed and specific in disclosing their analysis for each stock they purchase.

Economic Value Documentation Requirements: Advisors must provide written forecasts of future revenues and earnings for each equity investment, demonstrating how projected performance translates to shareholder value. Such analysis must focus on the two fundamental measures of economic value creation: tangible equity growth and growth in distributable cash from income (after accounting for reinvestment requirements to sustain operations and growth) relative to current market capitalization. This requirement ensures that conservative account recommendations are based on objective and quantifiable value creation rather than speculative price appreciation.

Benefits:

- Protects conservative investors from inappropriate speculative risk exposure
- Provides clear, objective guidelines for advisors managing low-risk portfolios
- Maintains investment flexibility while ensuring appropriate fundamental quality
- Reduces potential for unsuitable recommendations in conservative accounts

6. Valuation Analysis Documentation

Current Standard: Investment recommendations can be based on growth projections or valuation expansion expectations without requiring quantitative analysis or documentation of the assumptions underlying those projections.

Enhancement Opportunity: Advisors can recommend investments trading at extreme valuations without disclosing the mathematical requirements for positive returns or the probability of achieving necessary performance levels. Clients receive investments requiring unrealistic growth without understanding these requirements.

Proposed Solution: When recommending investments based on potential valuation expansion or requiring above-average growth, require written analysis including:

- **Specific performance metrics needed:** "This investment requires [X]% annual growth for 5 years to achieve positive returns"
- **Probability analysis:** "Based on fundamental analysis and historical precedent, the probability of achieving required performance is estimated at [X]%"
- **Historical context:** "This valuation level has historically been associated with [specific outcomes] in similar market conditions"
- **Clear classification:** "This recommendation represents [investment/speculation] based on current fundamental analysis"
  [See Exhibit VIII.]

Benefits:

- Demonstrates analytical basis for investment recommendations through quantified analysis
- Provides complete transparency about required performance and probability assessments
- Helps clients understand the mathematical requirements underlying investment selections
- Encourages thorough fundamental analysis and realistic return expectations

7. Professional Track Record Disclosure

Current Standard: Investment advisors must provide general information about their business and services but are not required to provide detailed personal performance history or track records to prospective clients.

Enhancement Opportunity: Clients select advisors without access to comprehensive performance data, making it difficult to evaluate advisor competence. Unlike other professional services, investment advisory lacks standardized competence demonstration requirements.

Proposed Solution: Require all investment advisors to provide prospective clients with a comprehensive 10-year professional performance summary, including:

- Risk-adjusted returns across different market conditions
- Maximum drawdowns experienced in client portfolios
- Performance relative to appropriate benchmarks and passive alternatives
- Portfolio turnover rates and cost analysis
- Client retention statistics and reasons for departures

Benefits:

- Clients can evaluate advisor expertise based on actual, documented results

- Encourages advisors to maintain consistently high professional standards
- Provides transparency in advisor selection process comparable to other professions
- Creates competitive advantage for skilled advisors while protecting clients from underperformers

8. Clear Standards for Technical Analysis and Momentum-Based Investment Methods

Current Standard: Investment advisors can employ technical analysis, momentum strategies, and trend-following methods without clear regulatory guidance on whether these approaches meet fiduciary duty standards, particularly for conservative accounts. There is no requirement to disclose the analytical limitations of these methods or their suitability for different client risk profiles.

Enhancement Opportunity: A significant percentage of investment advisors rely primarily on technical indicators—moving averages, RSI, momentum signals—to select investments without examining the underlying financial condition of companies. These advisors may purchase securities with no earnings history, minimal assets, or questionable business fundamentals solely because price momentum suggests potential appreciation. The SEC has not provided clear guidance on whether momentum-based selection methods alone constitute adequate analysis for fiduciary duty, particularly in conservative accounts.

Proposed Solution: Require the SEC to establish clear regulatory guidance distinguishing between investment analysis methods and their appropriateness for different account types:

Fundamental Analysis Requirements for Conservative Accounts:

- Investments must be supported by analysis of financial condition, earnings history, and intrinsic value
- Technical analysis alone is insufficient for conservative account recommendations
- Momentum-based selections require additional fundamental justification for suitability

Enhanced Disclosure Requirements:

- Advisors must clearly disclose what percentage of client portfolios consists of companies with no earnings history
- Required disclosure of how many holdings lack tangible equity or profitable operations
- Clear explanation of whether investment selections are based on fundamental analysis or price momentum
- Specific disclosure when assets derive value from market perception rather than income-producing operations

Analytical Method Classifications:

- **Income-Producing Assets:** Securities backed by operational earnings, dividends, or demonstrable cash flows
- **Speculative Price-Based Positions:** Holdings selected primarily on technical indicators or momentum without fundamental support
- **Non-Productive Assets:** Investments that cannot generate operational income (used metaphorically to illustrate the principle)

Mandatory Client Notifications:

- "This recommendation is based on price momentum analysis without regard to company financial condition"
- "X% of your portfolio consists of companies with no established earnings history"
- "This investment selection method focuses on market trends rather than fundamental business analysis"

Benefits:

- Provides clear regulatory guidance on fiduciary standards for different analytical methods
- Ensures clients understand the analytical basis (or lack thereof) for their investments
- Distinguishes between fundamental investment analysis and speculative momentum trading
- Protects conservative investors from inappropriate technical-analysis-only strategies
- Requires advisors to clearly articulate their investment philosophy and methods
- Establishes accountability for investment selection methodology in fiduciary accounts

9. Enhanced Disclosure for Non-Income-Producing Investments

Current Standard: Investment advisors are not required to disclose what percentage of client portfolios consists of companies that produce no income for shareholders or have minimal earnings insufficient to support meaningful dividend distributions.

Enhancement Opportunity: Many investors, particularly those in conservative accounts, are unaware that significant portions of their portfolios may be invested in companies with no current earnings or earnings so minimal that even 100% distribution would generate negligible returns. Clients lack clear information about the income-producing capacity of their holdings relative to their stated investment objectives.

Proposed Solution: Require advisors to provide comprehensive disclosure regarding the income-producing characteristics of client portfolios:

Income Production Disclosure Requirements:

- Clear disclosure of what percentage of the portfolio consists of companies with no earnings history
- Specific analysis of holdings whose current earnings, if distributed entirely as dividends, would generate less than 3% annual return based on market capitalization
- Written explanation of the timeline and probability for non-earning companies to achieve meaningful income distribution capacity
- Comparative analysis showing potential returns from current holdings versus investment-grade income-producing alternatives

Client Education Requirements:

- Simple, understandable language explaining the income-producing capacity of each major holding

- Clear disclosure when investments are selected for potential price appreciation rather than income generation
- Explanation of the risk profile difference between speculative growth positions and income-producing alternatives

Benefits:

- Provides transparency about the actual income-generating potential of client investments
- Helps clients understand whether their portfolios align with stated income or conservative objectives
- Reduces potential misunderstanding about investment characteristics and expected returns
- Enables informed decision-making about speculative versus income-producing strategies

10. Mandatory Consideration and Disclosure of Investment-Grade Bond Alternatives

Current Standard: Investment advisors are not required to consider or present investment-grade bond alternatives when recommending equity investments for conservative clients, despite the significant difference in advisory fees between stock and bond portfolios.

Enhancement Opportunity: A substantial conflict of interest exists where advisors can generate 4-5 times higher fees by recommending stock portfolios versus bond funds, even when bond investments may better serve conservative clients' objectives for capital preservation and steady returns. Many clients, particularly seniors, are unaware that high-quality bonds might better meet their needs for safety and income.

Proposed Solution: Establish affirmative duties for advisors when recommending equity investments for conservative accounts:

Mandatory Bond Alternative Analysis:

- Required written analysis comparing proposed equity investments with appropriate investment-grade bond alternatives
- Specific disclosure of fee differences between recommended equity strategies and bond alternatives
- Documentation explaining why equity selection is more suitable than bonds for the client's stated objectives
- For senior clients especially, clear justification of why speculative equity positions serve capital preservation goals better than high-quality, short-to-intermediate-term bonds

Conflict Resolution Requirements:

- Explicit disclosure of advisory fee differences between equity and bond recommendations
- Written client acknowledgment that they understand bond alternatives and fee implications

- Affirmative client consent when choosing higher-fee equity strategies over potentially more suitable bond alternatives
- Regular review requirements to reassess equity versus bond suitability as client circumstances change

Conservative Account Protections:

- For clients with capital preservation objectives, advisors must demonstrate why equity investments with minimal income-producing capacity are preferable to investment-grade bonds
- Required disclosure when equity recommendations involve companies with earnings insufficient to support a 5% distribution relative to market capitalization
- Clear explanation of probability assessments for speculative positions achieving client objectives versus bond alternatives

Benefits:

- Resolves advisor compensation conflicts in favor of client suitability
- Ensures conservative clients understand all appropriate investment alternatives
- Protects seniors and risk-averse investors from inappropriate equity exposure driven by fee considerations
- Creates accountability for equity recommendations when safer alternatives may better serve client needs
- Enhances fiduciary duty compliance by requiring consideration and disclosure to the client of ***all*** suitable investment options

Case Study: The Need for Enhanced Disclosure

Consider NVIDIA's current $4+ trillion market capitalization. For investors to achieve 50% returns, the company would need to reach $6 trillion—unprecedented in market history. Statistical analysis suggests greater probability of reversion toward $1-2 trillion valuation than continued expansion to $5-7 trillion. [See Exhibit X.]

Current disclosure: General statements about market volatility and growth stock risks provide insufficient guidance for investors to properly assess investments requiring unprecedented market performance. For instance, NVIDIA's current $4 trillion market capitalization would require extraordinary and historically unprecedented value creation to justify positive returns, particularly when compared to the reliable income streams available from AA-rated bonds. Objective financial analysis suggests significant downside risk potential, yet current disclosure standards do not require advisors to present this mathematical reality or comparative risk assessment to clients. Enhanced disclosure requirements would ensure investors receive comprehensive analysis of valuation risks and alternative investment options, enabling properly informed decision-making.

Enhanced disclosure would include: Specific analysis of required performance metrics, probability assessments based on historical precedent, and clear risk-reward scenarios

This example illustrates how enhanced disclosure standards would provide investors with the comprehensive information needed to make truly informed decisions.

Benefits for the Entire Investment Ecosystem

For Investors:

- Additional transparency in investment decision-making
- Professional-level documentation and analysis
- Clear understanding of risks and potential outcomes

For Investment Advisors:

- Clear professional standards and expectations
- Encouragement of the use of technology to enhance client performance
- Differentiation through demonstrated competence
  [See Exhibit XI.]

For the Industry:

- Enhanced credibility and public trust
- Reduced regulatory uncertainty
- Alignment with other professional service standards

For Markets:

- Improved price discovery through better-informed participants
- Reduced systemic risk from misinformed investment decisions
- Enhanced overall market integrity

The Path Forward

With advanced analytical tools now available and successful regulatory precedents established, the Commission has an opportunity to implement reforms that will:

1. **Enhance investor protection** through comprehensive disclosure
2. **Elevate professional standards** within the investment advisory industry
3. **Strengthen market integrity** through better-informed participant decisions
4. **Demonstrate regulatory leadership** in adapting to modern market conditions

Conclusion and Next Steps

The investment advisory industry plays a crucial role in helping Americans achieve their financial goals. These proposed reforms will strengthen that role by ensuring investors have access to comprehensive, transparent information while encouraging the highest professional standards among investment advisors.

We respectfully urge the Commission to:

- **Initiate a formal rulemaking process** to consider these enhanced disclosure and professional standards
- **Engage industry stakeholders** in developing practical implementation guidelines

- **Leverage modern technology** to make comprehensive disclosure both practical and cost-effective

I am prepared to provide detailed validation data, implementation examples, and expert testimony to support this initiative. Together, we can build an investment advisory industry that truly serves the best interests of American investors through transparency, competence, and accountability.

Sincerely,

Raymond Mullaney
Founder and CEO
Equity Risk Sciences, Inc.

List of Supporting Exhibits (Attached as Separate Documents)

Exhibit	Title
Exhibit I	Career Overview of Raymond Mullaney
Exhibit II	Letter from SEC Counsel Susan Mathews (Oct 5, 2000)
Exhibit III	Barron's Article by Dr. Abraham Briloff
Exhibit IV	Cisco/GE Price Collapse Timeline
Exhibit V	Merrill Lynch: Global Research Review (August 2000)
Exhibit VI	NASDAQ Returns From 2000 to 2020
Exhibit VII	The 5 Core Causes of Stock Decline and How Advisors Must Disclose Their Risk Management Approach
Exhibit VIII	Historic Price Collapses of Leading Stocks: MSFT, AMZN (1999–2010)
Exhibit IX	25 Years of Predictive Power: A 25-Year Comparative Quantitative Study of ERS's Loss Indicator™ (LI™) and 4 Dimensions of Risk™ (4D™)
Exhibit X	NVIDIA Valuation Analysis - Evidence of Systematic Investor Protection Failure
Exhibit XI	Questions of Fact About BUY Stock Ratings from Investment Analysts

Exhibit I: Career Overview of Raymond Mullaney

Raymond Mullaney is the founder and CEO of **Equity Risk Sciences**.

Exhibit II: Letter from SEC Counsel Susan Mathews (Oct 5, 2000)

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
450 Fifth Street, N.W
Washington, D.C 20549

DIVISION OF
ENFORCEMENT

Mr. Roy Mullaney
Fax No. 410-280-2029

Dear Mr. Mullaney:

I am writing to confirm our phone conversation yesterday and to acknowledge receipt of your September 29 and October 4, 2000 faxes relating to Cisco Systems. In our conversation you provided information relating to potentially misleading earnings statements by Cisco Systems and transfers of large dollar amounts from insurance subsidiaries of General Electric to G.E. Capital. The Securities and Exchange Commission ("Commission") appreciates receiving information from members of the public concerning possible violations of the federal securities laws and will give serious consideration to the information you have provided.

However, as I informed you, the Commission conducts investigations into allegations of violations of the federal securities laws on a confidential basis. Therefore, the staff does not comment on whether the informanon provided to the Commission relates to an ongoing investigation or provide assurances that an investigation will be initiated.

Let me know if I can be of further assistance.

Sincerely,

S. A. Mat

Susan A. Mathews
Senior Counsel

BARRON'S

Exhibit III: Barron's Article by Dr. Abraham Briloff

Pooling and Fooling

By Abraham J. Briloff (CPA, Ph.D.)
Oct. 23, 2000 12:01 am ET

Cisco's accountings for its fiscal years ended July 1999 and 2000 furnish vivid demonstration of the causes of my concern….

By my reckoning, in the two fiscal years ended July 2000, Cisco has suppressed a grand total of $18.2 billion of costs by using pooling in accounting for its acquisitions. Even in today's wondrous financial world, when billions are commonplace, $18 billion of costs not taken is mindboggling. Manifestly, the handmaiden of pooling is fooling.

But pooling is not the only accounting device that Wall Street's favorite company uses to enhance its operating results. Another, equally egregious, involves stock options and the way Cisco accounts for them.

How to account for options has been the subject of agonizing reappraisals in board rooms, among scholars in academe, at the FASB and even in Congress. The crucial questions are: Can options be valued and, if so, should they be entered into a company's accounts and when? Further, if they were to be recorded, should it be as a cost of doing business or merely a capital transaction?

The correct answer to the first question is yes, they should be entered into accounts and, to the second, as a cost of doing business. Let me elaborate, using Cisco as a prime exhibit.

In the statement of shareholders' equity in Cisco's 1999 10K, there's an entry described as "tax benefit from employee stock option plans." This item added $837 million to the capital stock and additional paid-in capital and shareholders' equity columns. The implications of that apparently innocuous entry are, in fact, far from innocuous.

When the employee exercises his or her options, the resultant gain is deemed to be compensatory income, i.e., salaries or wages to the employee and, accordingly, subject to tax. Correspondingly -- and this is the critical side of the relationship -- Cisco was presumed to have paid wages or salaries equal to the income earned by the employee and thus the company is entitled to a tax deduction (all spelled out in Section 83 of the Internal Revenue Code).

Now then, that $837 million tax benefit means that at an assumed 33% tax rate, the related deduction for Cisco's tax return would have been $2.5 billion in the fiscal year ended July 31, 1999. If $2.5 billion is a cost for tax purposes, logic dictates that it is also a cost for determining Cisco's operating results.

More specifically, for fiscal '99, Cisco's pretax income should be reduced by $2.5 billion; its income tax cost would be cut by $837 million. Net income, accordingly, would be slashed by a whopping $1.6 billion, or by nearly 80% from the reported figure of $2.02 billion, to $423 million.

The impact of options on Cisco's fiscal 2000 results was even more pronounced and even more stunning. According to the 10-K (footnote 11), the tax benefit derived for the exercise of options amounted to $3.077 billion. At the assumed 33% tax rate, that amount translates into over $9 billion of salaries.

Especially noteworthy is that fully $2.147 billion of that $3 billion-plus was generated during the final fiscal quarter, the May-July time span. Clearly, as Cisco's share price dropped, options holders made a mad dash to cash in their chips, in the process triggering roughly $6 billion of imputed salaries and wages.

How should that humongous full-year figure of $9 billion of imputed wages and salaries be factored into fiscal 2000 operating results? Let's assume only $310 million of tax benefit is "normal" for the fourth quarter (the average of the first three quarters of the year) rather than the actual total, hugely swollen by the period's extraordinary stampede to sell. That would make the "normalized" tax benefit from exercised options for fiscal 2000 a not exactly modest $1.246 billion, implying an addition to the year's operating expenses of $3.7 billion and an after-tax reduction of the bottom line by $2.5 billion.

Put another way, if Cisco had treated the exercise of options as they should be treated -- that is, as a charge to income -- the company would have reported not the $2.1 billion in earnings it did report, but a loss of $363 million (excluding $531 million of net gains on minority interests).

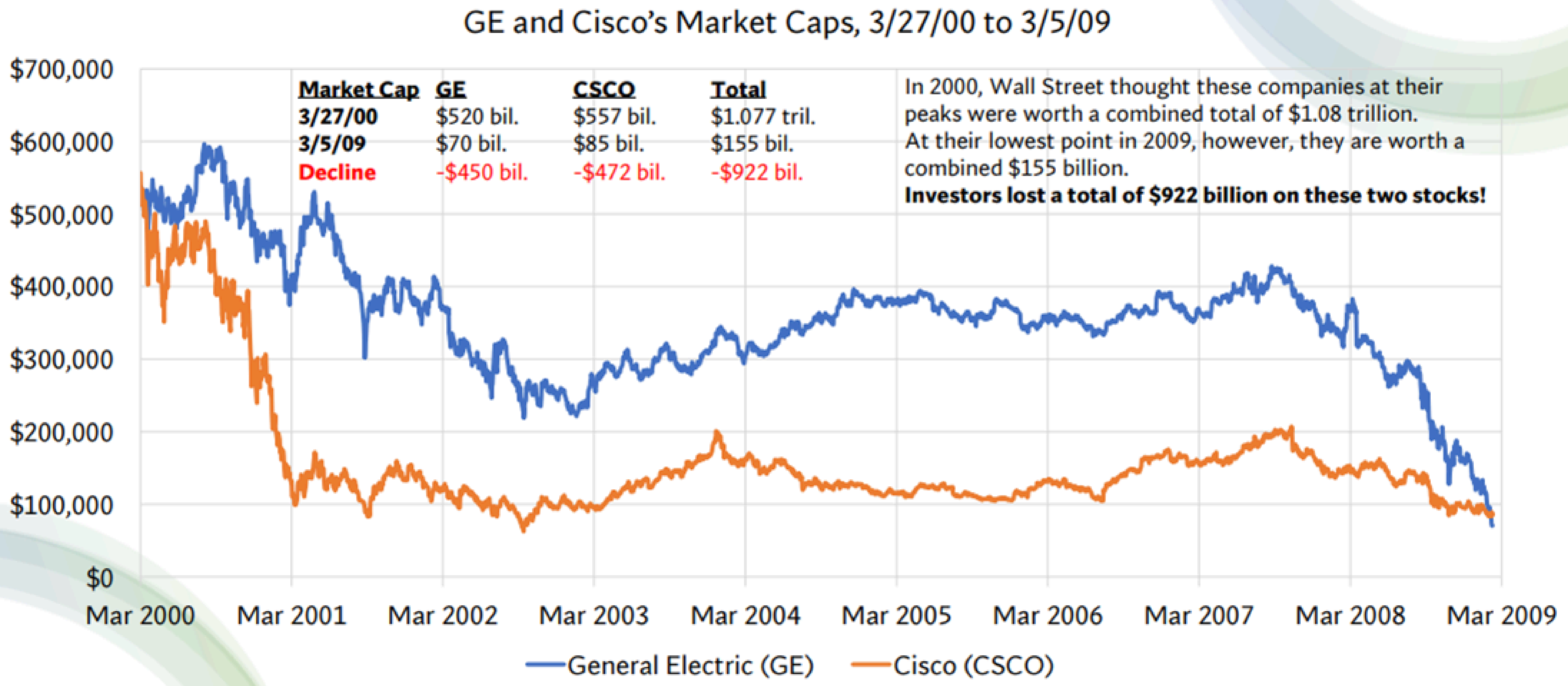
My restatement of Cisco's income to give due allowance to the cost of options is not a capricious exercise. For it's squarely in accord with underlying accounting precepts, especially Statement of Financial Accounting Standards No. 5, "Accounting for Contingencies." The statement, promulgated over a quarter-century ago, holds that a loss should be accrued as a charge to income when "it is probable ... a liability had been incurred" and "the amount of loss can be reasonably estimated." In other words, the charge to income from stock options kicks in when those options are exercised.

The result of Cisco's accounting aggressiveness, both in its energetic use of pooling and its treatment of exercised options, then, has been to enormously inflate reported earnings. And enormously inflated earnings have played no small role in elevating the company -- and its stock -- to the pinnacle of investor esteem.

ABRAHAM J. BRILOFF , a CPA and frequent contributor to Barron's over the past 30 years, is a distinguished professor emeritus at Baruch College in New York City.

Exhibit IV: Cisco/GE Price Collapse Timeline

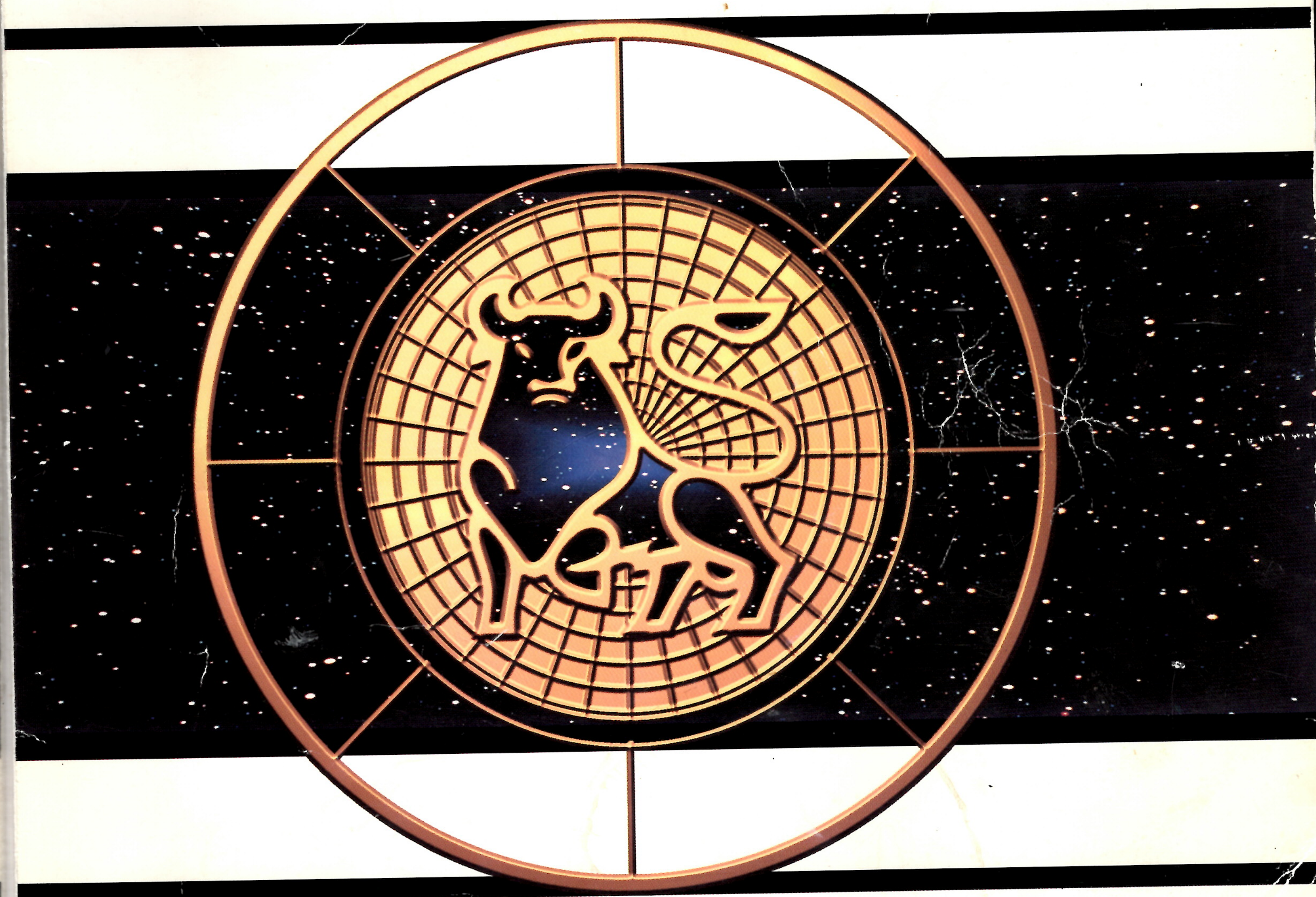
GE and Cisco – 3/27/2000 to 3/5/2009



Merrill Lynch

August 2000

Global Research Review



Global Securities Research & Economics Group
Global Fundamental Equity Research Department

Focus 1 represents a timely investment value chosen from Merrill Lynch's BUY (1) rated stocks. Each weekly selection will consider Merrill Lynch's current economic, investment strategy, and market analysis or be based on unusual fundamental and/or investment developments.

Note these selected stocks are much lower now than when they appeared on the list on 7/25/2000

Company	Price 7/25/00	Symbol	Opinion	Country	Date Added to Focus List
Focus 1					
Alcoa	$31 5/16	AA	B-1-1-7	US	4/19/00
Associates First Capital	26	AFS	B-1-1-7	US	7/18/00
Biogen	57 11/16	BGEN	C-1-1-9	US	1/18/00
Canon Inc.	44 7/8	CANNY	A-1-1-7	Japan	3/8/00
Cigna Corp.	96 15/16	CI	B-1-1-7	US	2/1/00
Cisco Systems	68 1/8	CSCO	B-1-1-9	US	9/13/99
Coca Cola	59 1/4	KO	A-1-1-7	US	12/21/99
CVS Corp.	43	CVS	B-1-1-7	US	2/9/00
Delphi Automotive	15 7/16	DPH	C-1-2-7	US	1/25/00
Diageo	35 9/16	DEO	A-1-1-7	UK	4/26/00
Diamond Offshore	35	DO	C-1-1-7	US	8/3/99
DST Systems	93 9/16	DST	B-1-1-9	US	3/28/00
EMC Corp.	83	EMC	B-1-1-9	US	7/25/00
Emerson Electric	65 17/32	EMR	A-1-1-7	US	6/19/00
Ericsson (L.M.)	20 1/4	ERICY	B-1-1-7	Sweden	12/15/99
Exxon Mobil Corp	75 3/8	XOM	A-1-1-7	US	11/29/99
General Electric	53 9/16	GE	A-1-1-7	US	9/17/99
Guidant Corp	55 5/16	GDT	B-1-1-9	US	9/29/99
Hughes Electronics	29 1/8	GMH	B-1-1-9	US	5/17/00
Infinity Broadcasting	34 15/16	INF	C-1-1-9	US	10/7/99
Kyocera Corp.	156 1/2	KYO	A-1-1-7	Japan	2/22/00
News Corp	49 3/4	NWS	C-1-1-7	Australia	11/1/99
Nokia	55 1/4	NOK	B-1-1-7	Finland	10/12/99
Novellus Systems	58 3/16	NVLS	D-1-1-9	US	6/27/00
Pfizer	44	PFE	A-1-1-7	US	5/31/00
Radioshack	56 11/16	RSH	C-1-1-7	US	5/9/00
Solectron	44 1/2	SLR	B-1-1-9	US	5/3/00
Sprint PCS	56 11/16	PCS	D-1-1-9	US	6/13/00
Sun Microsystems	109	SUNW	B-1-1-9	US	8/30/99
Texas Instruments	67 1/16	TXN	B-1-1-7	US	8/10/99
Verizon	48 9/16	VZ	B-1-1-7	US	3/22/00
Viacom	69 1/4	VIA B	B-1-1-9	US	2/29/00
Wal*Mart Stores	59 3/16	WMT	A-1-1-7	US	11/8/99
Williams Cos.	44	WMB	B-1-1-7	US	4/6/00

* Price objective as of date indicated.

** Restricted. Solicitation of commission orders is prohibited.

Exhibit VI – NASDAQ Returns, 2000 to 2016

From March 2000 to November 2016, the NASDAQ made 0%.
But during this period, investors suffered serious losses that took years, if not decades, to recoup.

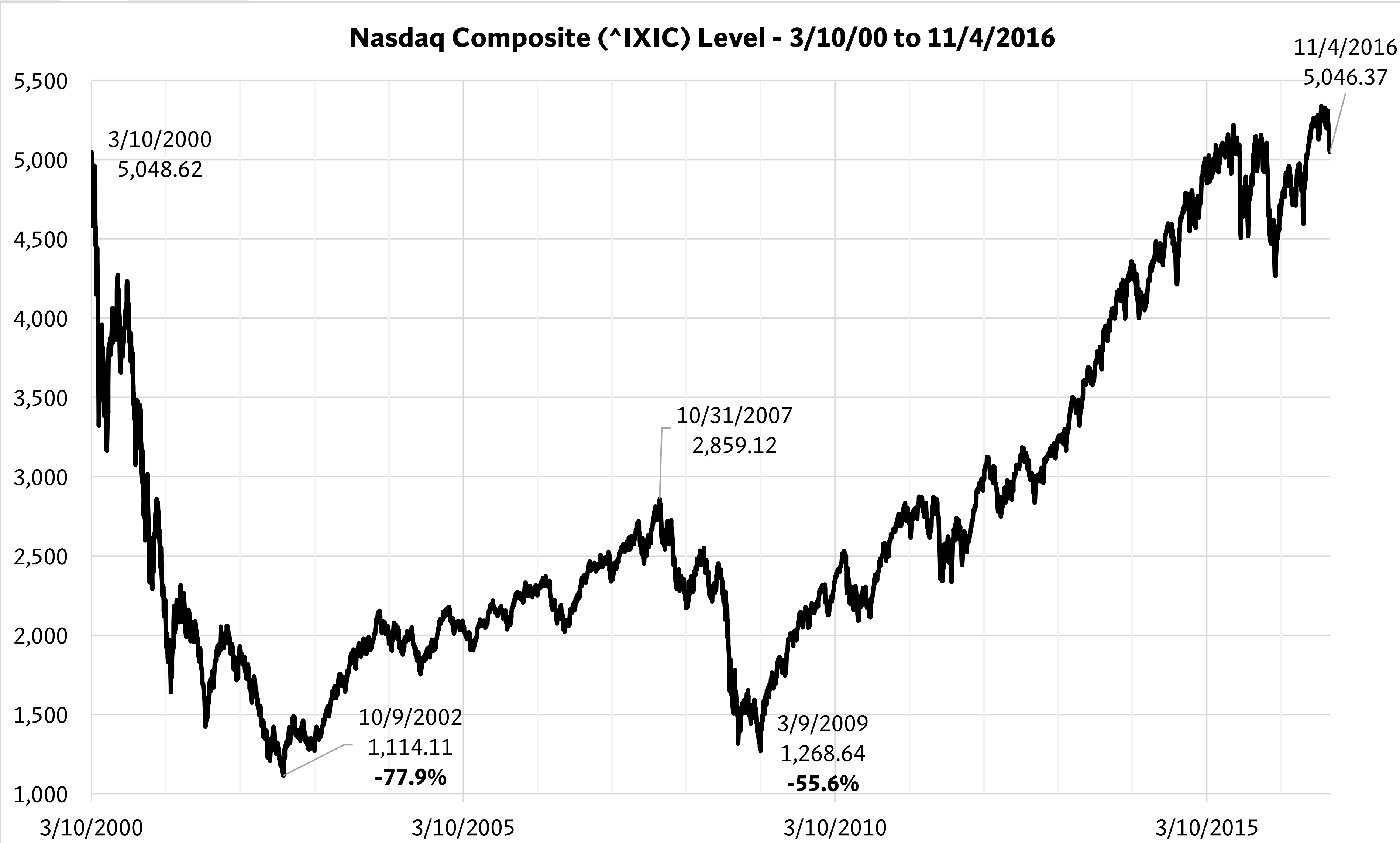


Exhibit VII: The 5 Core Causes of Stock Price Decline and How Advisors Must Disclose Their Risk Management Approach

Overview:
This exhibit outlines the five most common causes of significant stock price declines. For each, it explains what competent advisors *should* be doing to detect and manage these risks—and what they should be *required* to disclose to clients. This framework helps investors understand what questions to ask, and helps regulators ensure advisors meet minimum standards of competence and care.

---

1. Financial Deterioration of the Company

Cause:
A company’s balance sheet or income statement worsens: rising debt, falling earnings, negative cash flow, shrinking margins, or liquidity problems.

Advisor Obligation:
- Monitor quarterly and annual financial statements.
- Identify deteriorating trends early (e.g., worsening debt-to-equity, declining net income, reduced free cash flow).
- Use objective, data-driven tools to detect red flags.

Disclosure Requirement:
- Advisor must explain whether and how they review a company's financial condition regularly.
- Must inform clients if they do **not** have a system for detecting financial deterioration.

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2. Excessive Overvaluation / Price Far Exceeds Intrinsic Value

Cause:
Stock prices become disconnected from financial fundamentals. High P/E or P/S ratios may signal unsustainable valuations driven by hype, speculation, or excessive optimism.

Advisor Obligation:
- Evaluate whether the stock’s valuation is justified by its earnings, sales, and financial condition.
- Compare current valuation to long-term historical norms for similar companies.
- Consider Net Present Value (NPV) modeling based on realistic growth expectations.

Disclosure Requirement:
- Disclose whether the advisor uses any valuation models or historical benchmarking tools.
- If not, disclose that valuation is not a core part of their investment process.

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3. Broad Market Corrections or Systemic Shocks

Cause:
Even strong companies can fall during recessions, financial crises, or panic-driven sell-offs (e.g., 2008 crisis, COVID crash).

Advisor Obligation:

- Reduce client exposure to equities when systemic risks rise.
- Adjust allocations using macroeconomic and/or volatility indicators.
- Diversify with low-correlation assets or high-quality fixed income during turbulent periods.

Disclosure Requirement:

- Explain how the advisor determines when systemic market risk is high.
- Disclose whether they have a process for reallocation or de-risking during such periods.

---

4. Changes in Business Conditions or Competitive Threats

Cause:
A company loses its competitive advantage, faces disruption (e.g., new technologies), or sees declining demand for its products/services.

Advisor Obligation:

- Stay informed on the company's industry, regulatory environment, and competitive threats.
- React when business fundamentals change, especially if forecasts are revised downward.
- Avoid long-term holding of companies in secular decline.

Disclosure Requirement:

- Advisor must disclose whether and how they evaluate changing business conditions.
- If no process exists for monitoring such risks, that must be disclosed.

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5. Speculation, Momentum, and Investor Euphoria

Cause:
Stocks may become dangerously overpriced due to herd behavior, media hype, or speculative buying (e.g., meme stocks, tech bubbles).

Advisor Obligation:

- Avoid chasing performance or investing based on momentum without valuation support.
- Use historical drawdown data to evaluate downside potential.
- Alert clients when risk-reward ratios become asymmetric.

Disclosure Requirement:

- Advisor must disclose whether they use any historical volatility or downside probability models.
- If they do not evaluate downside risk statistically, this must be disclosed.

Summary Requirement for RIAs:

Advisors should be **required to provide a written explanation** to each client that includes:

1. **The advisor's process for identifying these five major risk categories.**
2. **The tools, training, or software they use (if any) to manage those risks.**
3. **A statement about their ability to reduce or prevent losses when one or more of these risks arise.**
4. **Whether they have a track record of successful risk avoidance during past downturns.**

If an advisor cannot speak confidently about these risk factors—or if they have no system in place to identify them—**that alone is a red flag for the investor and should be made explicit in writing to both clients and prospective clients.**

Exhibit VIII: Historic Price Collapses of Leading Stocks: MSFT, AMZN (1999–2010)

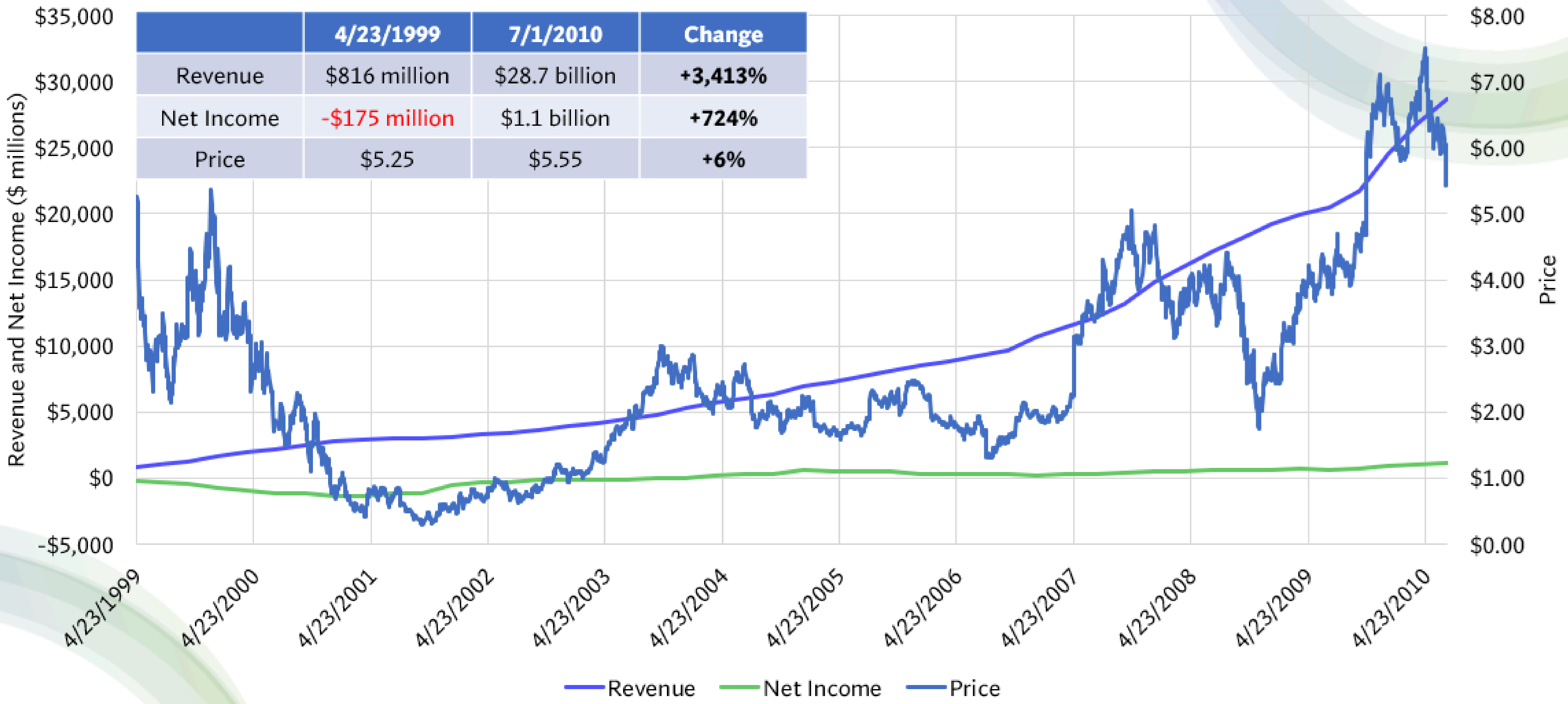
MSFT: History often repeats itself. We can explain why.

12/27/1999 to 11/15/2016

	12/27/99	11/15/16	Change
Revenue	$20.9 billion	$92.7 billion	**+343%**
Net Income	$8.3 billion	$21.3 billion	**+157%**
Price	$59.56	$58.87	**-1.2%**

AMZN: History often repeats itself. We can explain why.
4/23/1999 to 7/1/2010

	4/23/1999	7/1/2010	Change
Revenue	$816 million	$28.7 billion	**+3,413%**
Net Income	-$175 million	$1.1 billion	**+724%**
Price	$5.25	$5.55	**+6%**



RISK RESEARCH REPORT

25 Years of Predictive Power

A 25-Year Comparative Quantitative Study of ERS's
LOSS INDICATOR™ (LI™)
and
4 DIMENSIONS OF RISK™ (4D™)

June 30, 2025

EQUITY RISK SCIENCES
Employing Data Science & AI for Safer Investing

Table of Contents

Executive Summary

What You're About to Read

This comprehensive research report presents 25 years of quantitative evidence demonstrating how Equity Risk Sciences' (ERS) proprietary risk assessment tools can help investors identify and avoid devastating losses before they occur. The report analyzes thousands of companies across multiple time periods, market cycles, and economic conditions to validate the predictive power of two key innovations:

- **4 Dimensions of Risk™ (4D™)**: A comprehensive risk grading system (A through F) that evaluates companies' overall financial health and future performance potential
- **Loss Indicator™ (LI™)**: A specialized early warning system designed specifically to flag companies at high risk of significant price declines

Why This Research Matters

The Problem: Every year, investors lose billions of dollars in preventable losses from companies showing clear warning signs of financial distress. Traditional analysis often fails to identify these risks until it's too late.

The Solution: Through rigorous data science applied to SEC-filed financial data, ERS has developed tools that consistently identify high-risk investments years in advance. This isn't hindsight analysis—it's predictive intelligence that works.

The Proof: Our research shows that over 25 years, these tools have successfully:

- Identified 93% of companies that eventually went bankrupt—up to three years before their collapse
- Flagged stocks that experienced 40%+ losses nearly four times more accurately than random selection
- Helped investors avoid $8.4 trillion in collective losses from 60 major companies that declined dramatically between 2020-2023

Why You Should Read This Report

For Investment Professionals: Learn how data-driven risk assessment can enhance your due diligence process, protect client assets, and fulfill your fiduciary responsibilities more effectively.

For Institutional Investors: Discover quantitative tools that can improve your portfolio construction, reduce downside exposure, and enhance risk-adjusted returns across market cycles.

For Risk Managers: Understand how predictive analytics can transform your approach to identifying and mitigating investment risks before they materialize into losses.

This report provides concrete evidence that major investment losses are often predictable and preventable. The data spans multiple decades, thousands of companies, and various market conditions—offering you the insights needed to make more informed investment decisions and protect capital more effectively.

1 Part One Introduction

Understanding Risk Through Data Science

Part One introduces ERS's risk assessment methodology and presents compelling evidence of its effectiveness through quantitative analysis of 2,619 companies over 3.4 years.

The 4 Dimensions of Risk™ (4D™)

The **4 Dimensions of Risk™** analyzes SEC-filed financial data to assign letter grades (A through F) that predict future price movements. Companies receiving higher grades (A, B) demonstrate stronger financial fundamentals, while lower grades (E, F) indicate elevated risk of significant losses.

How It Works: Proprietary algorithms process financial statements, cash flow data, and operational indicators to identify patterns that precede both outperformance and underperformance.

The Loss Indicator™ (LI™)

The **Loss Indicator™** serves as an early warning system, specifically designed to detect companies at immediate risk of substantial price declines. It uses ratings from "Acceptable" to "Condemned" to indicate increasing levels of financial distress.

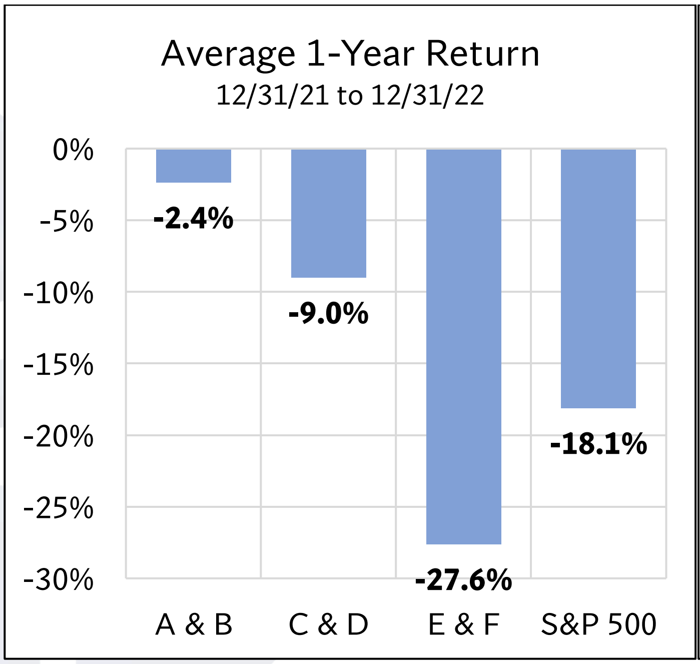
How It Works: The LI™ focuses on specific financial patterns that historically precede major price declines, providing critical intelligence for capital preservation.

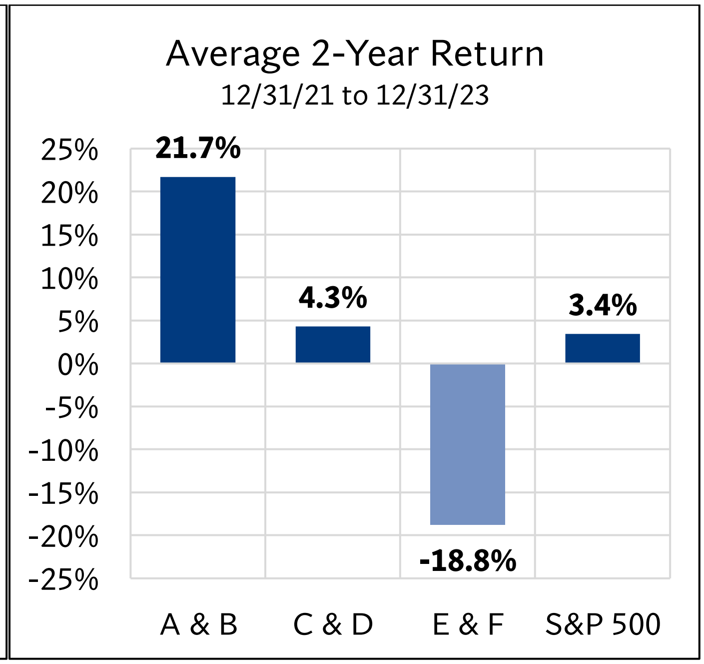
What You'll Learn in Part One

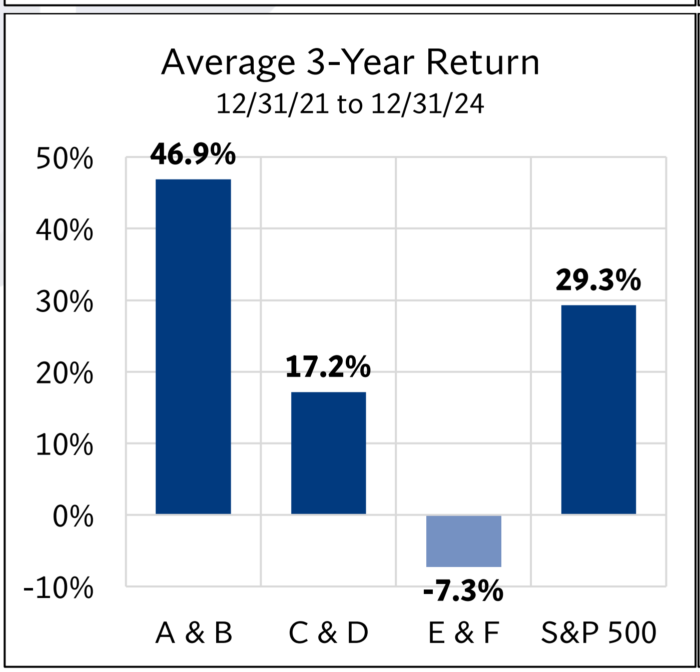
The following sections demonstrate how these tools performed across 2,619 companies, showing concrete evidence of how ratings correlate with actual investment outcomes and the significant performance differences between high-rated and low-rated companies.

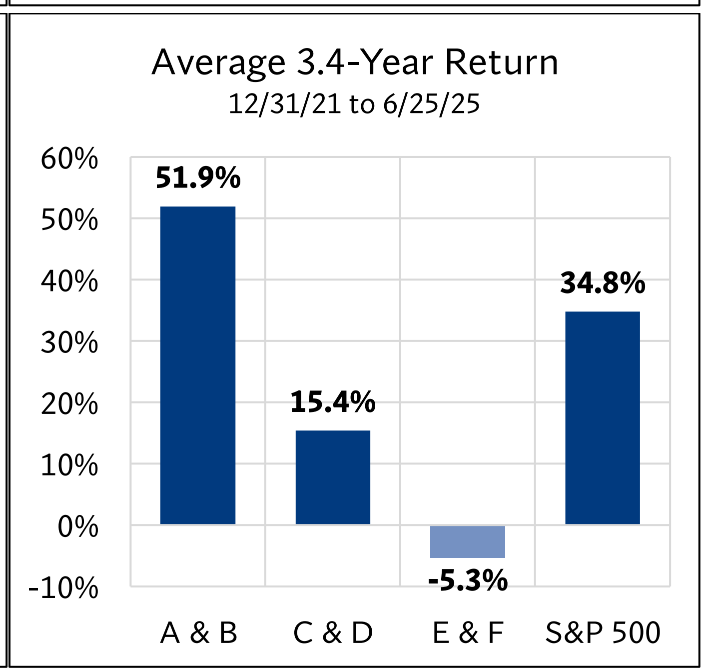
1.1 4 DIMENSIONS OF RISK (4D) Study – 3.4-Year Returns

Description: The charts below show that ERS's **4 DIMENSIONS OF RISK** (**4D**) rating is strongly correlated with actual investment outcomes: companies rated **A or B** (low risk) produced significantly higher average returns over 1-, 2-, 3-, and 3.4-year periods than companies rated **E or F** (high risk). This consistent performance gradient across timeframes confirms that **4D** effectively stratifies financial risk and helps investors identify stocks more likely to outperform—or underperform—before those outcomes occur.





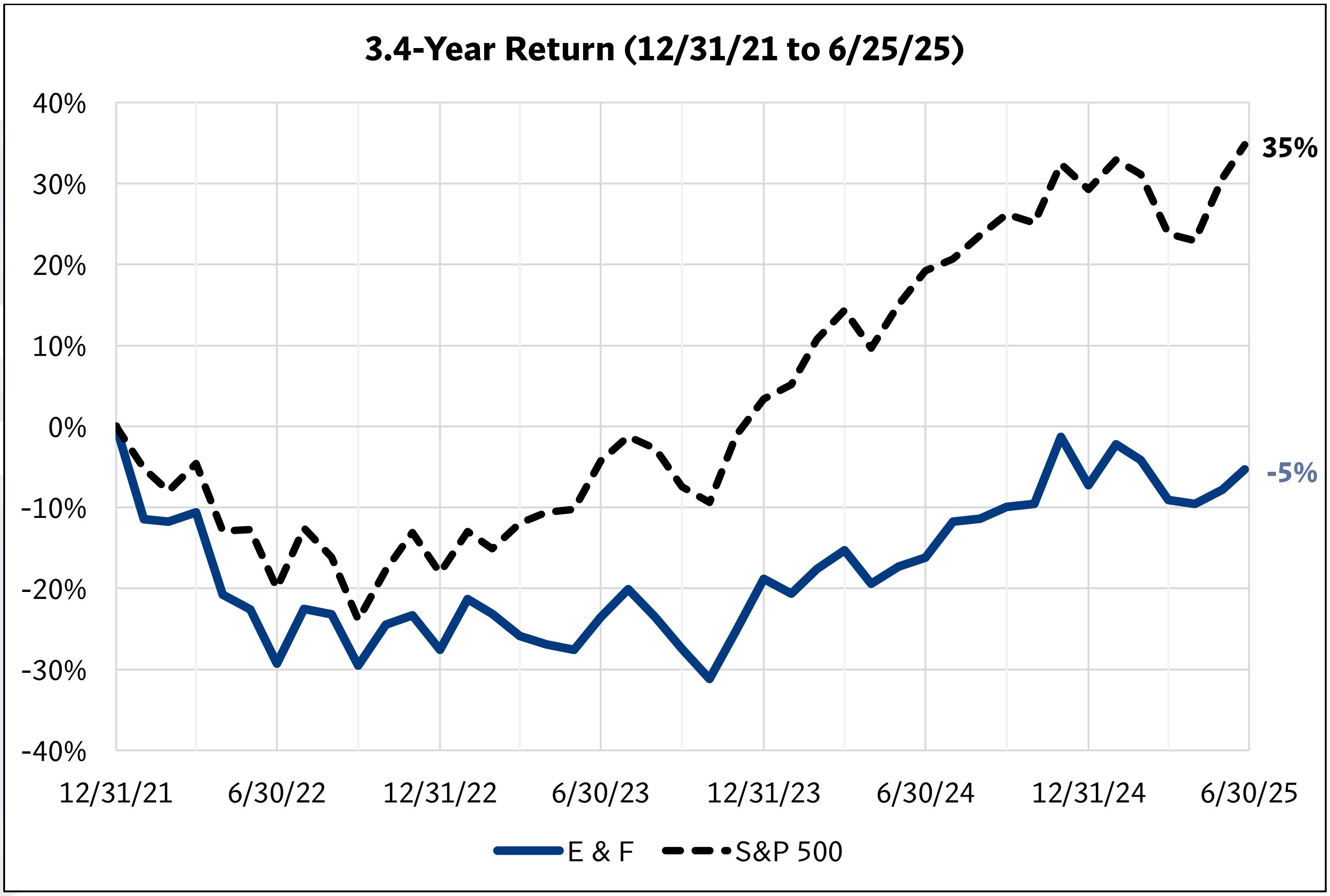




1.2 4 DIMENSIONS OF RISK (4D) Study Line Chart

Description: This chart below illustrates the cumulative total returns of an equal-weighted stock portfolio of the 1,346 stocks rated **E or F** by ERS's **4 DIMENSIONS OF RISK**™ over the 3.4-year period from December 31, 2021, to June 25, 2025.

- **E & F-Rated Stocks** (high risk) are shown in blue, and
- The **S&P 500** benchmark is in black.



4D "E" & "F" Stocks Underperformed the S&P 500 by **40%** Over 3.4 Years

The results reveal a clear and consistent divergence in performance based on **4D** scores. The high-risk **E & F**-rated stocks declined **-5%**, while the S&P 500 rose **35%**. Notably, this return gap widened steadily over time, particularly during periods of market recovery, illustrating the **4D**'s predictive ability to identify riskier investments and help investors reduce, avoid and prevent losses.

1.3 Frequency of 40% Declines When Held for 3.4 Years
4 Dimensions of Risk (4D) Study

Description: The table below demonstrates that stocks rated as high-risk by ERS's **4D** (ratings **E or F**) experienced a far higher rate of large losses (greater than 40%) compared to low-risk stocks (ratings **A or B**), with the worst-rated groups producing these losses nearly four times as often. The frequency of any loss was nearly twice as high for stocks rated **E or F**, and this pattern held true across all company sizes, steadily declining as **4D** scores worsened.

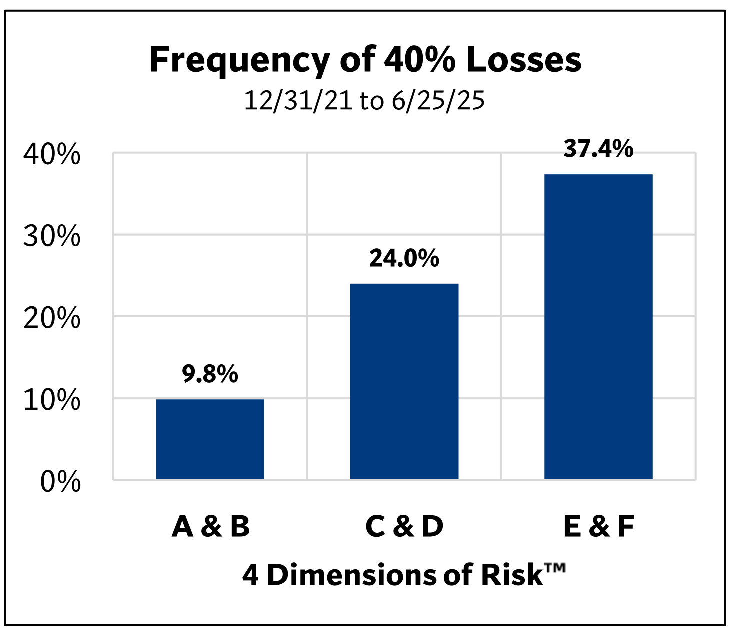
Key Finding:
ERS's Worst-Rated Stocks Were 4x More Likely to Suffer a **40% Loss**

Frequency of Losses – 12/31/21 to 6/25/25

4D	# of Co's	# of Losses	# of 40% Losses	Frequency of Losses	Frequency of 40% Losses
A or B	122	41	12	34%	**10%**
C or D	1,151	582	276	51%	**24%**
E or F	1,346	863	503	64%	**37%**
Average	2,619	1,486	791	57%	**30%**

Summary:

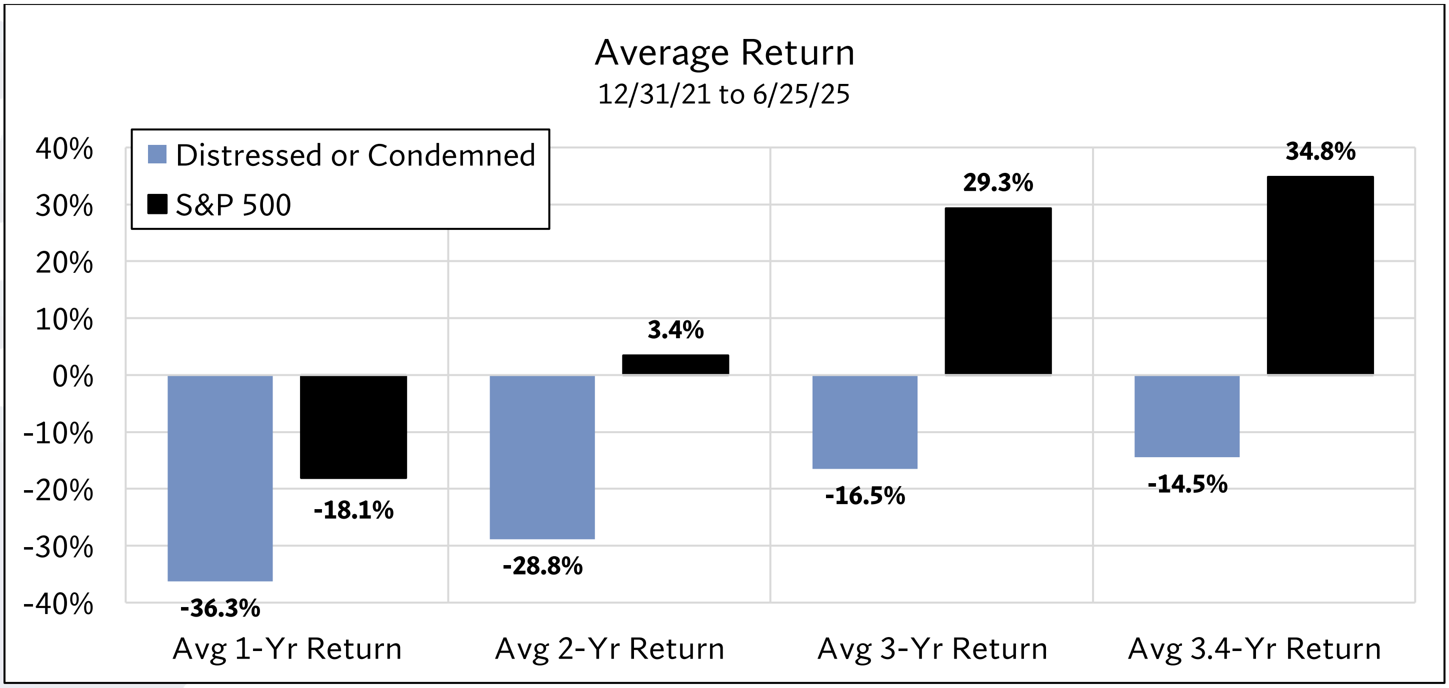
- 37.4% of the stocks rated **E or F** lost more than 40% of their value overall.
- 9.8% of the stocks rated **A or B** lost more than 40% of their value overall.
- The frequency of any loss, not just catastrophic ones, rose steadily as the **4D** worsened.



1.4 LOSS INDICATOR (LI) Study Supplement

While this section of the report has focused on the **4 DIMENSIONS OF RISK™** (**4D**), ERS provides a suite of other proprietary ratings tailored to different risk management goals. Among them is the **LOSS INDICATOR** (**LI**), which is specifically engineered to detect companies with elevated financial vulnerability with a high probability of a substantial price decline.

As shown in the table and chart below, stocks rated **Distressed** or **Condemned** by the **LI** experienced significantly higher loss rates, including catastrophic 40%+ losses nearly half the time. For fiduciaries and investment professionals whose priority is to avoid or reduce major losses, the **LI** serves as a powerful warning signal and complement to the **4D**.



Frequency of Losses – 12/31/21 to 6/25/25

LI	# of Co's	# of Losses	# of 40% Losses	Frequency of Losses	Frequency of 40% Losses
Distressed or Condemned	559	382	272	68%	**49%**
C or D	2619	1486	791	57%	**30%**

1 Part One Summary and Key Takeaways

What the Data Reveals

The quantitative analysis of 2,619 companies over 3.4 years provides compelling evidence that ERS's risk assessment tools deliver measurable predictive value:

Key Findings from the 4 Dimensions of Risk™ (4D™) Study:

Performance Gradient: Companies rated A or B consistently outperformed companies rated E or F across all time periods. The frequency of catastrophic losses (40%+ declines) varied dramatically:

- Only 10% of A/B-rated companies experienced 40%+ losses
- 37% of E/F-rated companies suffered 40%+ losses
- This represents nearly a 4x difference in major loss frequency

Market Outperformance Gap: While the S&P 500 gained 35% over the study period, E/F-rated stocks declined 5%—a 40 percentage point difference.

Key Findings from the Loss Indicator™ (LI™) Study:

Early Warning Effectiveness: Companies rated "Distressed" or "Condemned" experienced losses 68% of the time, with 49% suffering catastrophic 40%+ declines.

Critical Implications for Investors:

Predictive Power: Both tools demonstrated that investment risk can be systematically identified using rigorous financial analysis, providing advance warning to make informed decisions.

Scalable Application: The methodology worked across different company sizes, sectors, and market conditions.

The Bottom Line

Part One establishes that major investment losses are often predictable and preventable. Companies showing poor financial fundamentals consistently delivered worse outcomes for investors, demonstrating that systematic risk assessment can significantly improve capital preservation and risk-adjusted returns.

2 Part Two Introduction

This section summarizes the key findings of Equity Risk Sciences' 25-year study, highlighting the predictive power of the ***LOSS INDICATOR*** *for optimizing stock selection and risk management.*

Equity Risk Sciences' proprietary **LOSS INDICATOR** (**LI**) empowers investors with data-driven tools to minimize risk. These ratings (**Acceptable** to **Condemned**), derived from SEC-filed financial data, predict significant price losses.

Key Finding:
Stocks rated **Condemned** by the **LI** suffered **3-year losses averaging 28.9%**

Our 25-year study, spanning 15 comprehensive analyses across multiple timeframes (5, 10, 15, 20 and 25 years) and holding periods (6 months, 1 year, 2 years), reveals:

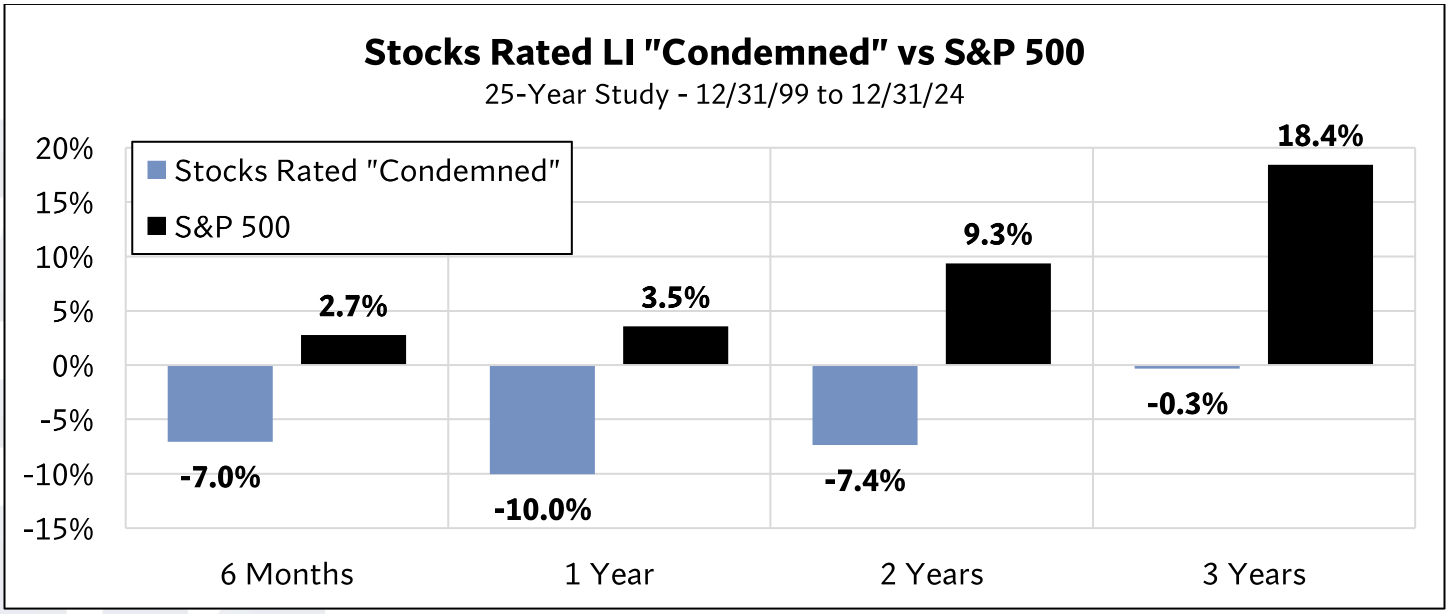
- **LI Flags Losers:** Among stocks which suffered losses, stocks rated **Condemned** by the **LI** declined by an average of 28.9% when held for 3 years, serving as a critical early warning system to avoid catastrophic losses.
- **Robust Methodology:** Analyzing the 1,500 largest U.S.-listed companies monthly, our ratings demonstrate statistically significant predictive power.

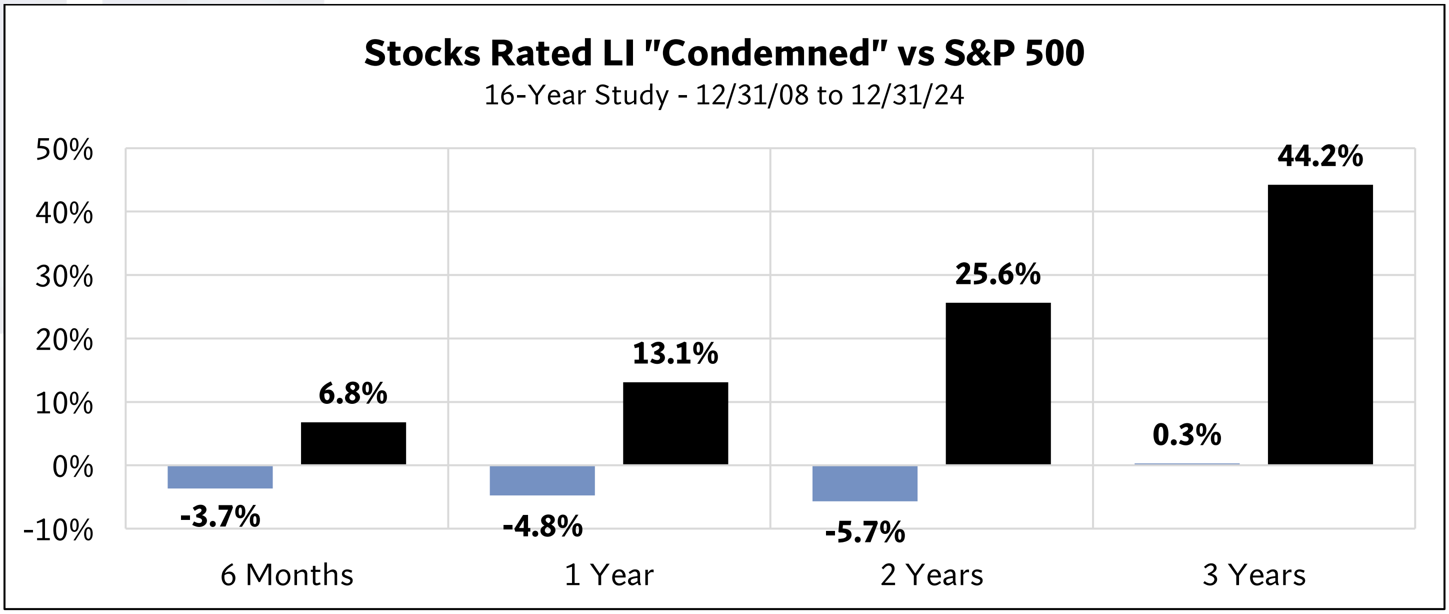
For fiduciaries and institutional investors, the **LOSS INDICATOR** provides a framework for building resilient, high-performing portfolios.

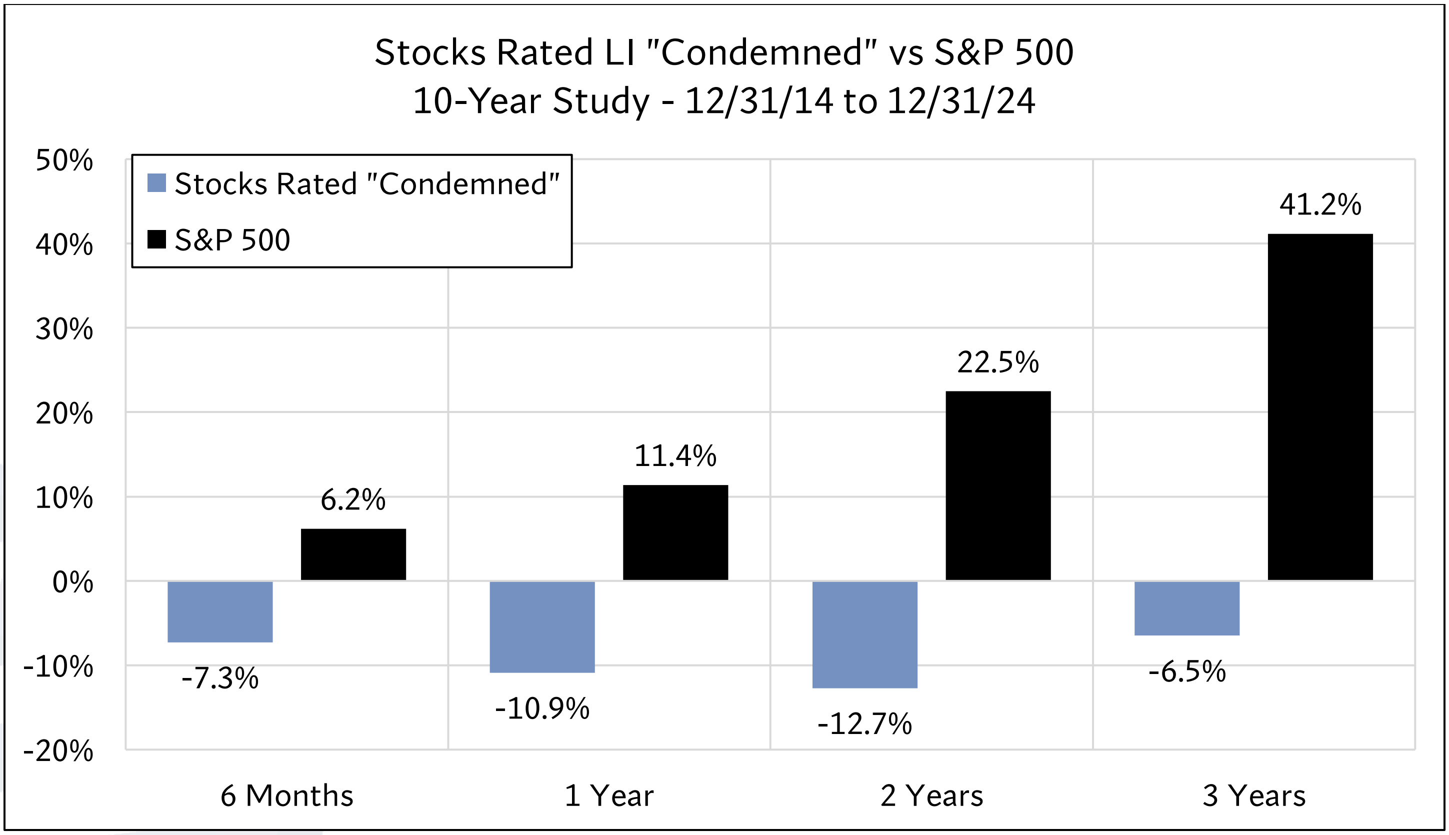
2.1 Loss Indicator – Summary of Results

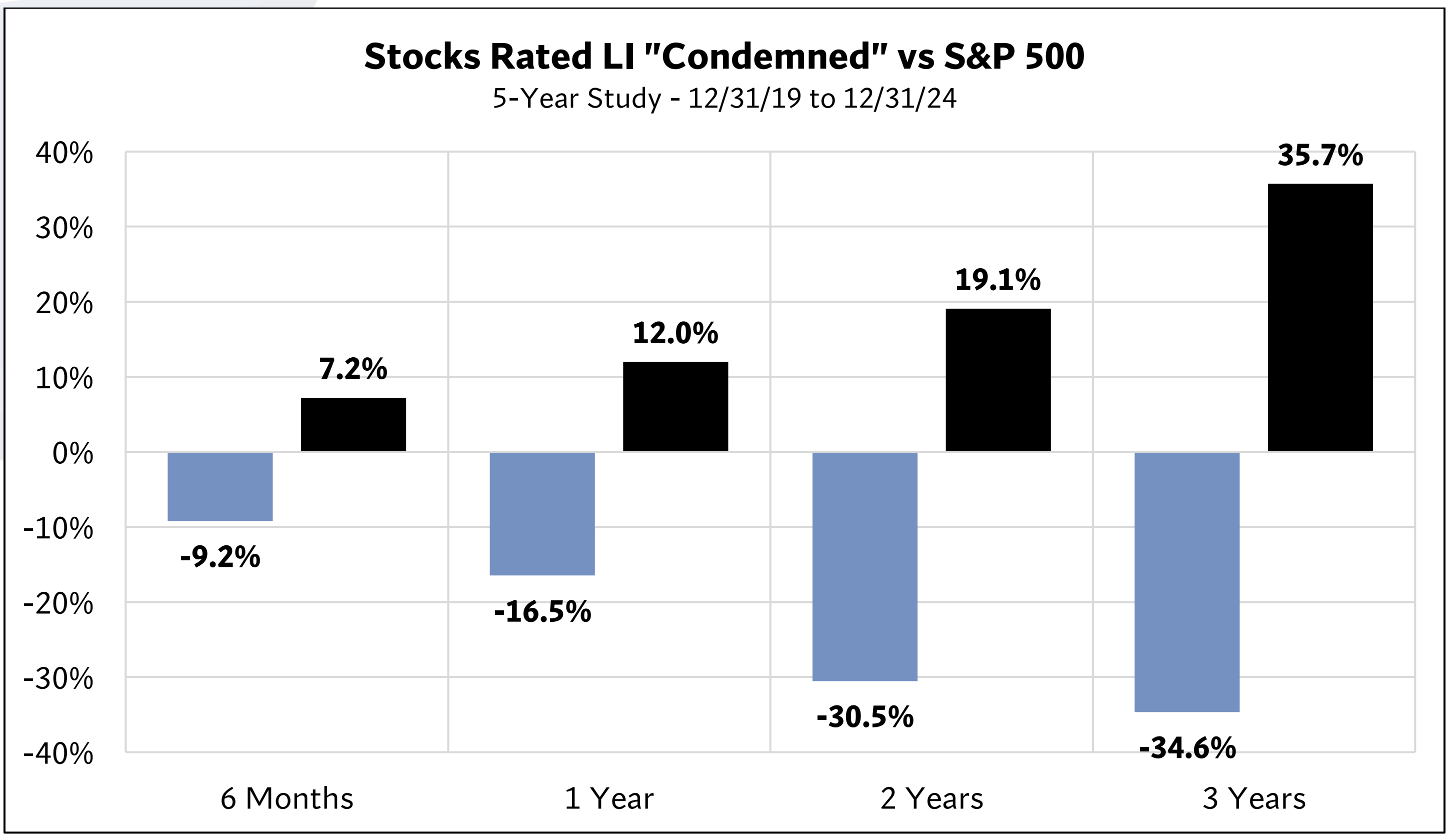
Highlights the LI's effectiveness as an early warning system, identifying high-risk stocks likely to experience significant price declines.

LI's Early Warning:
Avoiding **Condemned**-rated stocks could have saved investors, protecting portfolios from catastrophic losses.



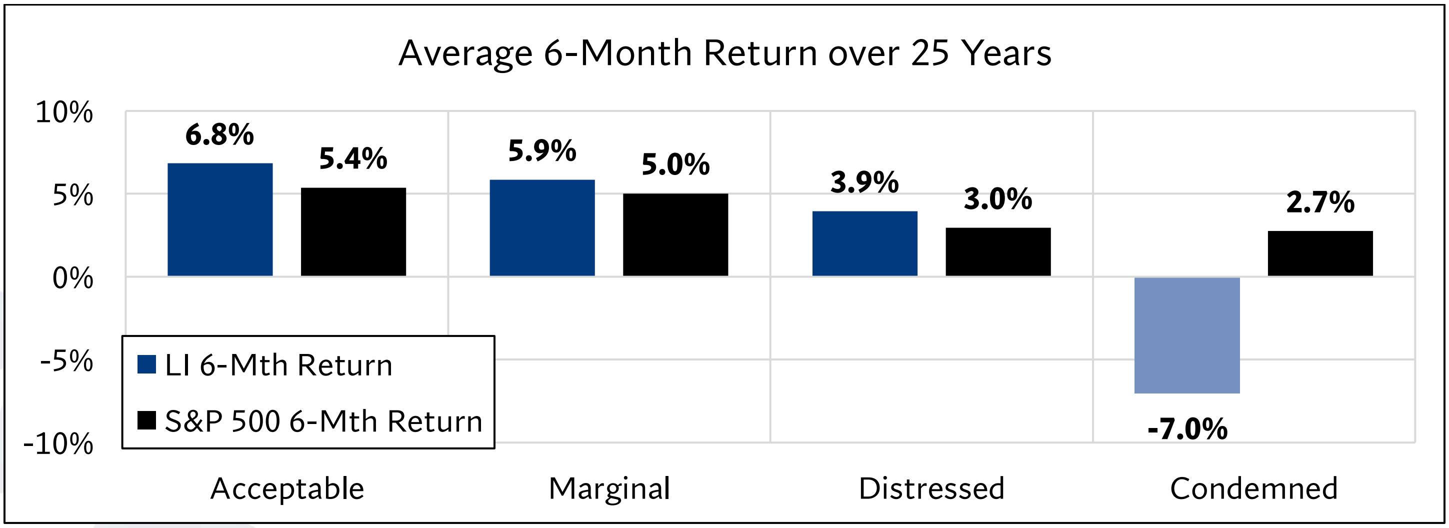


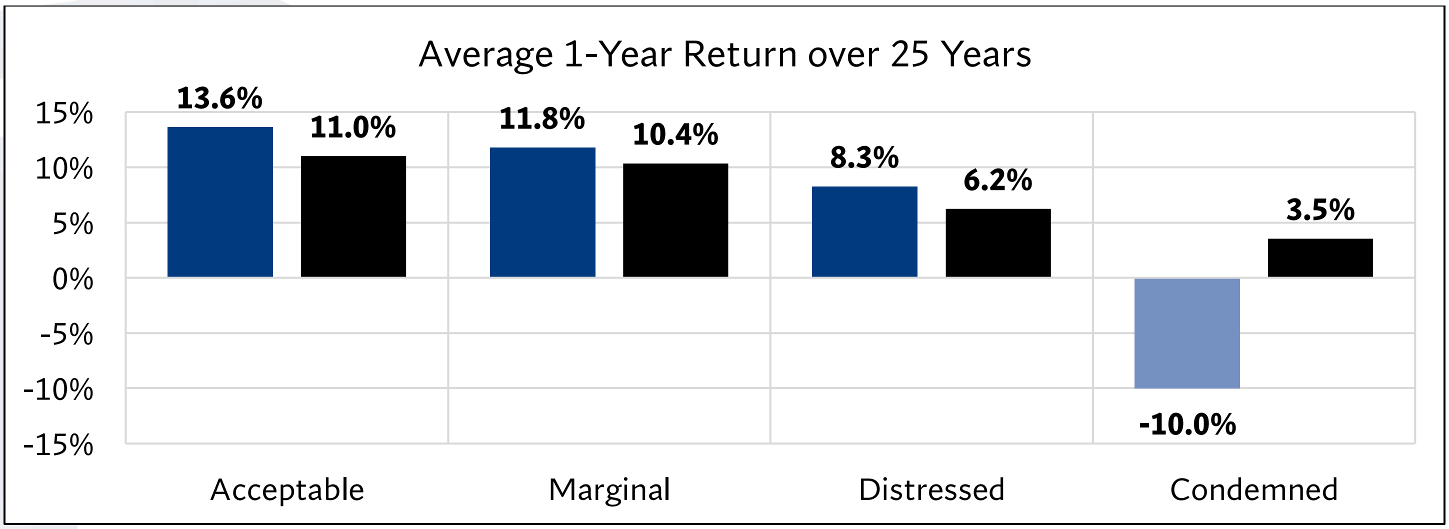

Stocks Rated LI "Condemned" vs S&P 500
10-Year Study - 12/31/14 to 12/31/24
Stocks Rated "Condemned"
S&P 500
50%
40%
30%
20%
10%
0%
-10%
-20%
6.2%
11.4%
22.5%
41.2%
-7.3%
-10.9%
-12.7%
-6.5%
6 Months
1 Year
2 Years
3 Years

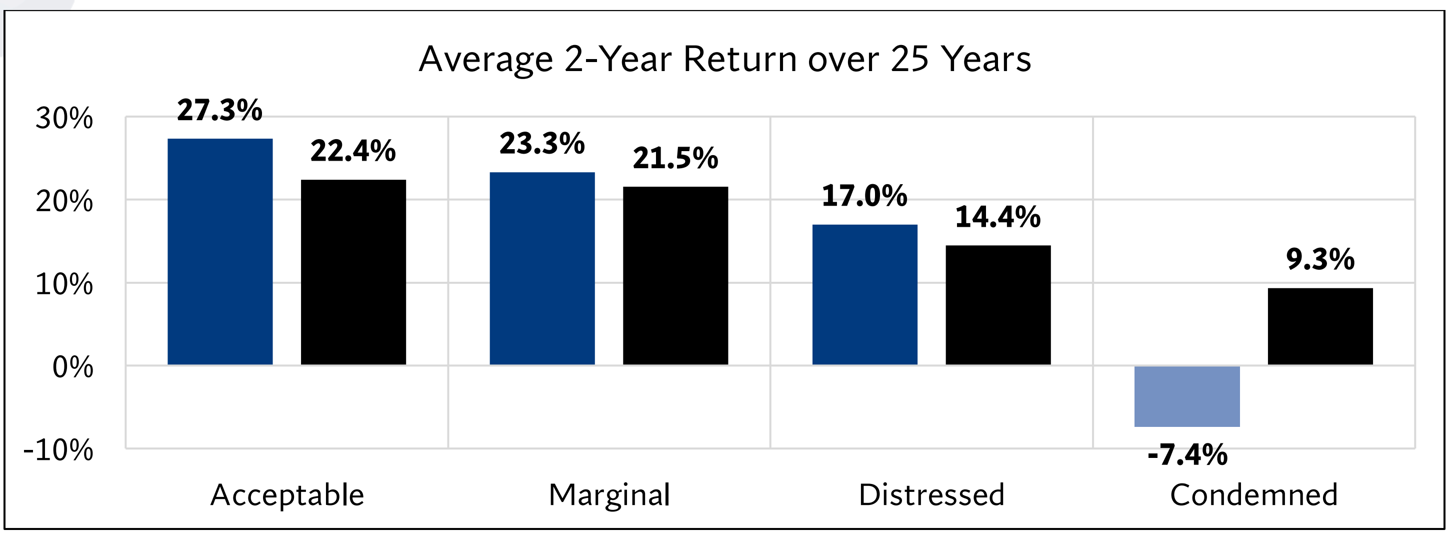

Stocks Rated LI "Condemned" vs S&P 500
5-Year Study - 12/31/19 to 12/31/24
40%
30%
20%
10%
0%
-10%
-20%
-30%
-40%
7.2%
12.0%
19.1%
35.7%
-9.2%
-16.5%
-30.5%
-34.6%
6 Months
1 Year
2 Years
3 Years

2.2 25-Year Study

Analyzes the performance of LI ratings for stocks held for 6 months, 1 year or 2 years over a 25-year period (1999–2024), compared to the S&P 500.

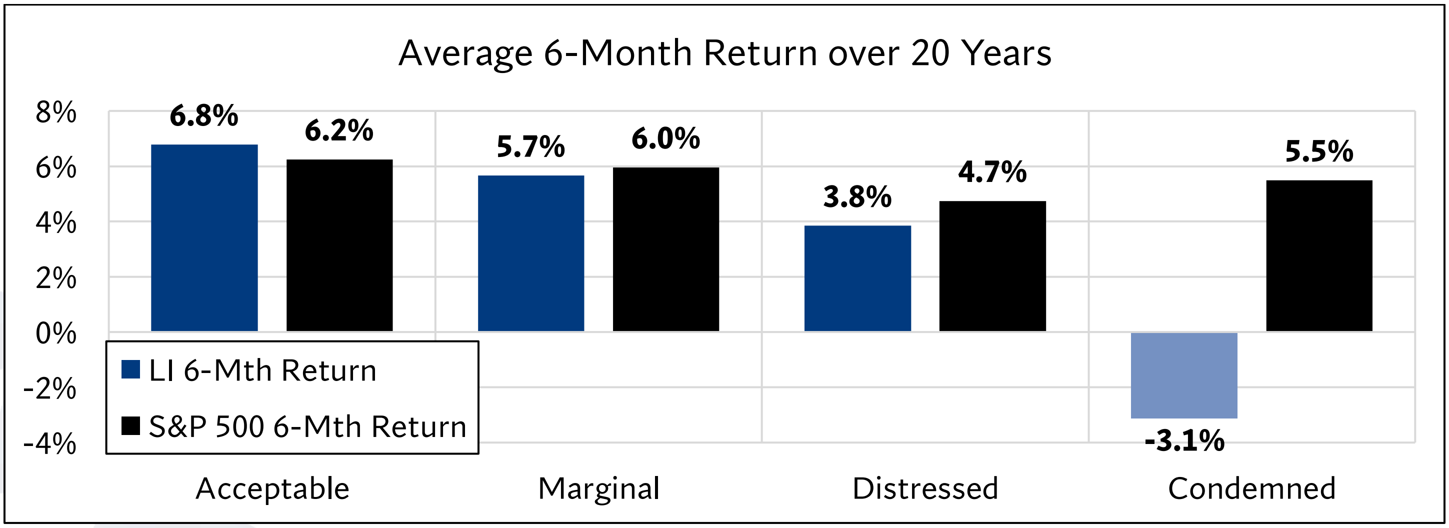


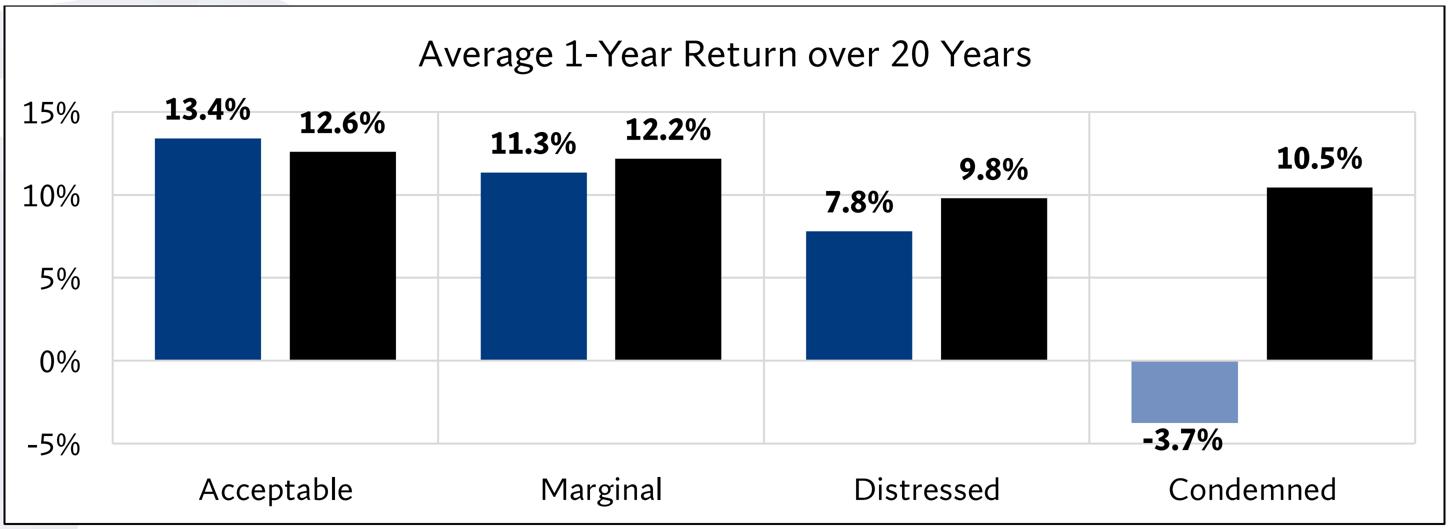


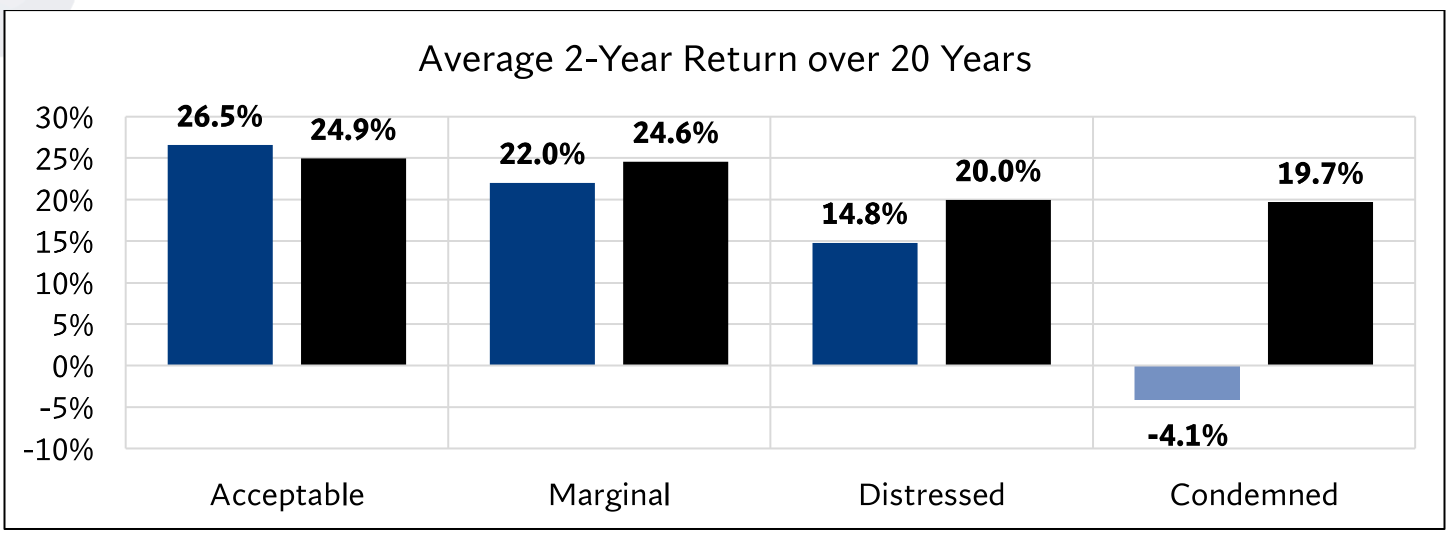


2.3 20-Year Study

Analyzes the performance of LI ratings for stocks held for 6 months, 1 year or 2 years over a 25-year period (1999–2024), compared to the S&P 500.

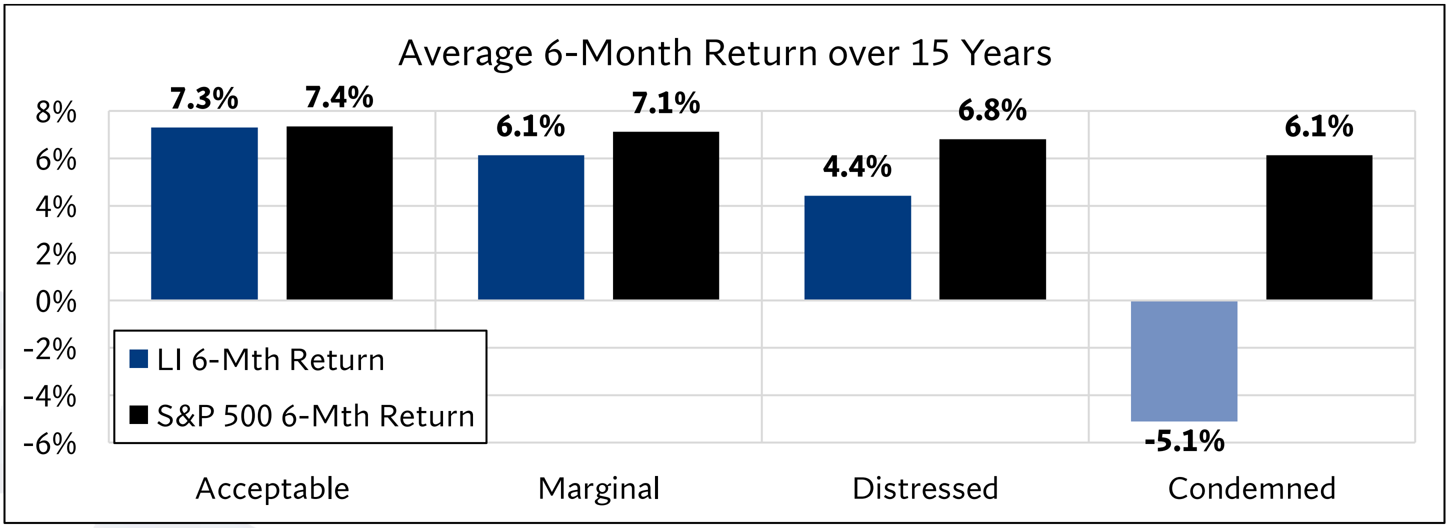


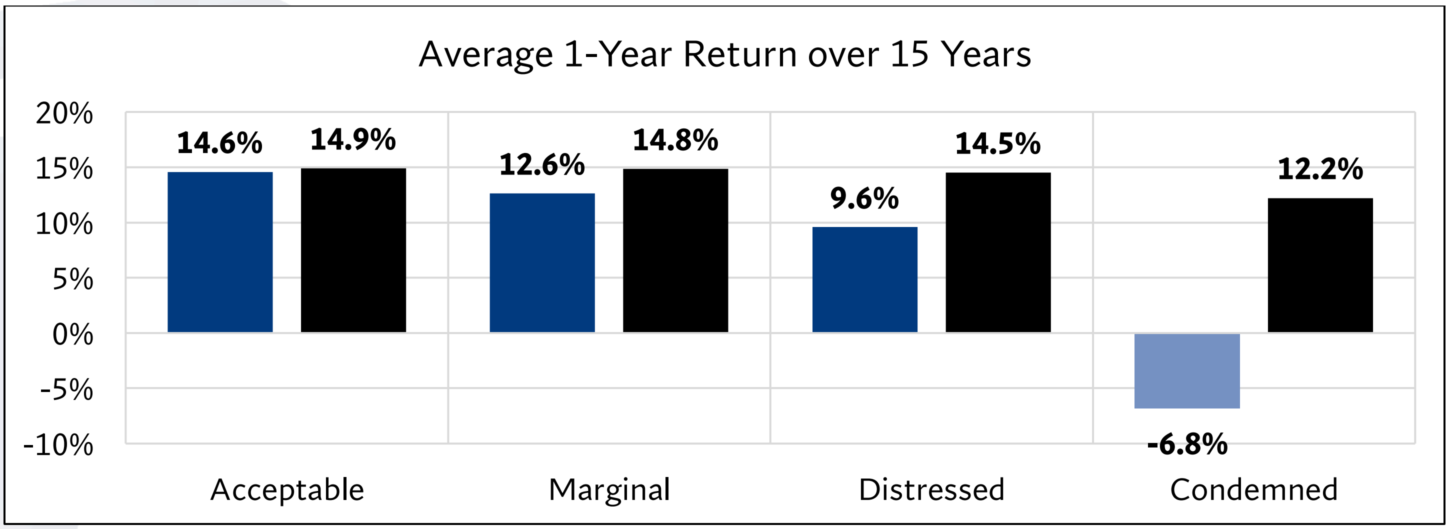


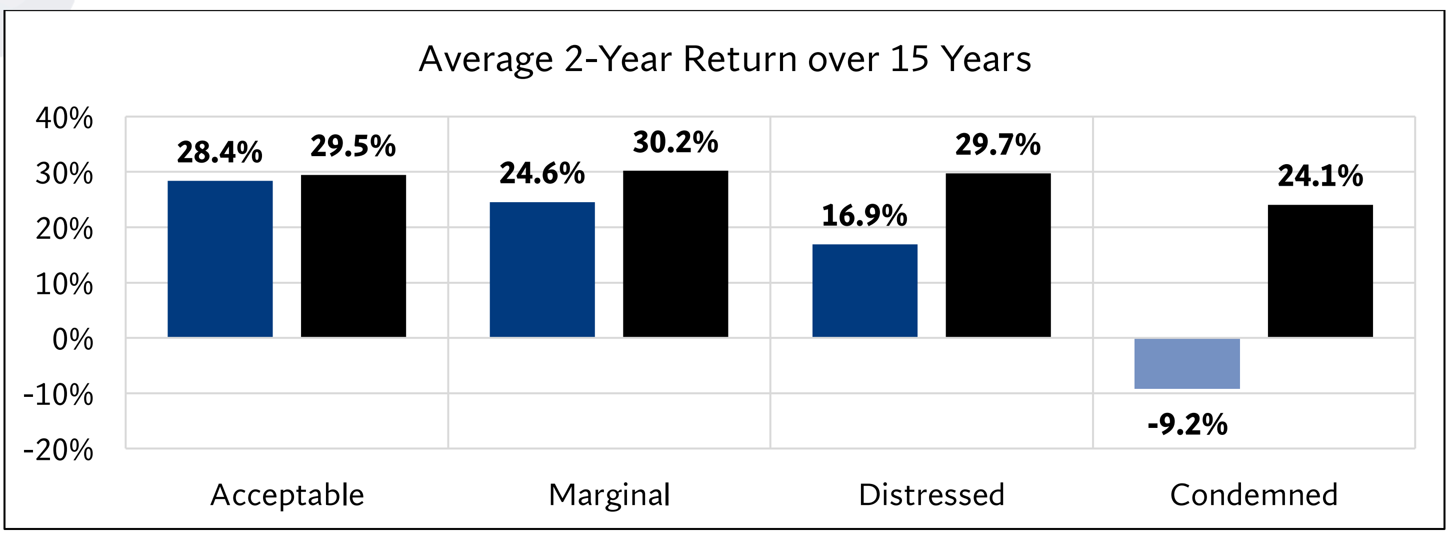


2.4 15-Year Study

Analyzes the performance of LI ratings for stocks held for 6 months, 1 year or 2 years over a 15-year timeframe (2009–2024), compared to market benchmarks.

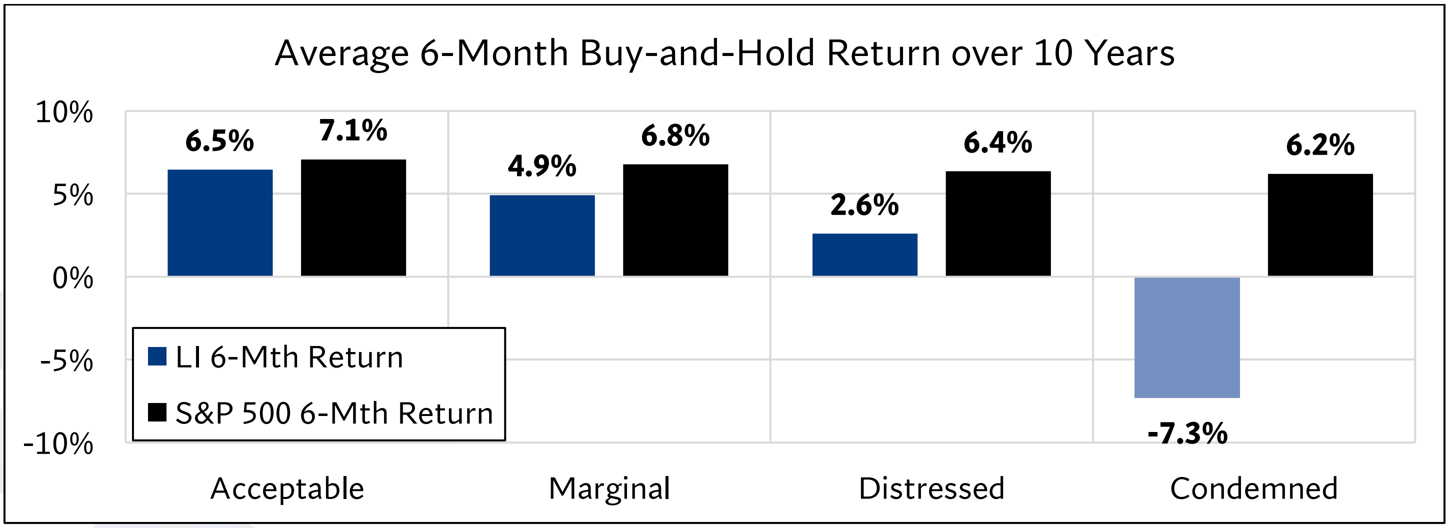


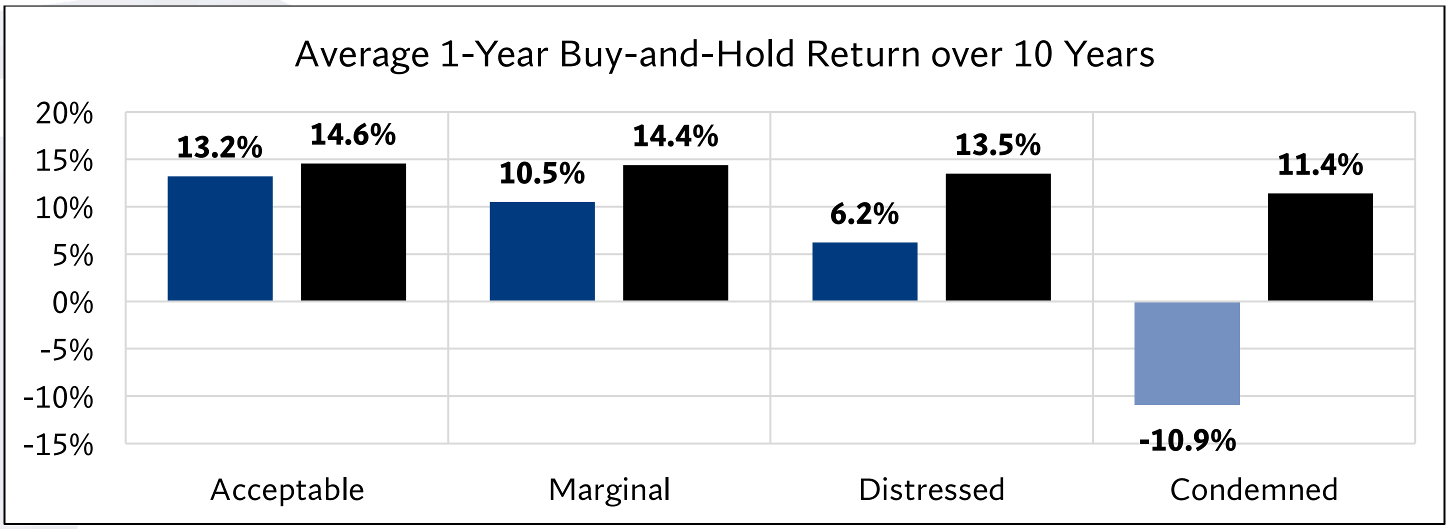


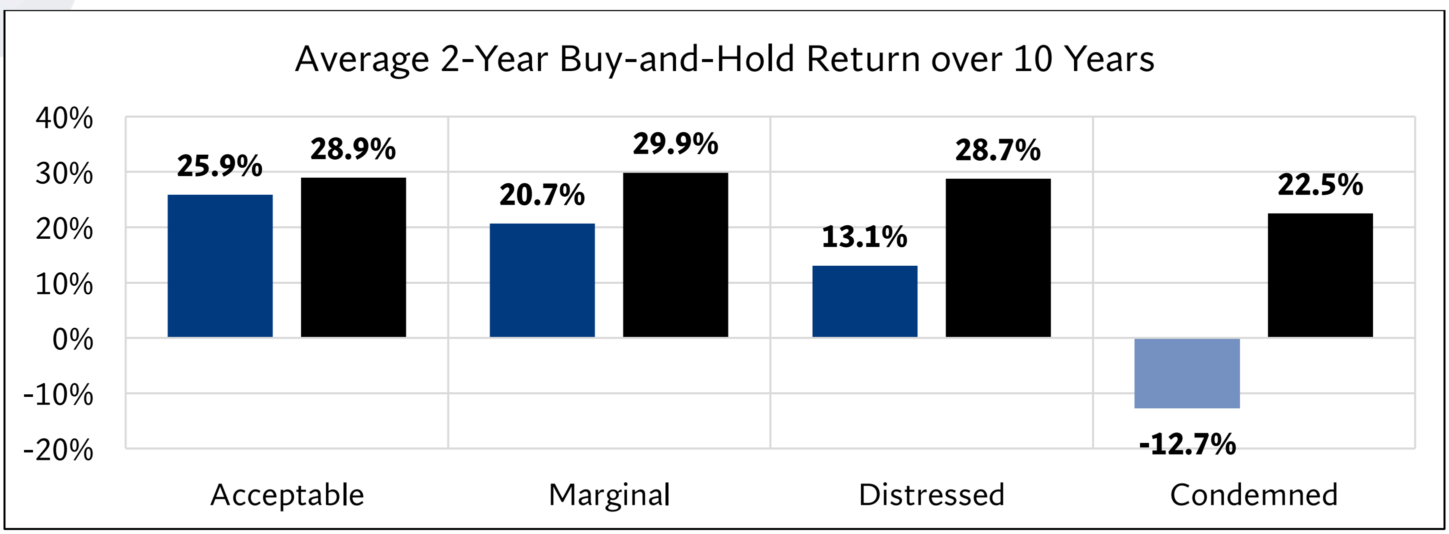


2.5 10-Year Study

Analyzes the performance of LI ratings for stocks held for 6 months, 1 year or 2 years over a 10-year timeframe (2014-2024), compared to market benchmarks.

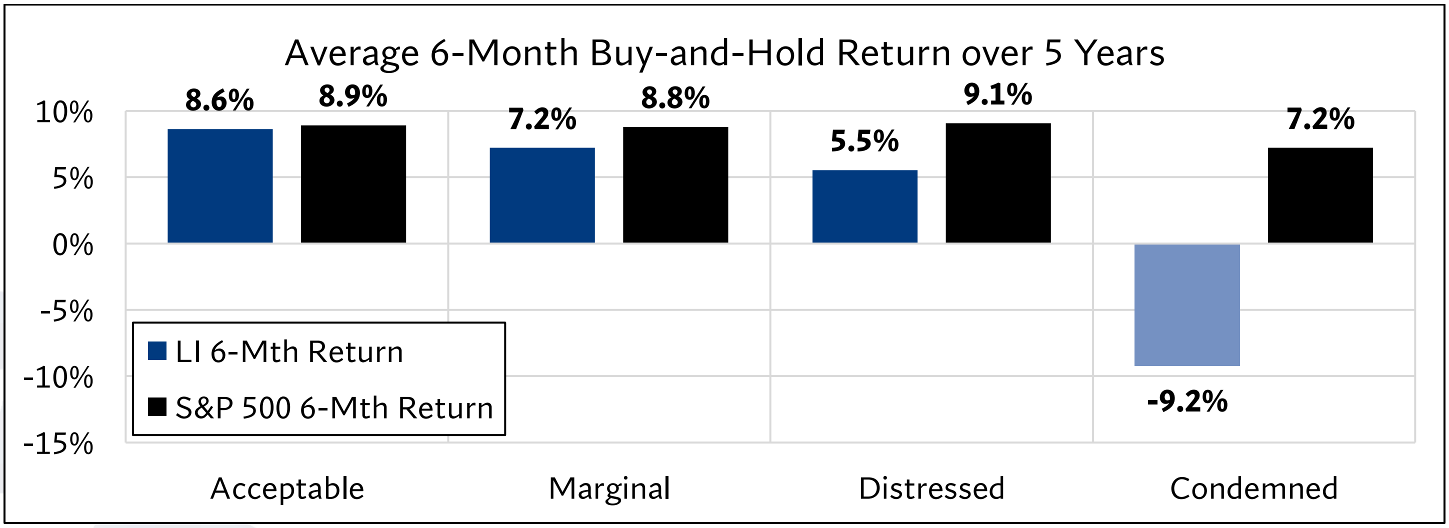


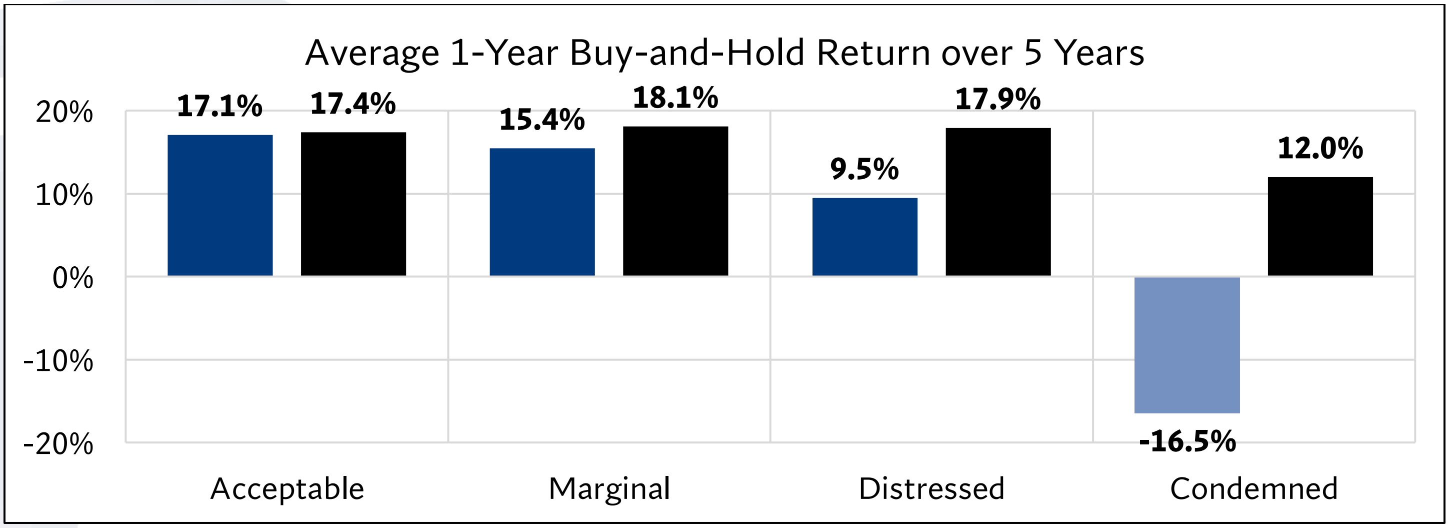


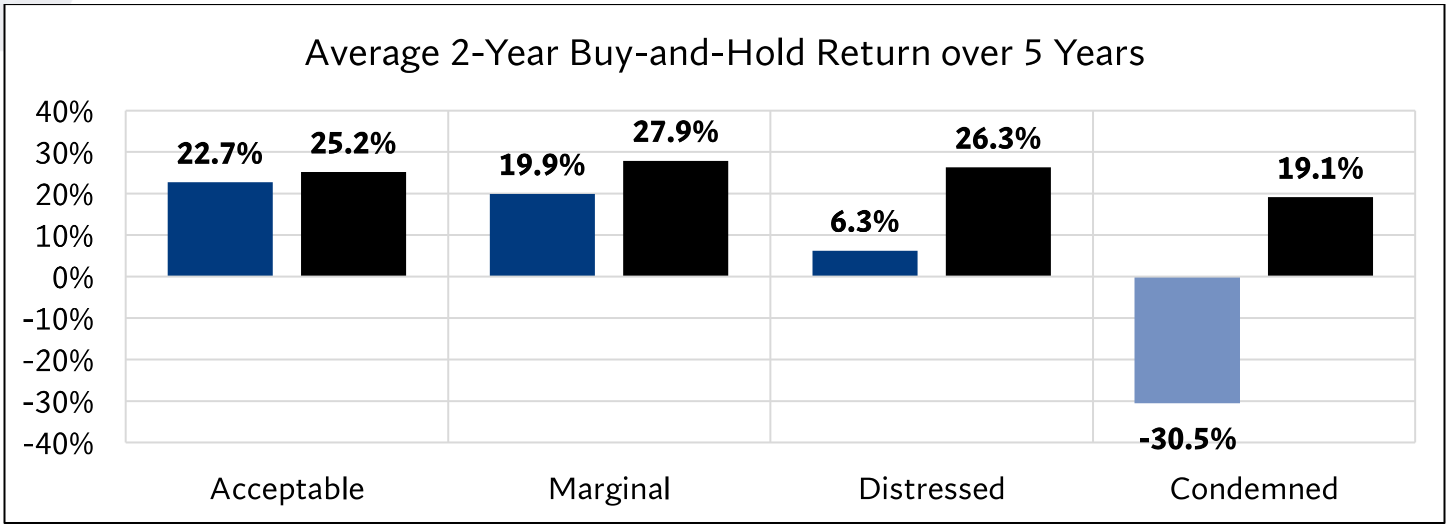


2.6 5-Year Study

Analyzes the performance of LI ratings for stocks held for 6 months, 1 year or 2 years over a 5-year timeframe (2019–2024), compared to market benchmarks.







2.7 Conclusion: Data-Centered Solutions for Institutional Investors

The findings of this 25-year, multi-period study are clear and consistent across timeframes, holding periods, and market cycles. The data presented in this report lead to several critical conclusions:

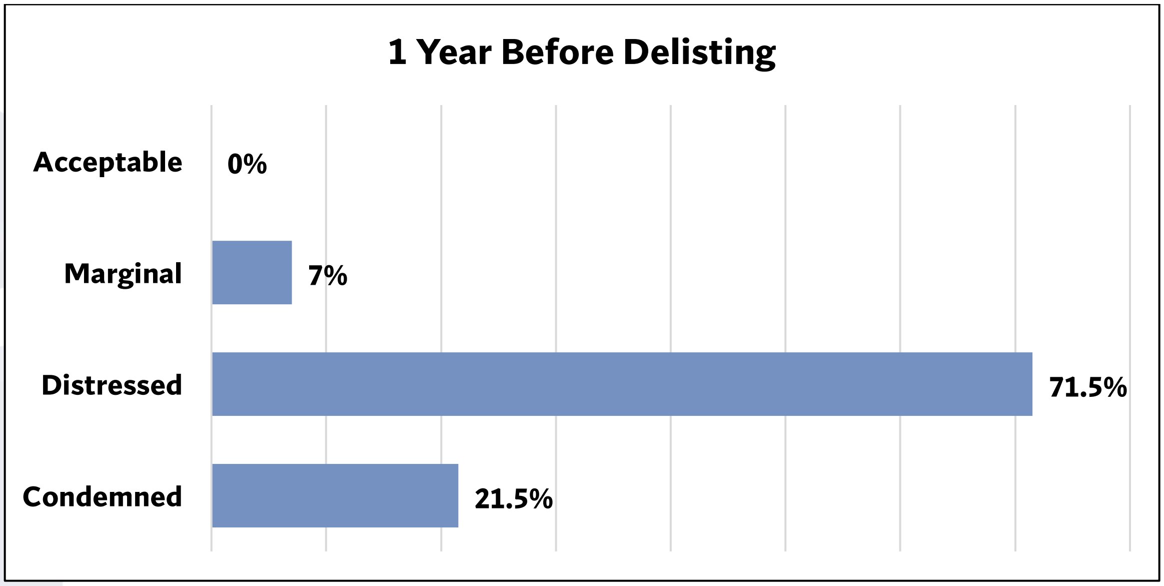
Key Insights:

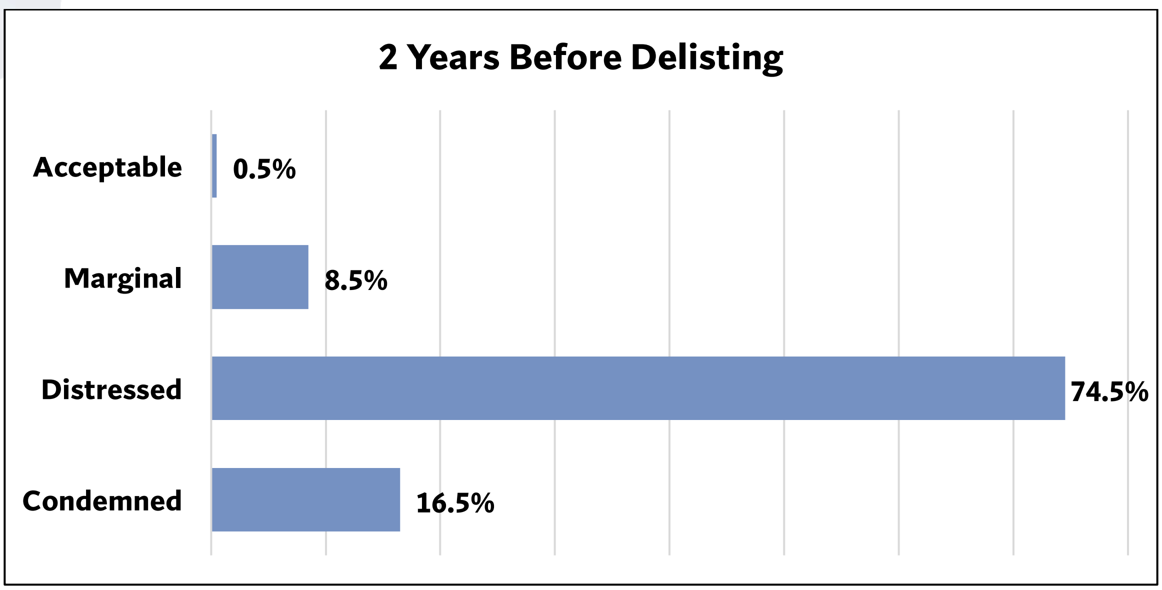
1. **The LI Flags Losers:** The **Loss Indicator** (**LI**) strongly and reliably identified stocks rated F that delivered deeply negative future returns. The F rating is a clear warning signal—one no fiduciary should ignore. The **LI** serves as a powerful tool for avoiding catastrophic downside risk. It provides a robust framework for intelligent stock selection and risk control.
2. **Consistent, Predictive Power:** Across 60 scenarios (15 studies × 4 differently rated portfolios), the **LI** rating exhibited clear, statistically meaningful predictive relationships to future returns. These relationships held true across multiple decades and economic conditions.
3. **Portfolio Construction Impact:** Simply avoiding stocks with the worst **LI** ratings could have materially improved portfolio outcomes for any institutional investor or fiduciary.

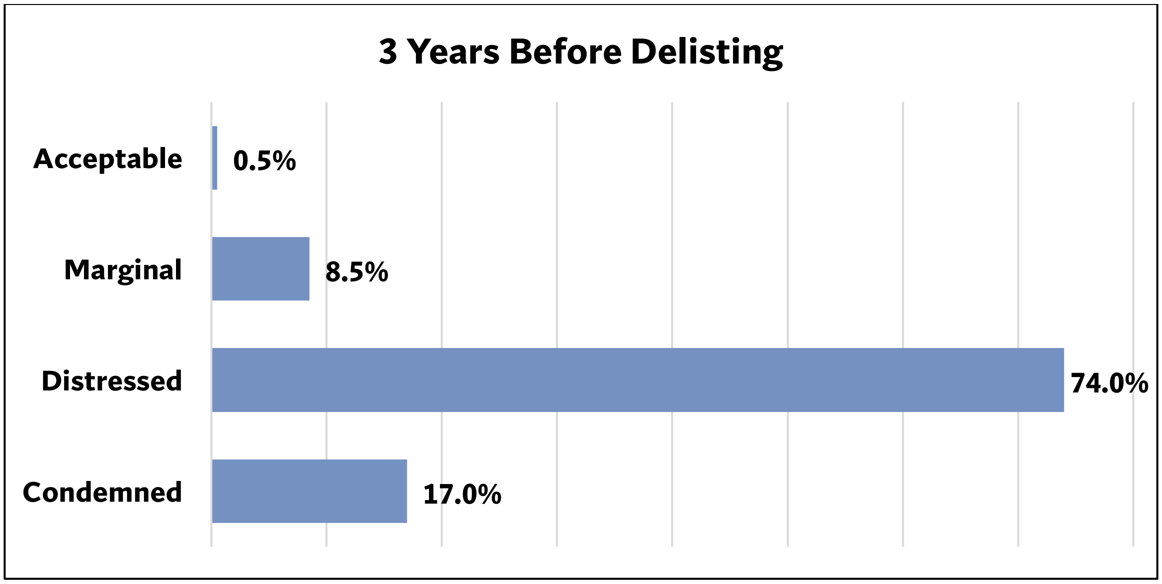
3 ERS's LOSS INDICATOR™ Bankruptcy Study

To protect their clients—and themselves—Registered Investment Advisors must detect rising risk well before catastrophic losses occur. Equity Risk Sciences (ERS) conducted a study of 200 companies that were ultimately delisted due to bankruptcy. By examining the **LOSS INDICATOR™** ratings one, two, and three years prior to each delisting, this research reveals a critical insight: the majority of these companies exhibited clear warning signs well in advance. Advisors who used ERS's **LOSS INDICATOR** would have had ample time to act, avoid exposure, fulfill their fiduciary duties and most importantly, saved investors from countless losses.

These findings provide compelling evidence that rigorous, data-driven ***risk monitoring*** can prevent devastating losses. The following analysis shows the efficacy of ERS's **LOSS INDICATOR**.







This three-year study illustrates the predictive strength of the **LOSS INDICATOR** in identifying companies at serious risk of collapse. One year before bankruptcy and delisting, a staggering **93%** of companies were rated either **"Distressed" (71.5%)** or **"Condemned" (21.5%)**. Two years prior, **91%** were already flagged in the same two high-risk categories. And even three years before delisting, **91%** of these firms were already showing severe financial deterioration.

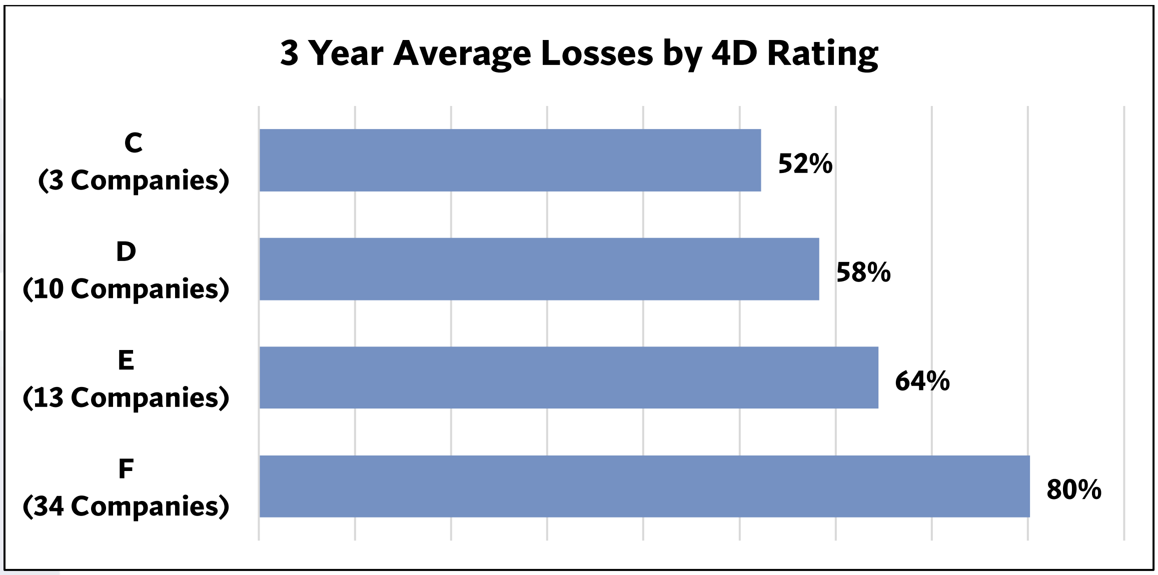
Only **0.5%** of companies were rated "Acceptable" two or three years before delisting—and **none** were rated "Acceptable" just one year before. This consistency across multiple years demonstrates that these failures were not sudden or unpredictable; they were statistically visible in advance. The **LOSS INDICATOR** provided early and actionable warnings in nearly every case, reinforcing its value as a powerful tool for loss prevention and fiduciary risk management.

4 ERS's 4 DIMENSIONS OF RISK™ (4D) - $8.4 Trillion Loss Study

The following pages present a study of 60 widely known companies that collectively lost $8.4 trillion in market value between September 30, 2020, and September 30, 2023.

These are not obscure or speculative names—they are companies many investors know, recognize, and may have owned. Yet every stock in this group experienced a drawdown of at least 40%, with an average decline of 72%, proving that even familiar names can be dangerously risky.

We grouped these companies by their **4 DIMENSIONS OF RISK** (**4D**) ratings prior to their decline. While **4D** ratings range from A+ to F, none of these 60 companies had a rating above C—and those with the worst **4D** ratings of "F" suffered even larger average losses, reinforcing the rating's efficacy at identifying extreme downside risk.



This chart illustrates the average 3-year drawdowns of 60 major public companies that collectively lost over **$8.4 trillion** in market value. As shown, the severity of loss directly correlates with ERS's letter-grade ratings: stocks rated **"F"** experienced average drawdowns of **80%**, while those rated **"E"**, **"D"**, and **"C"** fell by **64%**, **58%**, and **52%**, respectively. These were not obscure or speculative firms—many were household names once considered industry leaders.

While any stock can decline, this study reveals that companies rated **"E" or "F"** by ERS's **4D** rating consistently suffered the most extreme losses. These findings reinforce a vital message for investment advisors: avoid companies with the highest risk ratings. The complete list of these 60 companies appears on the next page. Many of the names will be familiar—and serve as a stark reminder that devastating losses are often foreseeable and preventable.

Company	4D™	Price Loss
3M	D	-55%
Amazon	E	-56%
Ameritrust	F	-98%
AT&T	D	-51%
Block	F	-84%
Charles Schwab	F	-50%
Cloudflare	F	-83%
Comcast	D	-54%
Coupang	F	-81%
Discovery	E	-66%
DoorDash	F	-82%
Faraday Future	F	-100%
Ford	D	-57%
Illumina	E	-75%
Intuitive Surgical	E	-50%
Lucid Group	F	-91%
Moderna	F	-80%
Nike	E	-53%
Palantir Tech.	F	-85%
PayPal	F	-81%
PNC	F	-51%
Rivian Auto	F	-93%
Rock-Tenn	D	-60%
Salesforce	F	-59%
Snap	F	-91%
Target	D	-58%
Truist Financial	F	-61%
U.S. Bancorp	F	-55%
Unity Software	F	-89%
Walt Disney	E	-60%

Company	4D™	Price Loss
Adobe	F	-60%
AMC Enter.	F	-99%
Applied Mats.	D	-55%
Blackstone	E	-52%
Boeing	E	-57%
Charter Comms	E	-63%
Coinbase Global	E	-91%
ContextLogic	F	-97%
Crown Castle	F	-57%
DocuSign	F	-87%
Estee Lauder	E	-62%
Fidelity	C	-40%
General Motors	C	-53%
Intel	C	-64%
Lam Research	D	-57%
Meta	E	-77%
Netflix	E	-76%
P10	F	-97%
Paramount	D	-88%
Peloton	F	-97%
Protective Cap.	F	-100%
Roblox	F	-83%
Roku	F	-92%
ServiceNow	F	-51%
Snowflake	F	-72%
Tesla	F	-73%
Twilio	F	-90%
Uber	F	-68%
Verizon	D	-49%
Zoom	F	-89%

5 4 DIMENSIONS OF RISK™ (4D) – S&P 500 Study Introduction

This section presents the results of a 3-year quantitative study by Equity Risk Sciences (ERS), examining how the **4 DIMENSIONS OF RISK** (**4D**) correlates with future stock performance across 491 members of the S&P 500 as of December 31, 2021. (We lacked full data on the other 9 companies – that's why they weren't included in the study.)

The **4D** is a proprietary, data-driven risk stratification system that uses only SEC-filed financial data to assess the probability and magnitude of future price declines. Companies were grouped by **4D** letter grades (**A** to **F**), and each group was treated as an equal-weighted portfolio, with outcomes measured over multiple time horizons.

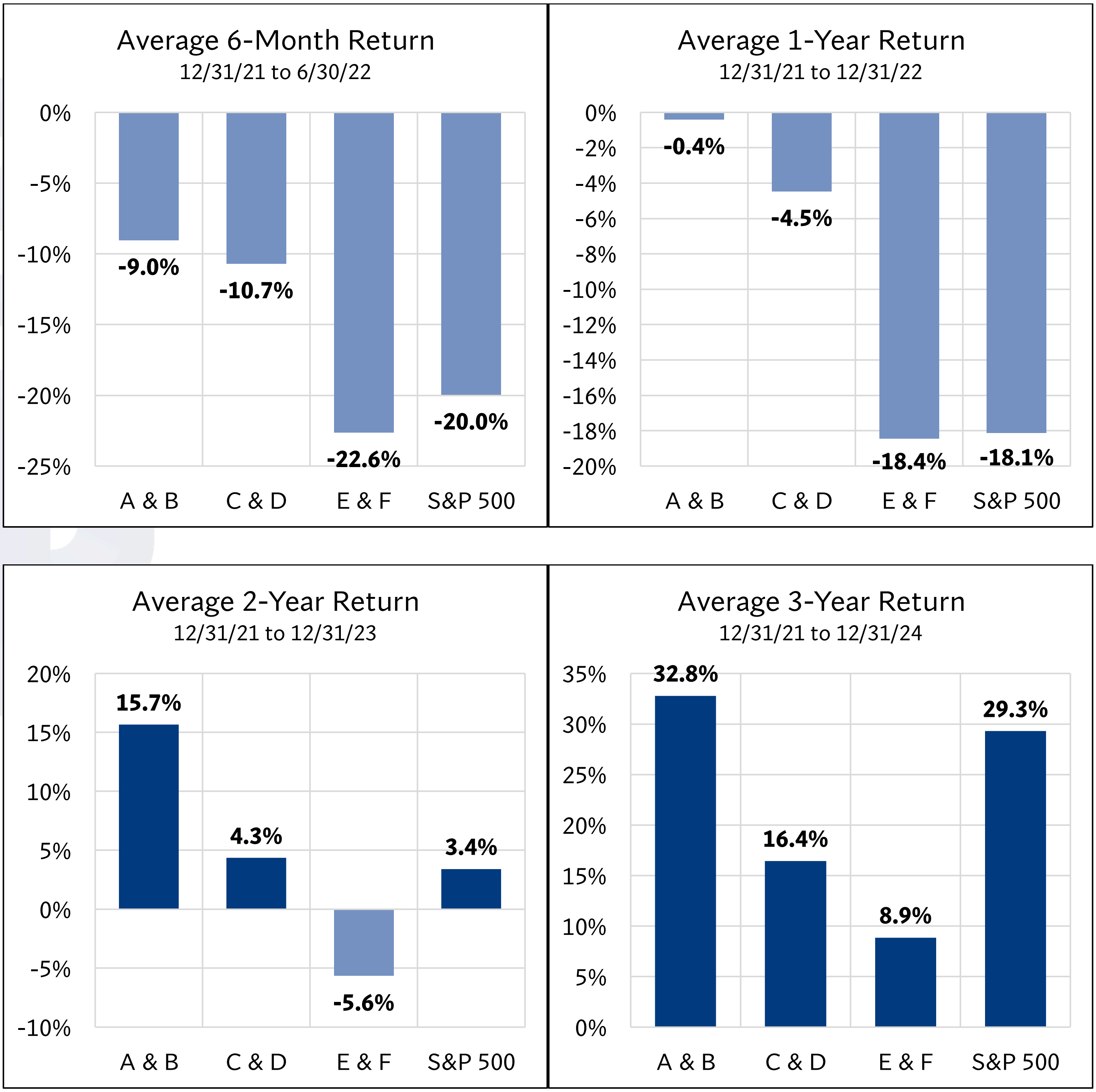
The findings confirm that **4D** scores strongly predict both future gains and losses, with low-risk stocks (**A** & **B**-rated) significantly outperforming high-risk stocks (**E** & **F**-rated) and experiencing substantially fewer large losses. Supplementary analysis of the best- and worst-rated companies further demonstrates the **4D**'s unique ability to identify outliers, mitigate losses, and improve risk-adjusted performance. Independent assessments by ***six leading AI platforms*** validate the study's methodology and conclusions.

At ERS, our mission is to make investing safer and more rewarding, especially for those with the greatest need for capital protection. By equipping fiduciaries, investment professionals, and institutions with a transparent and repeatable tool for assessing investment suitability, the **4D** empowers better decisions, reduces preventable losses, and raises the standard of care across the investment industry.

We appreciate your time and interest in our study. The pages that follow provide a detailed, data-supported analysis of the **4D**, along with multiple independent evaluations. We invite you to examine the evidence and judge for yourself the value and reliability of this tool for investment risk management.

5.1 4 Dimensions of Risk – S&P 500 Study – 3-Year Returns

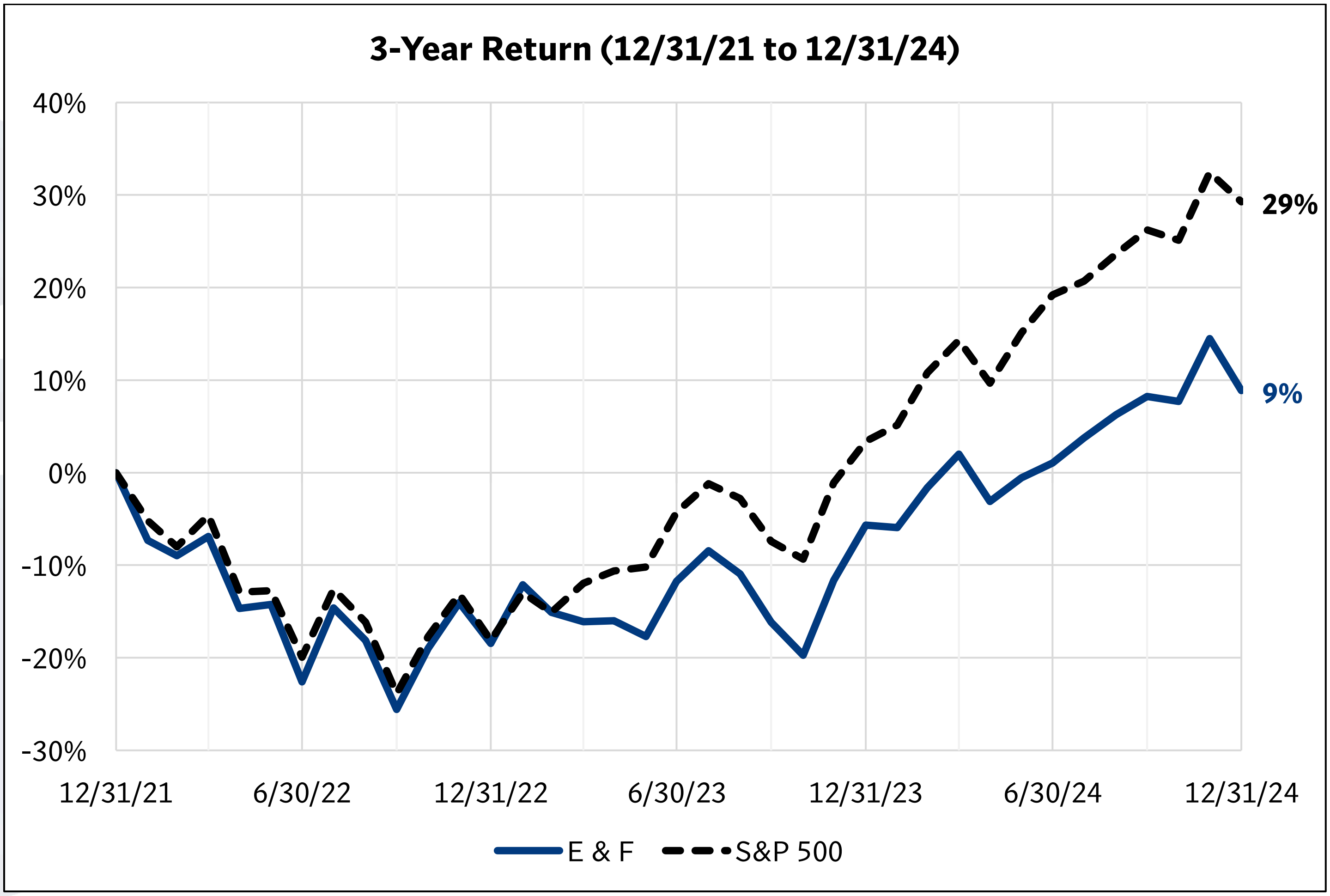
Description: The charts below show that ERS's **4 Dimensions of Risk** (**4D**) is strongly correlated with actual investment outcomes: companies rated **A** or **B** (low risk) produced significantly higher average returns over 6-month, 1-year, 2-year and 3-year periods than companies rated **E** or **F** (high risk). This consistent performance gradient across timeframes confirms that **4D** effectively stratifies financial risk and helps investors identify stocks more likely to outperform—or underperform—before those outcomes occur.



5.2 4 DIMENSIONS OF RISK – S&P 500 Study – Line Chart

Description: This chart below illustrates the cumulative total returns of an equal-weighted stock portfolio of the stocks rated **E or F** by ERS's **4 DIMENSIONS OF RISK**™ over the 3-year period from December 31, 2021, to December 31, 2024.

- **E & F-Rated Stocks** (high risk) are shown in blue, and
- The **S&P 500** benchmark is in black.



4D "E" & "F" Stocks Underperformed the S&P 500 by 20% Over 2 Years

The results reveal a clear and consistent divergence in performance based on **4D** scores. The high-risk **E** & **F**-rated stocks only rose **9%**, while the S&P 500 rose **29%**. Notably, this returns gap widened steadily over time, particularly during periods of market recovery, illustrating the **4D**'s predictive ability to distinguish safer investments that compound gains and avoid prolonged losses.

5.3 Frequency of 25% Declines When Held for 3 Years
4 DIMENSIONS OF RISK – S&P 500 Study

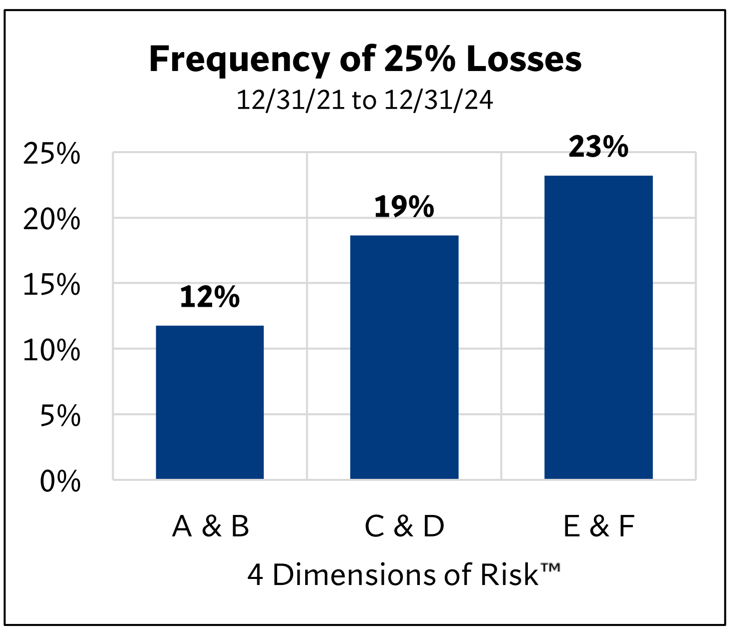
Description: The table below demonstrates that stocks rated as high-risk by ERS's **4D** (ratings **E** or **F**) experienced a far higher rate of large losses (greater than 25%) compared to low-risk stocks (ratings **A** or **B**), with the worst-rated groups producing these losses nearly twice as often. The frequency of any loss was 2.5 times as high for stocks rated **E** or **F**.

Key Finding:
ERS's Worst-Rated
Stocks Were **2x** More
Likely to Suffer a
25% Loss

Frequency of Losses – 12/31/21 to 12/31/24

4D	# of Co's	# of Losses	# of 25% Losses	Frequency of Losses	Frequency of 25% Losses
A or B	17	3	2	18%	**12%**
C or D	263	103	49	39%	**19%**
E or F	211	99	49	47%	**23%**
Average	491	205	100	42%	**20%**

Summary:
- 23% of the stocks rated **E** or **F** lost more than 25% of their value overall.
- 12% of the stocks rated **A** or **B** lost more than 25% of their value overall.
- The frequency of any loss, not just catastrophic ones, rose steadily as the **4D** worsened.



6 Disclosures

This section provides important legal and informational disclosures regarding the use of this report and Equity Risk Sciences' proprietary ratings.

1. Purpose: This report is for informational purposes only and does not constitute legal, tax, financial, or investment advice. Investors should consult professional advisors before making investment decisions.

2. Data Sources: Equity Risk Sciences, Inc. ("ERS") derives its analysis from publicly available financial and market data, management estimates, and third-party research. While ERS believes these sources are reliable, it has not independently verified all information and assumes no responsibility for errors or omissions.

3. Trademarks: 4 DIMENSIONS OF RISK™ (**4D**™), **LOSS INDICATOR**™ (**LI**™), and other proprietary terms marked with "™" are trademarks of ERS. Unauthorized use or reproduction of ERS intellectual property is strictly prohibited without written consent.

4. Risk Disclaimer: All investments carry risk. Past performance is not indicative of future results. Assumptions underlying ERS's models involve significant judgment and are subject to change without notice.

Contact Information: For further inquiries, contact Raymond M. Mullaney, CEO, at (203) 254-0000, (401) 450-4040, or (617) 684-3900.

Exhibit X: NVIDIA Valuation Analysis - Evidence of Systematic Investor Protection Failure

Based on the ERS (www.ers.ai) financial analysis of NVIDIA, here is a comprehensive explanation suitable for SEC members and FINRA board members:

Profit Map™

Symbol: NVDA Date: 07/22/2025 Calculate

Current Financials | Historic Data | What Must Happen | Future Return by P/S Ratio | Future Return by P/E Ratio

Assumptions

Desired Annual Return (%):	20
Years Later:	3
Annual Revenue Growth (%):	50
Future Profit Margin (%):	40

Hide Explanation Calculate

Results

	Current	What Must Happen	Explanation
Price	$167.03	**$288.63**	To produce a **20% gain per year** for 3 years, NVDA's price must rise to **$288.63**.
Market Cap	$4,073,454	**$7,038,929**	To produce a **20% gain per year** for 3 years, NVDA's market cap must rise to **$7 trillion.**
Revenue	$148,515	**$501,238**	If NVDA's revenues grow at **50%** per year, in 3 years they will have **$501.2 billion** in revenues.
P/S Ratio	27.43	**14.04**	If NVDA's revenues grow at **50%** per year, to produce a **20% price gain per year**, NVDA's P/S ratio must be **14.04** 3 years from now.
P/E Ratio	53.06	**35.11**	If NVDA's revenues grow at **50%** per year and their profit margin is **40%**, to produce a **20% price gain per year**, NVDA's P/E ratio must be **35.11** 3 years from now.

Profit Map™

Symbol: NVDA Date: 07/22/2025 Calculate

Current Financials | Historic Data | What Must Happen | Future Return by P/S Ratio | Future Return by P/E Ratio

Assumptions

Years Later:	5
Annual Revenue Growth (%):	30
Projected Future P/S Ratio:	5

Calculate

Current Financials

Current P/S Ratio	Current Revenue	Current Market Cap	**Current Price**
27.43	$148,515	$4,073,454	$167.03

Revenue Growth As Projected

	Future P/S Ratio	Revenue Growth	Future Revenue	Future Market Cap	**Future Price**	**Gain (Loss)**
-75% Below Projected P/S	1.25	30.00%	$551,426	$689,282	$28.26	**-83.1%**
-50% Below Projected P/S	2.50	30.00%	$551,426	$1,378,564	$56.53	**-66.2%**
-25% Below Projected P/S	3.75	30.00%	$551,426	$2,067,847	$84.79	**-49.2%**
Projected P/S	5.00	30.00%	$551,426	$2,757,129	$113.05	**-32.3%**
25% Above Projected P/S	6.25	30.00%	$551,426	$3,446,411	$141.32	**-15.4%**
50% Above Projected P/S	7.50	30.00%	$551,426	$4,135,693	$169.58	**1.5%**

Revenue Growth 25% Above Projected

	Future P/S Ratio	Revenue Growth	Future Revenue	Future Market Cap	**Future Price**	**Gain (Loss)**
-75% Below Projected P/S	1.25	37.50%	$729,934	$912,418	$37.41	**-77.6%**
-50% Below Projected P/S	2.50	37.50%	$729,934	$1,824,836	$74.83	**-55.2%**
-25% Below Projected P/S	3.75	37.50%	$729,934	$2,737,254	$112.24	**-32.8%**
Projected P/S	5.00	37.50%	$729,934	$3,649,672	$149.65	**-10.4%**
25% Above Projected P/S	6.25	37.50%	$729,934	$4,562,090	$187.06	**12.0%**
50% Above Projected P/S	7.50	37.50%	$729,934	$5,474,508	$224.48	**34.4%**

Revenue Growth 25% Below Projected

	Future P/S Ratio	Revenue Growth	Future Revenue	Future Market Cap	**Future Price**	**Gain (Loss)**
-75% Below Projected P/S	1.25	22.50%	$409,686	$512,107	$21.00	**-87.4%**
-50% Below Projected P/S	2.50	22.50%	$409,686	$1,024,214	$42.00	**-74.9%**
-25% Below Projected P/S	3.75	22.50%	$409,686	$1,536,321	$62.99	**-62.3%**
Projected P/S	5.00	22.50%	$409,686	$2,048,428	$83.99	**-49.7%**
25% Above Projected P/S	6.25	22.50%	$409,686	$2,560,535	$104.99	**-37.1%**
50% Above Projected P/S	7.50	22.50%	$409,686	$3,072,642	$125.99	**-24.6%**

Image 1: Core Valuation Analysis

Current Financial Position (as of 07/22/2025):

- Stock Price: $167.03
- Market Capitalization: $4,073,454 million ($4.07 trillion)
- Revenue: $148,515 million ($148.5 billion)
- Price-to-Sales (P/S) Ratio: 27.43
- Price-to-Earnings (P/E) Ratio: 53.06

Key Assumptions for Analysis:

- Desired Annual Return: 20%
- Investment Time Horizon: 3 years
- Projected Annual Revenue Growth: 50%
- Future Profit Margin: Not specified in Image 1

Critical Price Targets: The analysis calculates what NVIDIA's stock price must reach to achieve a 20% annual return over 3 years:

1. **Target Price: $288.63** - This represents the price NVIDIA must reach for investors to achieve their desired 20% annual return over 3 years.
2. **Required Market Cap: $7,058,929 million** ($7.06 trillion) - The company's total valuation would need to reach this level.

Revenue Growth Requirements:

- For a 20% annual gain, NVIDIA's revenues must grow at 50% per year for 3 years, reaching approximately $501.2 billion in revenues.
- The P/S ratio would need to compress to 14.04 (from current 27.43) over this period.
- The P/E ratio would need to fall to 35.11 (from current 53.06).

Image 2: Scenario Analysis with Multiple Growth Rates

This image presents a comprehensive sensitivity analysis showing how different revenue growth rates and P/S ratio changes would affect NVIDIA's future stock price over 5 years (not 3 as in Image 1).

Base Assumptions:

- Time Horizon: 5 years
- Current Revenue: $148,515 million
- Current Market Cap: $4,073,454 million
- Current Price: $167.03
- Projected Future P/S Ratio: 5.00

Three Growth Scenarios Analyzed:

Scenario 1: 30% Annual Revenue Growth

Shows various P/S ratio outcomes from 1.25 to 7.50, with corresponding:

- Future revenues of $551,426 million
- Stock prices ranging from $28.26 (-83.1% loss) to $169.58 (+1.5% gain)

Scenario 2: 37.5% Annual Revenue Growth

- Future revenues of $729,934 million
- Stock prices ranging from $37.41 (-77.6% loss) to $224.48 (+34.4% gain)

Scenario 3: 22.5% Annual Revenue Growth

- Future revenues of $409,686 million
- Stock prices ranging from $21.00 (-87.4% loss) to $125.99 (-24.6% loss)

Legal/Investment Interpretation:

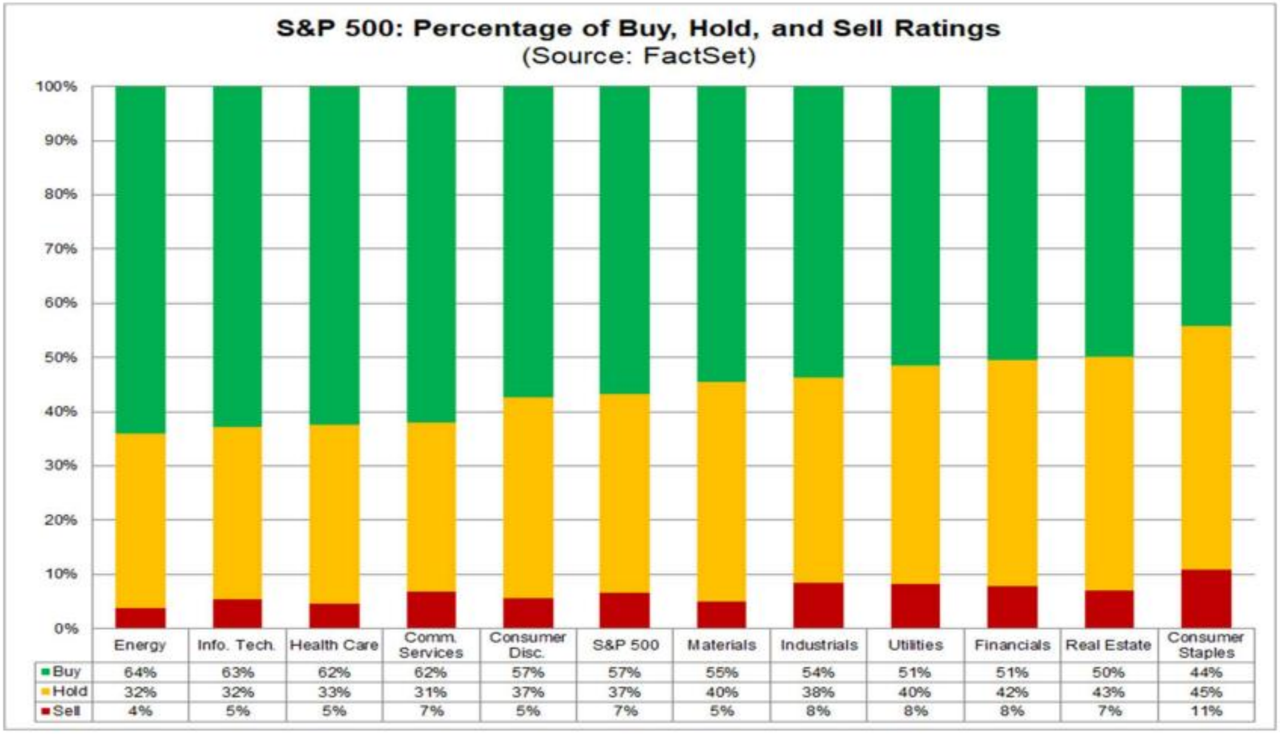
Key Risk Factors:

1. **Valuation Compression Risk**: Current P/S ratio of 27.43 is extremely high. Most scenarios assume significant multiple compression to more sustainable levels (1.25-7.50).
2. **Growth Dependency**: The analysis shows NVIDIA needs exceptionally high revenue growth (30%+ annually) just to avoid significant losses at current valuation levels.
3. **Downside Risk**: In most realistic scenarios (P/S ratios of 2.50-5.00), even with strong revenue growth, the stock shows negative or minimal returns.

Bottom Line: This analysis suggests NVIDIA's current valuation requires near-perfect execution of extremely aggressive growth targets. Any shortfall in revenue growth or normalization of valuation multiples could result in substantial losses for current investors. The scenarios indicate the stock is priced for perfection with limited margin for error.

Exhibit XI: "Questions of Fact" About "BUY" Stock Ratings from Investment Analysts

May 28, 2025



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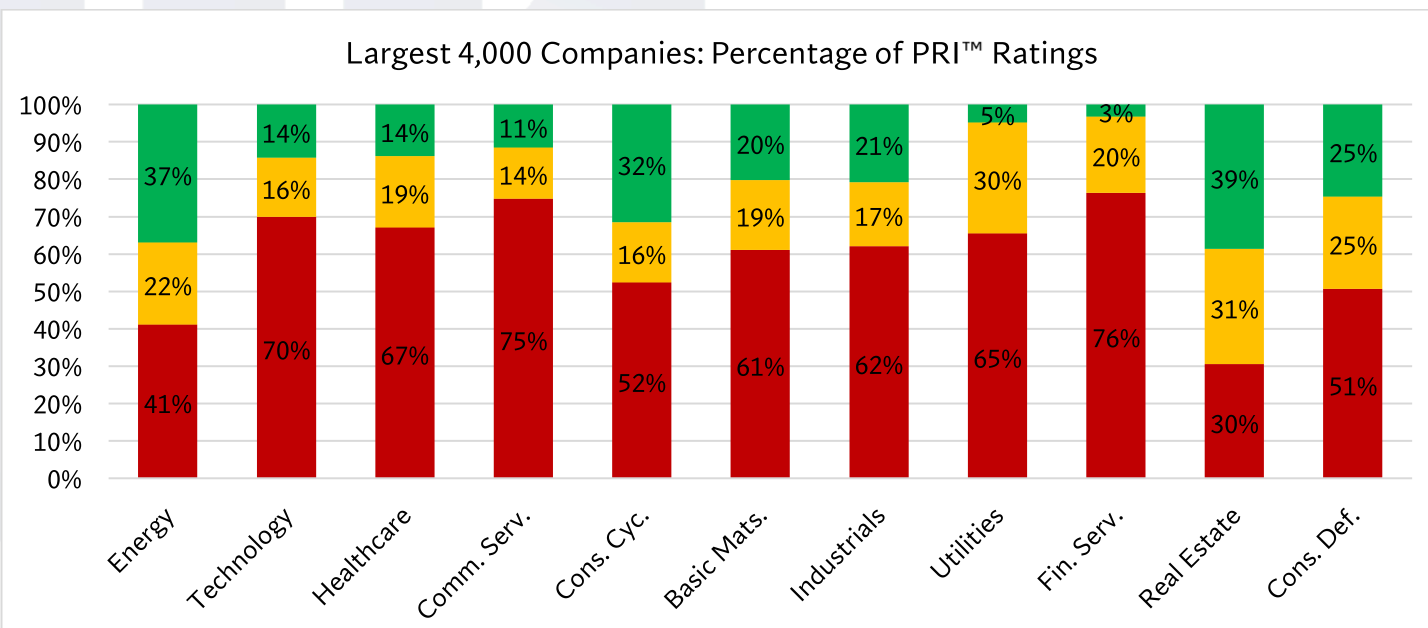
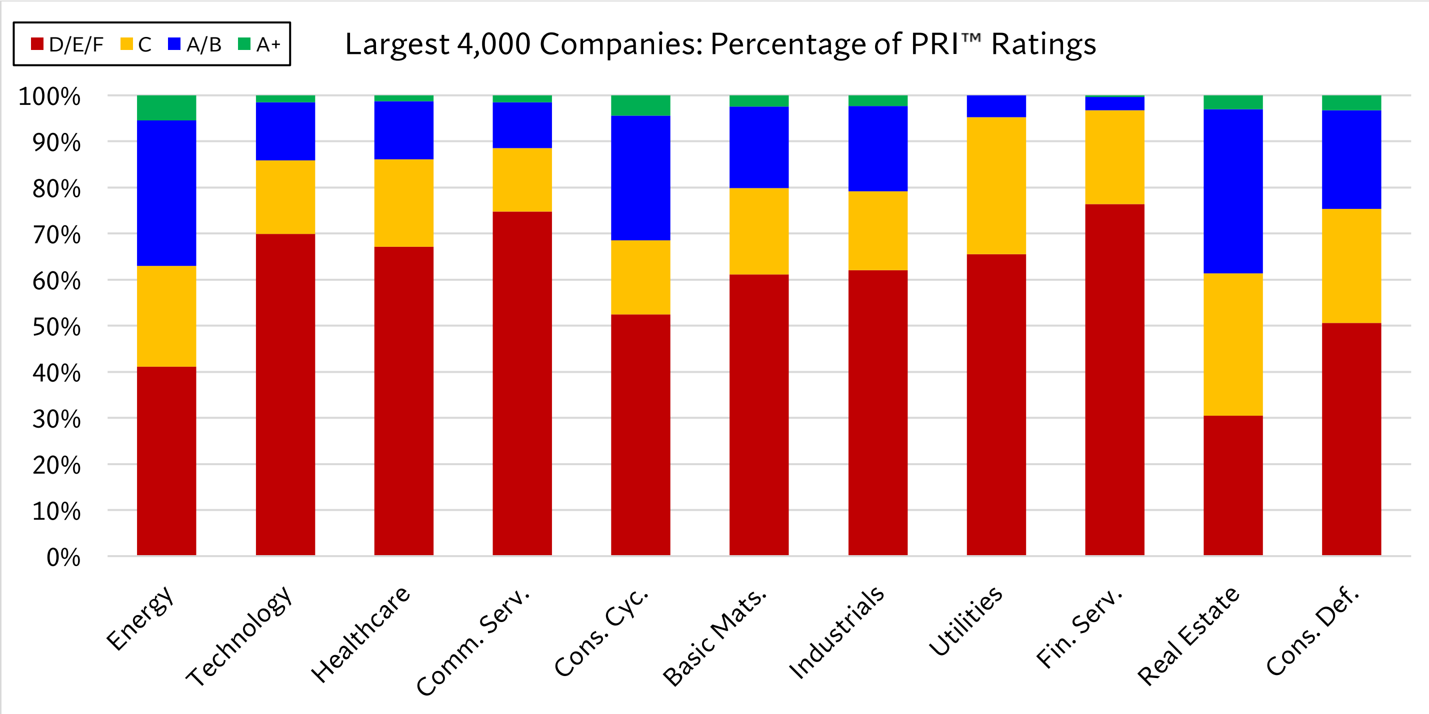


	Energy	Tech.	Healthcare	Comm. Serv.	Cons. Cyc.	Basic Mats.	Industrials	Utilities	Fin. Serv.	Real Estate	Cons. Def.
Low-Risk	37%	14%	14%	11%	32%	20%	21%	5%	3%	39%	25%
Medium-Risk	22%	16%	19%	14%	16%	19%	17%	30%	20%	31%	25%
High-Risk	41%	70%	67%	75%	52%	61%	62%	65%	76%	30%	51%



	Energy	Tech.	Healthcare	Comm. Serv.	Cons. Cyc.	Basic Mats.	Industrials	Utilities	Fin. Serv.	Real Estate	Cons. Def.
A+	5%	2%	1%	2%	4%	2%	2%	0%	0%	3%	3%
A/B	32%	13%	13%	10%	27%	18%	18%	5%	3%	36%	21%
C	22%	16%	19%	14%	16%	19%	17%	30%	20%	31%	25%
D/E/F	41%	70%	67%	75%	52%	61%	62%	65%	76%	30%	51%

Do reports from the largest brokerage firms on Wall Street meet fiduciary obligations of RIAs?

I.E., can RIAs cite and rely on Wall Street BUY reports for stocks they buy for their clients?

The answer is definitively NO. Investment banking firms operate under SEC Regulation Best Interest, which is substantially weaker than the fiduciary duty required of investment advisers under the Investment Advisers Act of 1940. This creates a deliberate deception where investors assume these firms operate under fiduciary standards when they legally do not.

Top 3 Reasons Wall Street Reports Fail to Meet SEC Fiduciary Standards:

1. Lack of Independence

Most research from major investment banks is **not independent**. The analysts are often conflicted by their firms' investment banking relationships or internal incentives. This leads to a consistent bias toward **"Buy" ratings**, as shown in the **FactSet chart**, where *less than 10% of stocks are ever rated "Sell."*

SEC Fiduciary Standard: Advisors must act in the **best interest of their client**, which includes **avoiding conflicted advice** (SEC Interpretation, 2019; Reg BI principles).

2. Failure to Disclose Real Downside Risks

Wall Street reports rarely include meaningful **quantitative risk analysis** or “stress testing” of financial strength. Their reports focus on upside potential, with vague or minimal coverage of downside risks—failing to prepare fiduciaries or clients for losses.

By contrast, **ERS’s PRI ratings** show that **50–75% of companies in each sector are high risk**, directly contradicting the Wall Street narrative.

3. No Client-Specific Suitability Analysis

Wall Street research is produced for mass consumption. It does **not assess whether a stock is suitable for a conservative, moderate, or risk-averse investor**, nor does it consider the **goals, timelines, or risk tolerances** of individual clients—something fiduciaries are *legally obligated* to evaluate.

SEC Reminder (Release No. IA-5248): "An RIA must evaluate a recommendation’s suitability for each client in light of that client’s investment profile, risk tolerance, and objectives."

What Research Must RIAs Conduct to Fulfill Their Fiduciary Duty?

RIAs must go beyond surface-level research and perform **substantive, documented due diligence** that includes:

1. Analysis of financial strength and deterioration risks (liquidity, solvency, profitability, equity levels)
2. Probability-weighted downside risk assessments
3. Stress testing of assumptions (what happens to the business under adverse conditions)
4. Clear suitability linkage – How does the investment fit the client’s income, risk, liquidity, and time horizon needs?
5. Ongoing monitoring and review – to ensure conditions haven’t changed materially.

SEC Regulations and Commentary

1. SEC Interpretation – Fiduciary Duty of RIAs (July 12, 2019)

- SEC states that fiduciaries must **provide advice based on a reasonable understanding of the client's objectives** and have a **reasonable belief that the advice is in the client’s best interest**.
- The SEC clarifies that this includes understanding **the investment itself**, through **independent inquiry and analysis**.

2. SEC Staff Legal Bulletin No. 11 (1998)

“If an adviser cannot demonstrate that a written analysis was conducted, the SEC will assume it was **never performed**.”

This confirms that a **documented process is legally critical.** RIAs who fail to retain or create such documentation are **automatically at risk** during audits or legal claims.

3. Third-Party Research Use

SEC allows the use of third-party research **if**:

- It is truly **independent**
- The RIA **reviews, understands, and agrees** with the methodology
- The research **supports a reasonable basis** for making the recommendation

RIAs *cannot simply outsource* their duty of care. They must **evaluate the third-party research** and apply it to the client's specific circumstances.

4. Stress Testing and Suitability

While not called "stress testing" directly, SEC guidance (Reg BI and fiduciary interpretations) **implies the obligation** to evaluate:

- **Durability** of the investment (will it survive market or economic downturns?)
- **Liquidity and solvency** of the underlying company
- **Valuation vs. risk** tradeoff
- **Client impact** under downside scenarios

This means **owning stock in a company with weak or deteriorating fundamentals**, without evidence that it's a suitable risk for that client, is **not defensible**.

Wall Street Research is Not Enough

Wall Street's "Buy" ratings are based on **optimism, upside speculation**, and often **conflicts of interest.**

ERS's PRI™ ratings show a radically different picture: **50% or more** of stocks across most sectors are at *high risk of decline*. This makes clear that RIAs **cannot rely** on legacy systems or reports for fiduciary decisions.

Using biased or incomplete research may violate **Sections 206(1) and 206(2)** of the Investment Advisers Act of 1940—relating to fraud and breach of duty.

How ERS Helps RIAs Meet Fiduciary Standards

- **Independent, Conflict-Free Risk Ratings**
- **Quantitative Evidence** of financial deterioration and risk
- **Written Documentation** of suitability and durability assessments
- **Client-Facing Tools** to explain and justify buy/sell decisions
- **Audit Trail** of research and monitoring activities

Final Thought: Fiduciary Means Independent

Advisors who rely on Wall Street research alone are **failing their clients**. They are **not meeting the standards the SEC expects**. ERS was built to help fiduciaries meet—and exceed—these standards.