



**EQUITY RISK SCIENCES, INC**  
*Institutional Investment Data Analytics*

## **INTRODUCTION TO ERS'S TECHNOLOGY**

*“Wouldn't it be great if someone used science and technology  
to make investing safer and more rewarding?”*

# PROBLEM

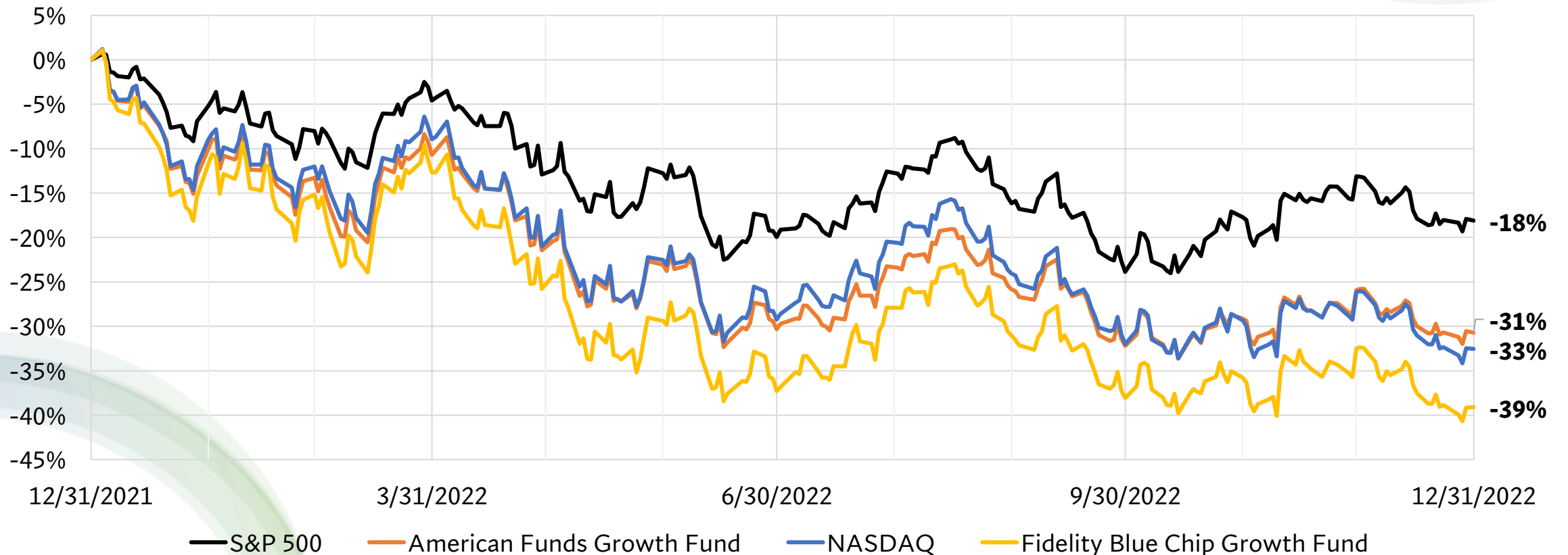
Traditional Investing Methods  
Too Often Fail to Protect Investors Capital

**Last Year Investors Lost  
\$9 Trillion Dollars in Stocks**

**(ETFs, mutual funds and variable annuities)**

# IN 2022, THE S&P FELL 18% & THE NASDAQ FELL 33%

Two of the largest US mutual funds, the **American Funds Growth Fund** and **Fidelity's Blue Chip Growth Fund**, failed to protect investors' capital. **They lost even more than the S&P 500.**

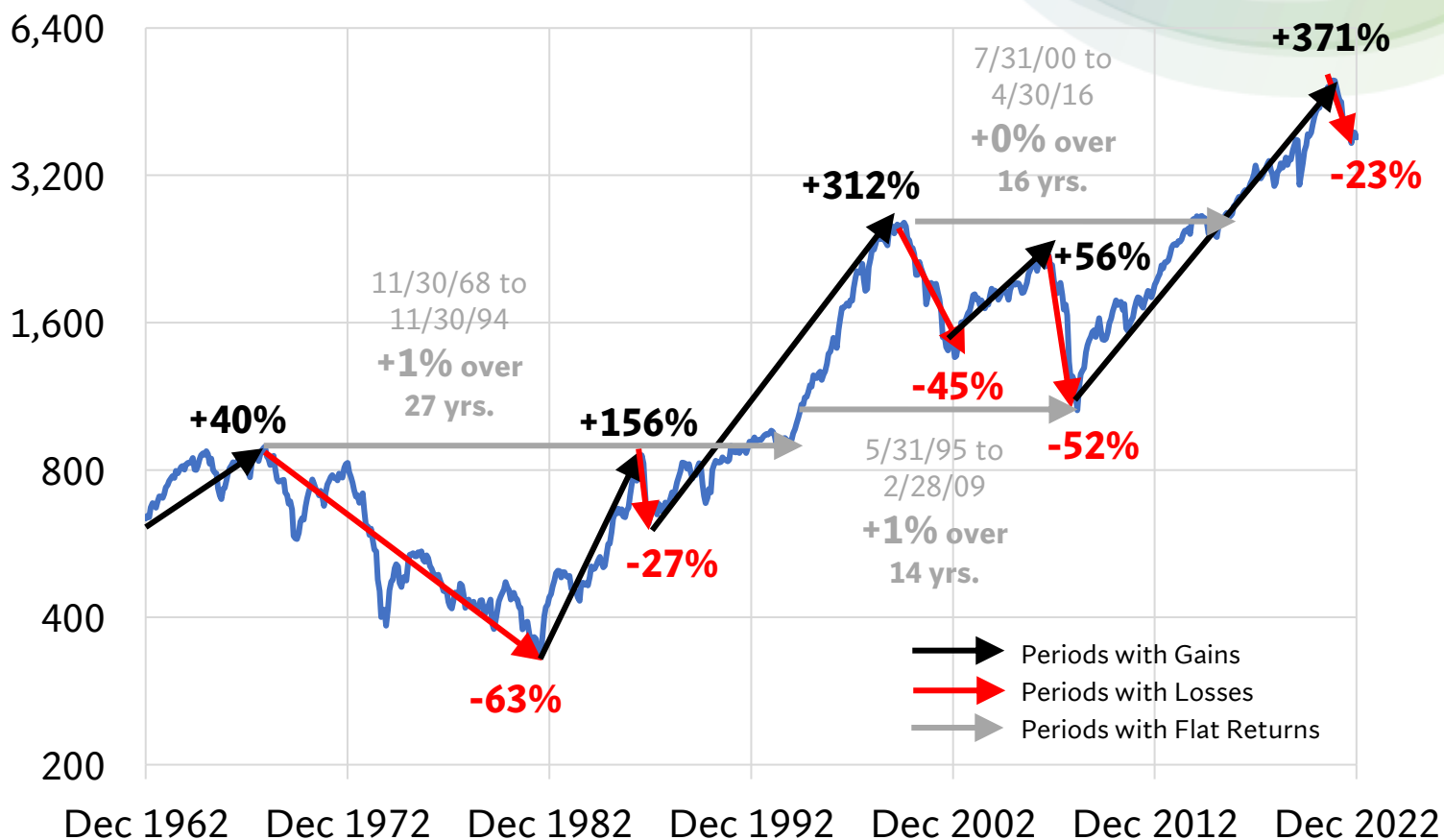


# PASSIVE INVESTING IS VERY RISKY

## THE S&P 500 HAS HAD LONG PERIODS WITH POOR RETURNS OR NO RETURNS

- 1) **The 60 years from 1962 to 2022 delivered investors a 3.03% annual rate of return, adjusted for inflation.**
- 2) In the 16 years from 11/30/68 to 7/31/82, the S&P 500 fell -63%.
- 3) In the 18 years from 7/31/82 to 7/31/00, the S&P rose 12.0% annually.
- 4) In the 9 years from 7/31/00 to 2/28/09, the S&P fell -59%.
- 5) In the 13 years from 2/28/09 to 11/30/21, the S&P rose 12.9% annually.
- 6) In the 13 months from 11/30/21 to 12/31/22, the S&P fell -23%.
- 7) In the 27 years from 11/30/68 to 11/30/94, the S&P 500 rose only 1%.
- 8) In the 14 years from 5/31/95 to 2/28/09, the S&P 500 rose only 1%.
- 9) **In the 16 years from 7/31/00 to 4/30/16, the S&P 500 made 0%.**

S&P 500: 1962-2022, Adjusted for Inflation



Dividends are assumed to pay for fees and taxes.  
 Inflation data is provided by the Bureau of Labor Statistics.  
 S&P 500 data is provided by Robert Shiller, a Ph.D. from Yale.

# INVESTORS IN 2000 MADE ONLY 6% AFTER 16 YEARS OF PASSIVE INVESTING IN THE NASDAQ



# ERS's SOLUTION

## **EQUITY RISK SCIENCES' Risk Ratings**

help asset managers protect and grow capital  
*safer, faster, more consistently and more profitably.*

EQUITY RISK SCIENCES employs mathematics and data science to measure the probability and magnitude of future price gains or losses.

Nine years ago, we began building a technology platform to provide daily stock ratings for over 16,000 US and Canadian operating companies.

The following pages provide evidence of the accuracy, reliability and value of ERS's proprietary institution-ready ratings.

# ERS's SOLUTION: RISK RATINGS THAT ALERT INVESTORS TO POTENTIAL GAINS AND LOSSES

### Proprietary

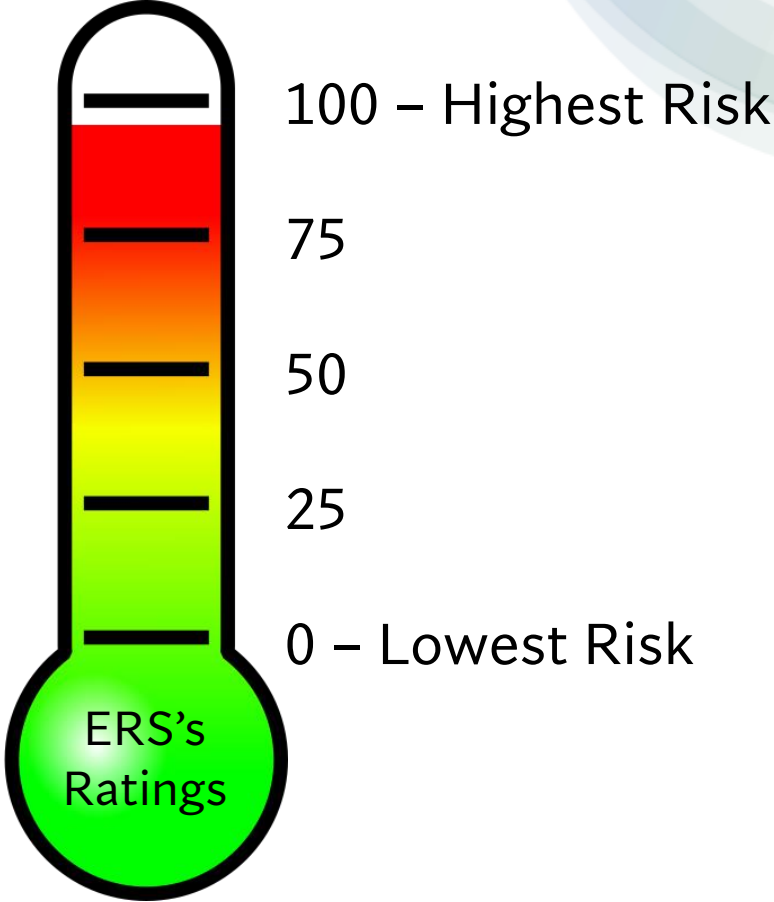
Employs scientific methods to identify, quantify and rate the financial and valuation risks for US and Canadian stocks

### Data Science

ERS turned 10 billion financial data points into easy to understand and deploy accurate investment risk ratings to reduce the risk of loss.

### Effective

Stocks with ERS's **Lower Risk** Ratings outperform stocks with ERS's **Higher Risk** ratings in most periods across most timeframes.



**Problem:** In the past 3 years, these 200 companies lost an average of 66%.

**Solution:** ERS's 4D Rating™

These 200 stocks had a very risky rating of 81 (on a scale of 0 to 100) ...*before they fell.*

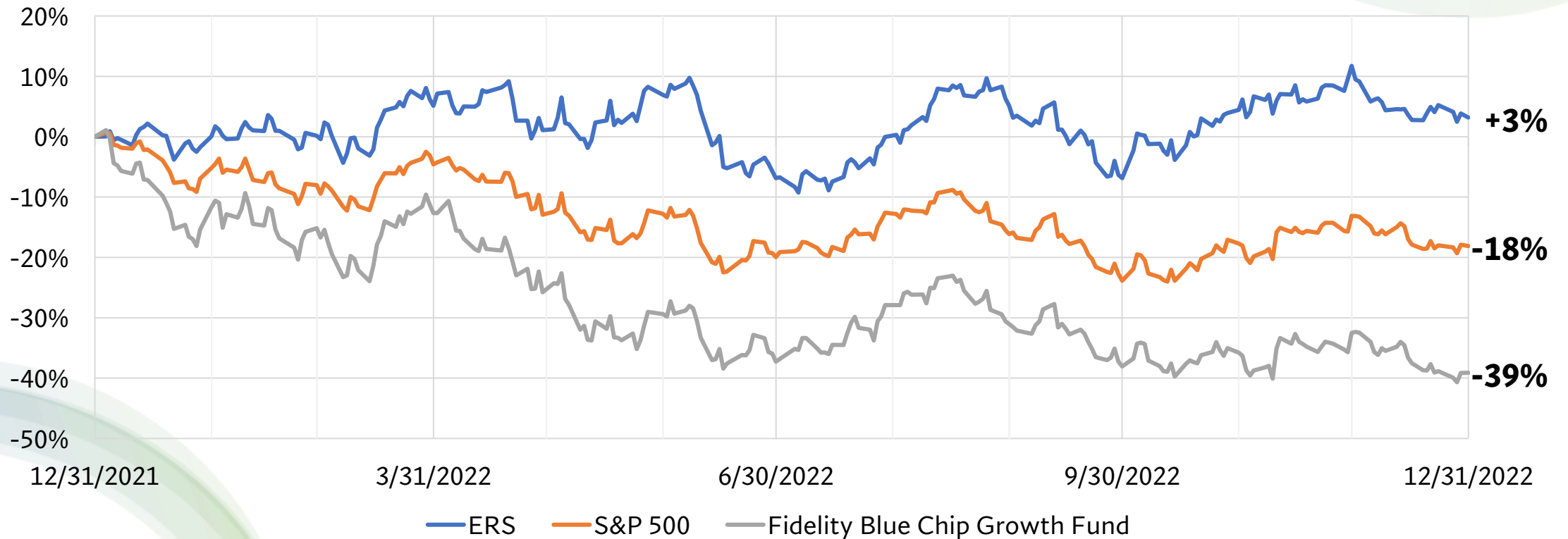
10x Genomics: -82%	3M: -38%	Accenture: -35%	Adobe: -51%	Advance Auto : -37%	Affirm Hldgs: -94%	Agora: -96%	Airbnb: -61%
Alcoa Corp: -52%	Algonquin Pwr.: -57%	Alibaba: -72%	Alphabet: -41%	Alteryx: -72%	Amazon: -55%	AMC Enter'tn: -93%	AMD: -47%
America Great H.: -99%	American Air.: -51%	AMTD: -99%	Applied Mats.: -41%	Arrival: -99%	Athena Bitcoin: -99%	Autodesk: -45%	Avis Budget: -54%
Babylon Holdings: -98%	Baidu: -66%	Ball: -47%	Bausch: -82%	Baxter Int'l: -44%	Beyond Meat: -94%	Black & Decker: -64%	BlackBerry: -87%
Blackstone: -48%	Block: -78%	Boeing: -45%	Boston Beer: -75%	Boston Prop.: -48%	Bright Health: -96%	Capital One: -46%	CarMax: -61%
Carnival: -84%	Carvana: -99%	Celanese: -38%	Charles River: -52%	Charter: -59%	Chewy: -69%	China Evergrande: -99%	Citigroup: -38%
Cleveland-Cliffs: -51%	Clorox: -37%	Cognizant: -38%	Coinbase: -90%	Comcast: -42%	ContextLogic: -98%	Credit Suisse: -79%	Crocs: -40%
Denali Thera.: -70%	Dentsply Sirona: -53%	DiDi Global: -81%	DISH Network: -70%	DocuSign: -82%	DoorDash: -80%	Doximity: -67%	Eargo: -99%
Eastman Chemical: -34%	Etsy: -60%	Evergrande: -89%	Exact Sciences: -68%	Expedia: -59%	Farfetch: -94%	FedEx: -44%	First Republic: -45%
Five9: -68%	Fiverr Int'l: -91%	Floor & Décor: -51%	GameStop: -79%	Gap: -67%	Garmin: -46%	Generac: -80%	General Motors: -49%
Getty Images: -84%	Ginkgo Bioworks: -89%	GitLab: -65%	Grab Holdings: -64%	GSK PLC: -38%	Guardant: -85%	Hasbro: -37%	Hertz Global: -56%
HubSpot: -66%	IDEXX Labs: -42%	Intel Corp: -58%	Int'l Paper: -43%	Intuit: -44%	IPG Photonics: -63%	iQIYI: -82%	James Hardie: -56%
JD.com: -46%	Kinross Gold: -57%	Lenovo: -46%	Levi Strauss: -47%	LifeStance: -83%	Lincoln National: -58%	Logitech: -54%	Lucid Group: -88%
Luckin Coffee: -56%	Lumen Tech: -62%	Lyft: -84%	Macy's: -43%	Magna Int'l: -44%	Marvell Tech: -59%	Match Group: -76%	Medtronic: -40%
Meta Platforms: -69%	Micron Tech: -48%	MicroStrategy: -89%	Moderna: -63%	Mohawk: -56%	Monday.Com: -73%	MongoDB: -66%	Morningstar: -37%
NetApp: -36%	Netflix: -57%	Newegg: -98%	Newell Brands: -52%	Newmont: -43%	Nomura Resch.: -47%	NVIDIA: -56%	Oak Street Hth.: -67%
Okta: -75%	OneConnect: -98%	Ontrak: -100%	Palantir Tech: -84%	Palo Alto: -33%	Paramount: -82%	PayPal: -77%	Peloton: -95%
PENN Enter'tn: -78%	Pinduoduo: -60%	Pinterest: -73%	Plug Power: -82%	Qualcomm: -41%	Repligen: -48%	Revlon: -98%	RH: -64%
Rivian Auto: -89%	RLX Tech: -92%	Robert Half: -40%	Robinhood: -88%	Roblox: -79%	Roku: -92%	Salesforce: -57%	SAP SE: -37%
Scotts Miracle Gro: -80%	Sea: -86%	Seagate Tech: -52%	SentinelOne: -81%	ServiceNow: -45%	Shopify: -79%	Signature Bank: -68%	Skillz: -99%
SmileDirectClub: -98%	Snap: -89%	Snowflake: -64%	Sony Group: -41%	Southwest Air: -47%	Splunk: -61%	Spotify Tech: -78%	Sunrun: -75%
Taiwan Semi.: -46%	Target: -41%	Teladoc Health: -92%	Tesla: -69%	Toast: -72%	Toyota: -34%	Trade Desk: -60%	Trex: -70%
Twilio: -89%	Tyson Foods: -36%	Uber: -61%	UiPath: -85%	Under Armour: -62%	Unity Software: -86%	VF Corp: -69%	Volkswagen AG: -47%
Vroom: -99%	Walt Disney: -57%	Wayfair: -90%	WB Discovery: -64%	Western Digital: -59%	Western Union: -44%	Whirlpool: -41%	Williams-Son.: -47%
Wix.com: -78%	Workday: -44%	XP: -70%	Zebra Tech: -58%	Zillow: -85%	Zoom: -88%	ZoomInfo: -61%	Zscaler: -70%



# IN 2022, ERS'S TECHNOLOGY SOLUTIONS MADE INVESTING SAFER AND MORE REWARDING

**ERS's technology identified stocks that rose when most funds did not.**

Avoiding and reducing losses is the surest way to compound gains and improve performance. Protecting capital from substantial losses is one of ERS's most valuable benefits.



ERS selected the 100 US companies with the best 4D Ratings™ on 12/31/2021 with a market cap over \$100 million.

# 1 YEAR RESULTS USING ERS'S 4D RATING™

## 12/31/2021 TO 12/31/2022

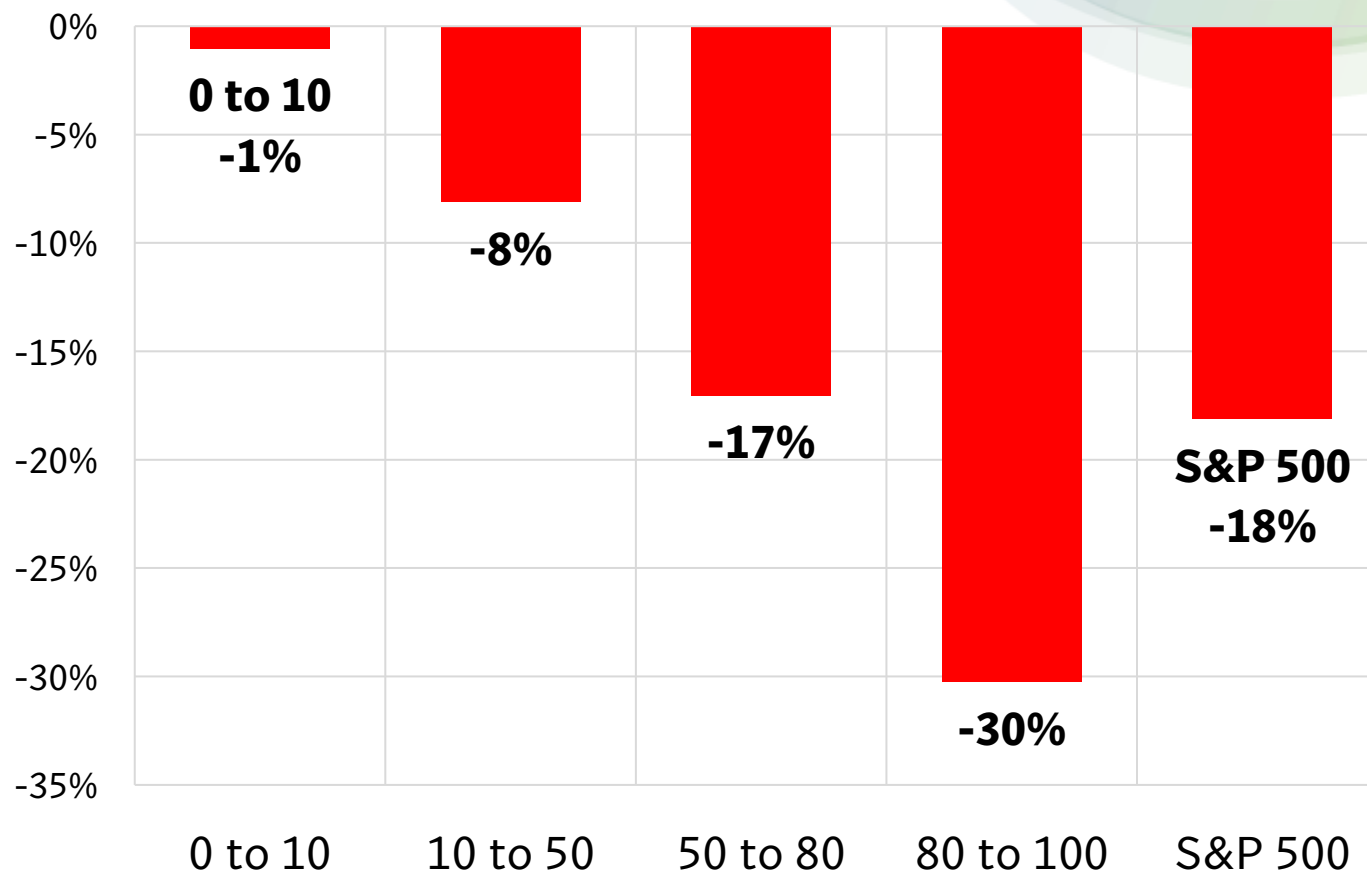
**1-year price changes on 7,920 companies based on ERS's 4D Rating™ between 12/31/21 and 12/31/22.**

On 12/31/21, 7,920 companies had a market cap over \$100 million. These stocks were divided into four groups based on their **4D Ratings™** on 12/31/21. Only 170 stocks had a **4D Rating™** less than 10; these stocks lost only 1%, while the S&P 500 index lost 18%. The stocks with the worst **4D Ratings™** fell much more than the S&P 500.

4D Rating™	# Co's	Avg 1-Year Return
0 to 10	170	-1%
10 to 50	2,260	-8%
50 to 80	2,139	-17%
80 to 100	3,351	-30%
S&P 500		-18%

**Conclusion: In this period, ERS's 4D Risk Ratings™ were highly reliable.**

**1-Year Total Return**  
12/31/2021 to 12/31/2022



# 2 YEAR RESULTS USING ERS'S 4D RATING™

## 12/31/2020 TO 12/31/2022

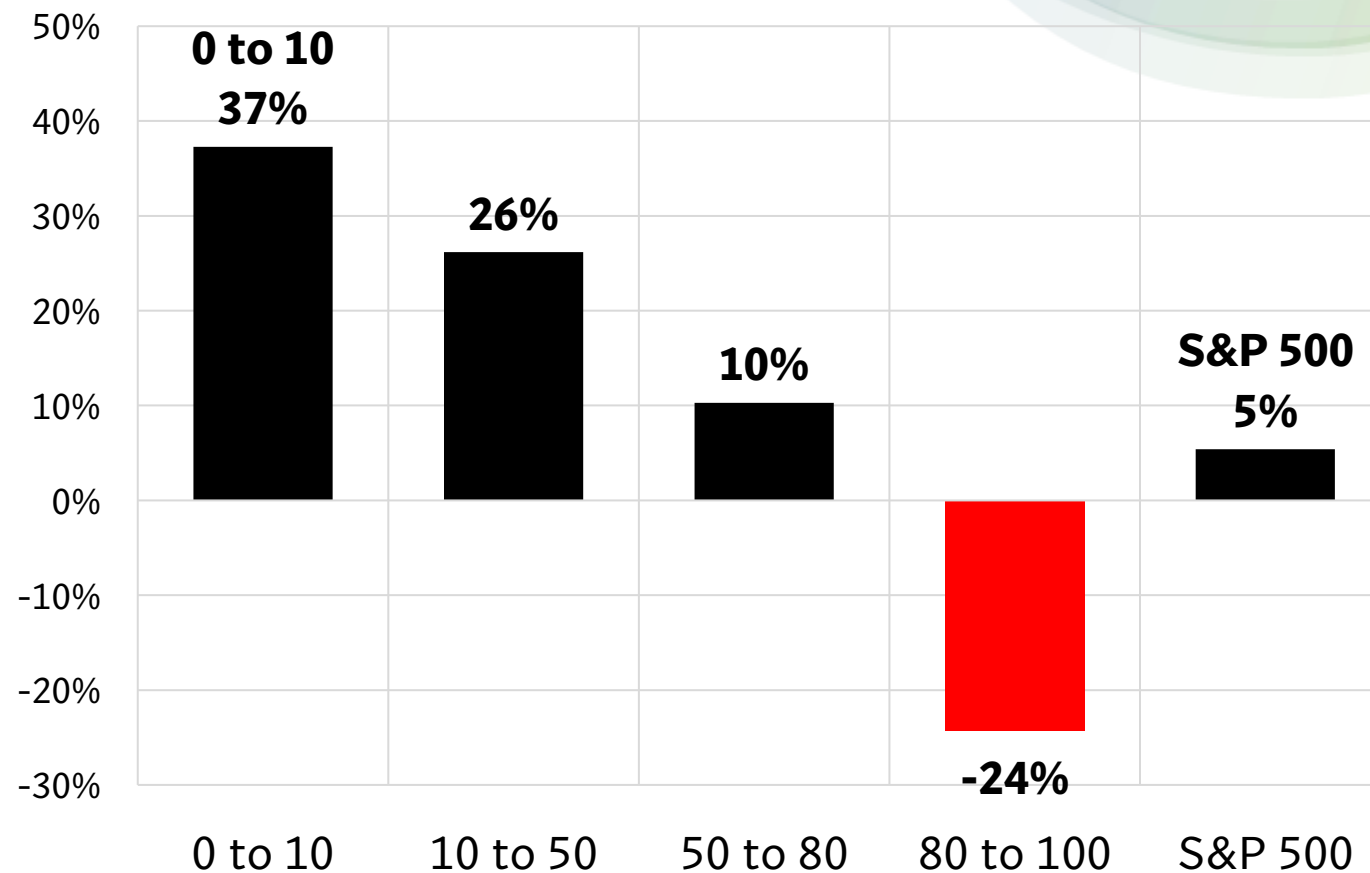
**2-year price changes on 6,488 companies based on ERS's 4D Rating™ between 12/31/20 and 12/31/22.**

On 12/31/20, 6,488 companies had a market cap over \$100 million. These stocks were divided into four groups based on their **4D Ratings™** on 12/31/20. Only 95 stocks had a **4D Rating™** less than 10; these stocks rose 37%, while the S&P 500 index only rose 5%. The stocks with the worst **4D Ratings™** fell 24%, performing much worse than the S&P 500.

4D Rating™	# Co's	Avg 2-Year Return
0 to 10	95	37%
10 to 50	2,021	26%
50 to 80	1,750	10%
80 to 100	2,622	-24%
S&P 500		5%

**Conclusion: In this period, ERS's 4D Risk Ratings™ were highly reliable.**

**2-Year Total Return**  
12/31/2020 to 12/31/2022



# 3 YEAR RESULTS USING ERS'S 4D RATING™

12/31/2019 TO 12/31/2022

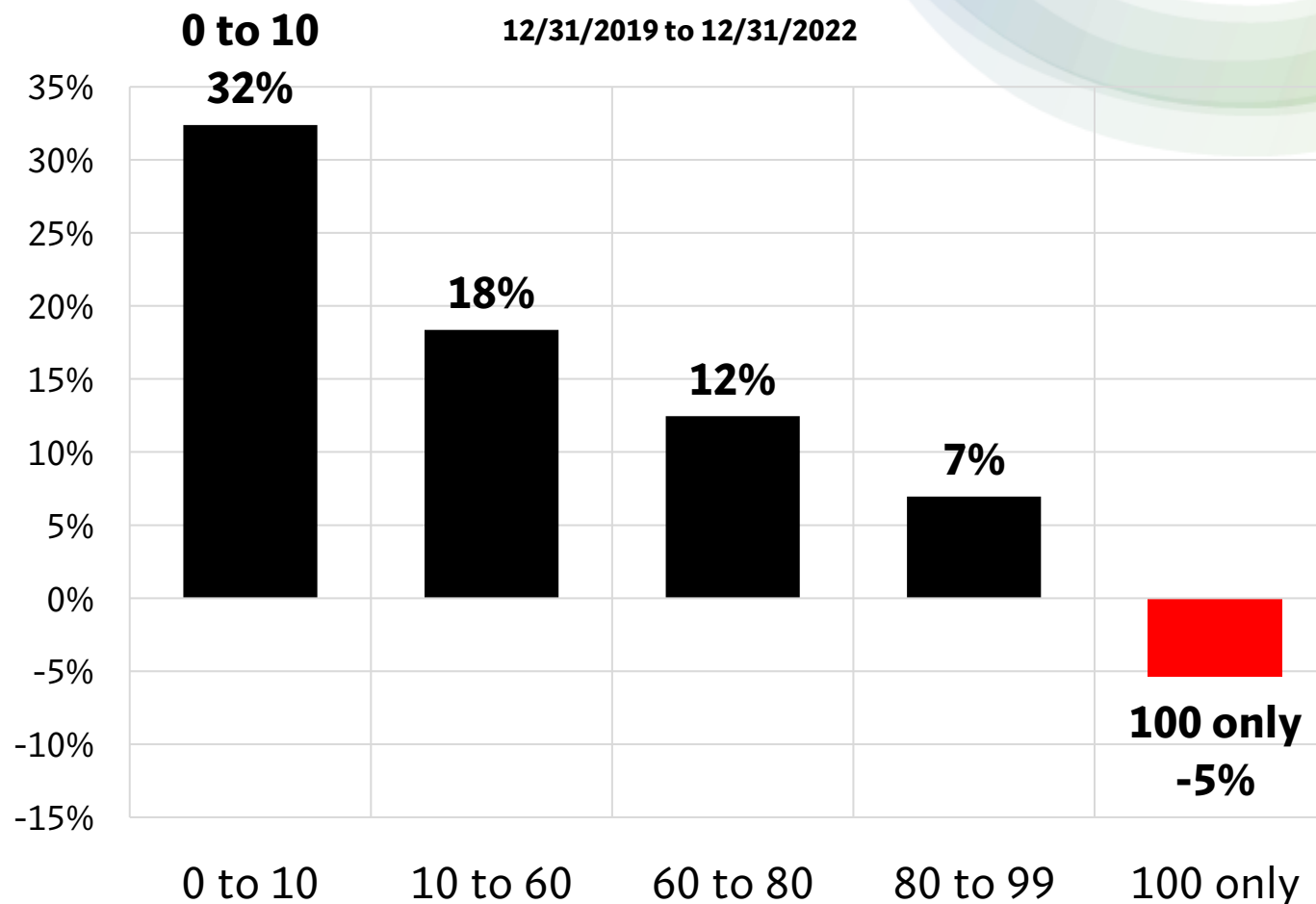
**3-year price changes on 5,580 companies based on ERS's 4D Rating™ between 12/31/19 and 12/31/22.**

On 12/31/19, 5,580 companies had a market cap over \$100 million. These stocks were divided into five groups based on their **4D Ratings™** on 12/31/19. Only 117 stocks had a **4D Rating™** less than 10; these stocks gained 32%, while the S&P 500 index only gained 25%. The stocks with the worst **4D Ratings™** rose much less than the S&P 500.

4D Rating™	# Co's	Avg 3-Year Return
0 to 10	117	32%
10 to 60	2,892	18%
60 to 80	805	12%
80 to 99	318	7%
100 only	1,448	-5%
S&P 500		25%

**Conclusion: In this period, ERS's 4D Risk Ratings™ were highly reliable.**

**3-Year Total Return**  
12/31/2019 to 12/31/2022



# 5 YEAR RESULTS: ERS'S 4D RATING™ WAS EFFECTIVE IN IDENTIFYING THE POOREST- AND BEST-PERFORMING COMPANIES

12/31/2017 TO 12/31/2022

**5-year study of price changes on 5,023 stocks between 12/31/17 and 12/31/22 based on ERS's 4D Rating™.**

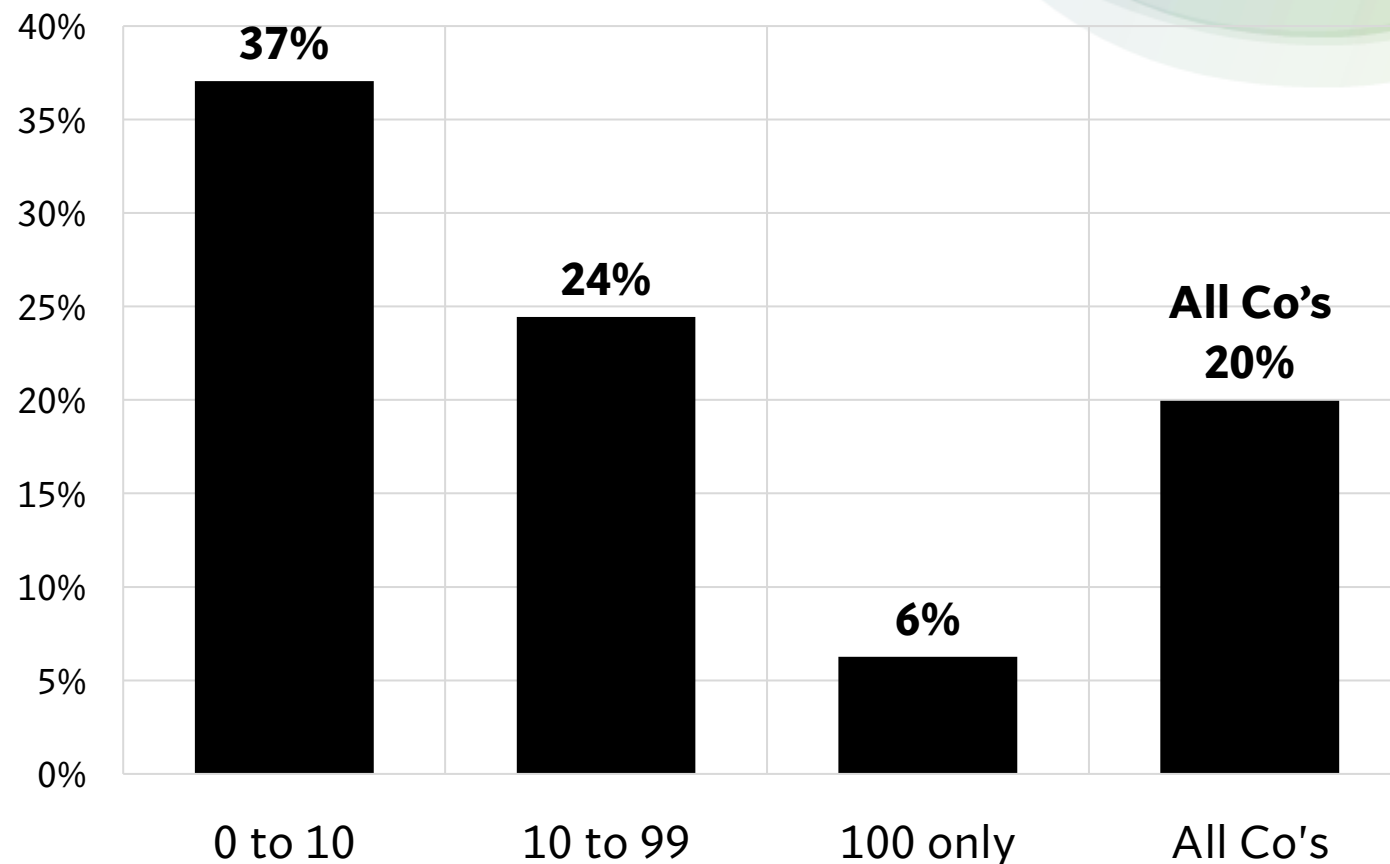
On 12/31/17, 5,023 companies traded in the US with a market cap over \$100 million.

This study demonstrates that companies with the worst **4D Ratings™** rose much less than both the best-rated companies and the average of all the companies.

4D Rating™	# Co's	Avg 5-Year Return
0 to 10	65	37%
10 to 99	3,672	24%
100 only	1,286	6%
All Co's	5,023	20%

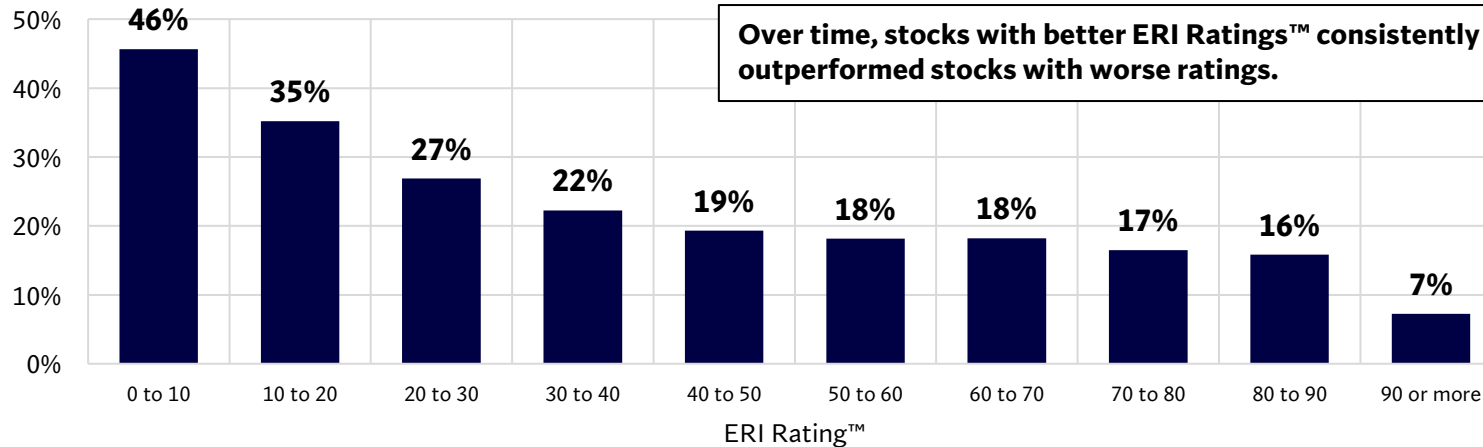
**Conclusion: Companies with ERS's worst 4D Ratings™ underperformed both the average stock and stocks with ERS's best ratings.**

**5-Year Total Return**  
12/31/2017 to 12/31/2022



# ERS'S BREAKTHROUGH TECHNOLOGY HAS BEEN TESTED OVER THREE DECADES

Average 2-Year Buy-and-Hold Return over 32 ½ Years



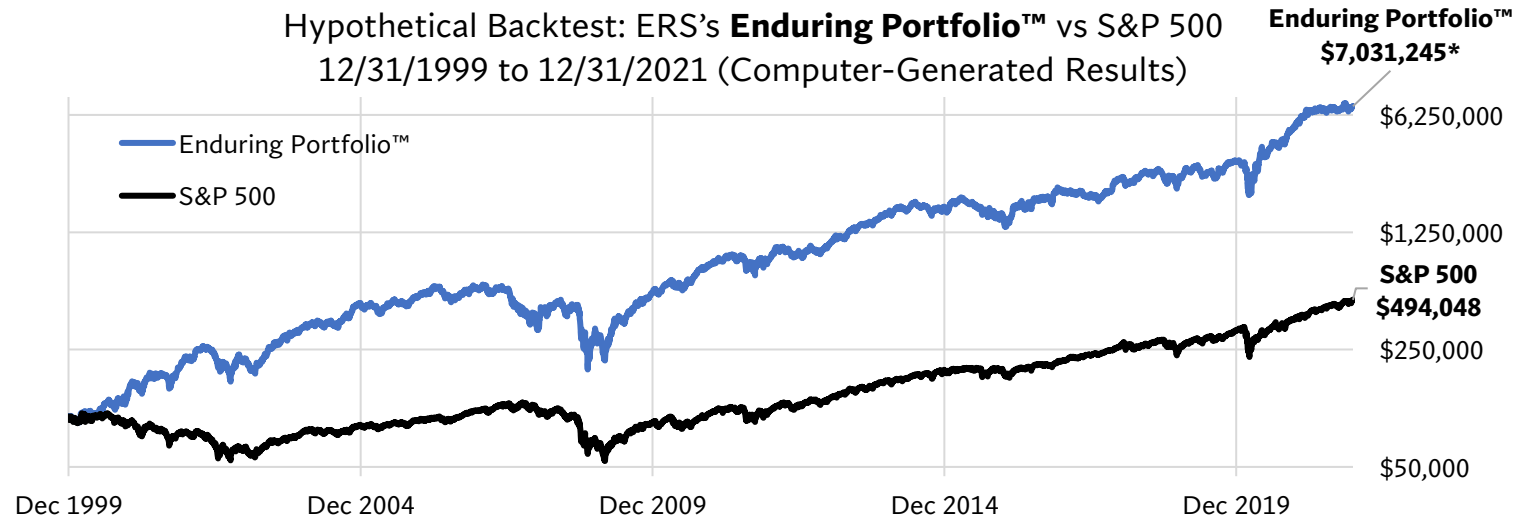
## Reliable Risk Ratings

Stocks with lower **ERI Ratings™** performed better than stocks with higher **ERI Ratings™** in 2-year buy-and-hold tests across more than 330,000 ratings from 1988 to 2019.

## Time-Tested Portfolios\*

ERS's **Enduring Portfolio™** strategy generated total wealth 14 times greater than passively holding the S&P 500.

Hypothetical Backtest: ERS's **Enduring Portfolio™** vs S&P 500  
12/31/1999 to 12/31/2021 (Computer-Generated Results)



\*Equity Risk Sciences' hypothetical backtested examples are provided as illustrative examples and do not represent the performance of actual client portfolios. No fees or transaction costs were included in this study.

# EQUITY RISK SCIENCES HAS BUILT A WORLD-CLASS INVESTMENT TECHNOLOGY SUITE OF TOOLS

**ERS has created a powerful research suite of tools.**

ERS's investment research tools allow us to test existing strategies and create new ones to produce superior performing portfolios.

The algorithms behind ERS's Risk Ratings are the company core assets. With capital, ERS will implement available legal and technology security safeguards to protect our IP from "bad actors".

When our IP is protected, ERS will monetize the ratings by building and marketing our proprietary **Alpha Directions™** technology.

In 2023, ERS will also focus on creating joint ventures and strategic partnerships with major financial institutions in North America and Europe.

This screenshot illustrates a portion of the risk evaluation technologies ERS has built.

The screenshot displays the Equity Risk Sciences website interface. At the top, the logo for EQUITY RISK SCIENCES, INC. is on the left, and navigation links for 'Due Diligence Report', 'ERS Success Video', 'How-To Guide', 'Tools', 'Contact', and 'Log Out' are on the right. The main content area is organized into three columns under the heading 'Monitoring Stocks'. Each column contains several tool links with brief descriptions:

- Finding Stocks**
  - [Present Stock Screener](#): A tool to select current stocks which meet your selected financial criteria, including ERS's proprietary ratings.
  - [Historic Portfolio Screener](#): A tool to select stocks on a specific past date which meet your selected financial criteria, including ERS's proprietary ratings.
  - [Two-Portfolio Comparison](#): This tool allows you to select a date and two sets of criteria to determine which set of criteria performed better.
  - [Multi Portfolio Screener](#): A tool to select stocks in a range of dates which meet your selected financial criteria, including ERS's proprietary ratings, and calculate their performance.
- Researching Stocks**
  - [The Right Metric™](#): This tool identifies which of 5 commonly-used financial metrics produced the greatest profitability over a selected time period.
  - [The Right Price™](#): This tool quantifies the probability of your selected stock producing a profit within a select date range when purchasing the company at selected PRI, FRI, ERI or other values.
  - [Price and Risk Chart](#): View interactive charts of a selected stock's price and ERS's risk ratings over a specified date range.
  - [Two-Portfolio Risk Analyzer](#): Search for all companies that meet two sets of selected parameters and calculate and compare their average X-month performances from the first day they meet those criteria.
  - [Stock Prognosis™](#): Search for all companies with financial metrics similar to those of a specified company on a specified date.
- Monitoring Stocks**
  - [The Wrong Metric™](#): This tool identifies which of 5 commonly-used financial metrics produced the least profitability over a selected time period.
  - [The Wrong Price™](#): This tool quantifies the probability of your selected stock producing a loss within a select date range when purchasing the company at selected PRI, FRI, ERI or other values.
  - [One-Portfolio Risk Analyzer](#): Search for all companies that meet selected parameters and calculate their average X-year, Y-month performance from the first day they meet those criteria.
  - [Multi High/Low Search](#): Insert a group of stock symbols to search for the dates on which they reached their highest or lowest price or rating levels.
  - [Drawdown Screener](#): Select a set of criteria to screen for stocks and their greatest price drawdowns during the specified date range.
- Monitoring Stocks**
  - [Risk Table Report](#): This tool allows you to view ERS's ratings on a list of up to 100 stocks and compare their future profitability on any specific date and for multiple date ranges.
  - [Price Protractor Comparison](#): Compare the historic probabilities of two stocks producing a gain or loss within a specified time period.
  - [Superior Sector Screen™](#): Calculate the performance of all stocks which match your specified parameters within each sector on a certain date.

# THE ERS OPPORTUNITY

Asset management is a \$50 trillion business.

**We know our competition; we intend to take their customers.**

**First, we're going after customers of companies  
like Value Line and Morningstar.**

## What Are The Stakes?

Value Line's market cap is \$500 million.

Morningstar's market cap is \$10 billion.



# ERS IS BUILDING A WORLD-CLASS FIRM. ARE YOU INTERESTED IN LEARNING MORE?

**For more information, please call or  
email our president, Ray Mullaney.**

[Ray@ERS.ai](mailto:Ray@ERS.ai)

6828 Post Road, Suite 3E  
North Kingstown, RI 02852  
(401) 450-4040

243 Tresser Blvd, 17<sup>th</sup> Floor  
Stamford, CT 06901  
(203) 254-0000



Company Profile: [www.EquityRiskSciences.com](http://www.EquityRiskSciences.com)

Technology Profile: [www.ERSSuccess.com](http://www.ERSSuccess.com)

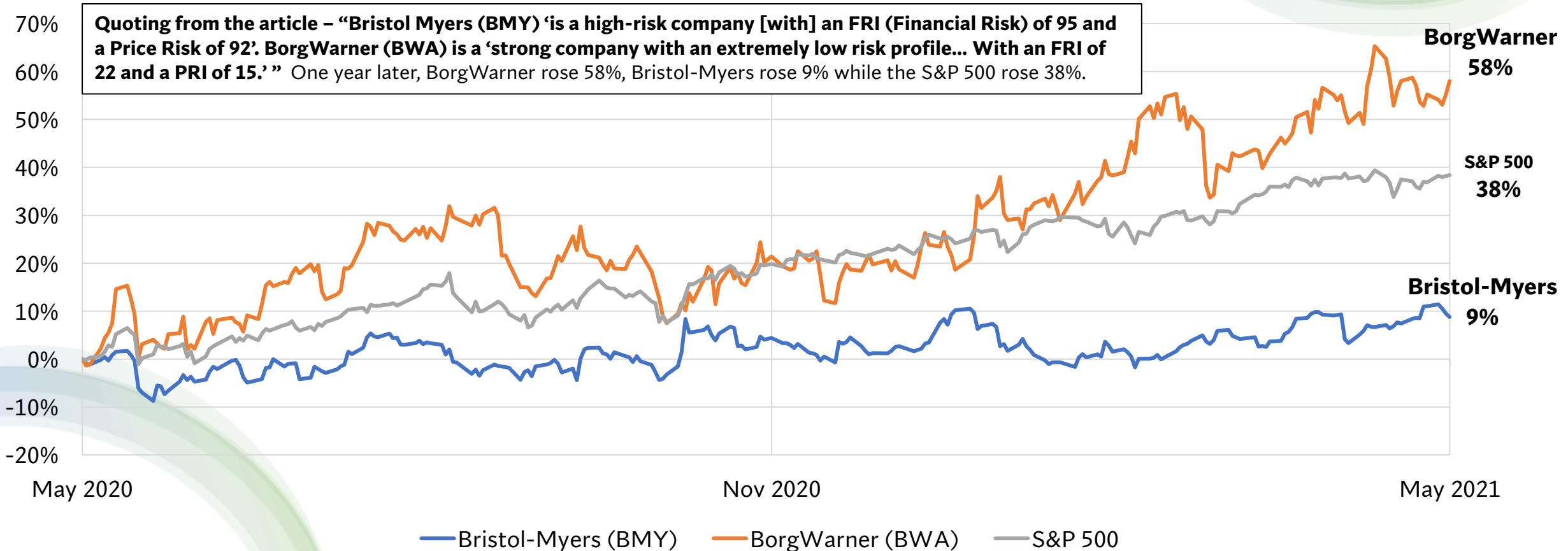
May 27<sup>th</sup>, 2020:

Ray was interviewed by Forbes to learn about ERS's technology. The full article can be seen [online here](#). Ray was asked "what company does your technology identify as 'very strongest' and what big company was overpriced and risky". ERS's rating for Borg Warner was exceptionally strong and ERS's rating for Bristol Myers was very risky. This chart shows their 12-month performance from the date of the interview.

## Research Firm: Market's Risk Is Phenomenally High, 2nd Dive

Likely Lawrence Carrel Contributor ©  
I'm a journalist who covers finance and investing.

### Compare the Price Performance of BMY with BWA – 5/27/2020 to 5/27/2021



The Boston Globe

Like pushing on a string

USA TODAY Money

USA TODAY

Down Transcript

Two named to delegation at House small business conference

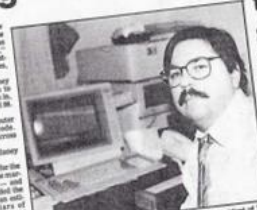
Two Topfield businessmen, Jeffrey Marshall, president of Tech Analysis Inc., and Raymond Mullaney, president of Capital Planning & Services, have been named to represent the state of Massachusetts at the White House Conference on Small Business...



Down Transcript

Beating the crash

Ajootian wins race for board



Nation's Business

SMALL BUSINESS REPORT

Forbes

ETFs & MUTUAL FUNDS

Research Firm: Market's Risk Is Phenomenally High, 2nd Dive Likely



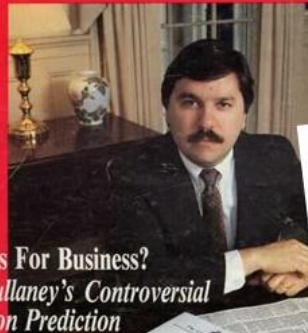
In Appreciation to

Raymond M. Mullaney Delegate

For Outstanding Contributions to

THE WHITE HOUSE CONFERENCE ON SMALL BUSINESS

NORTH SHORE BUSINESS MAGAZINE



Bad News For Business? Ray Mullaney's Controversial Recession Prediction

SECURITIES AND EXCHANGE COMMISSION



Mr. Roy Mullaney

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 potentially misleading earnings statements by Cisco Systems and transfers of large dollar amounts from insurance subsidiaries of General...

The New York Times

Growth in the Nation's Debt

PENSION INVESTMENT REPORT

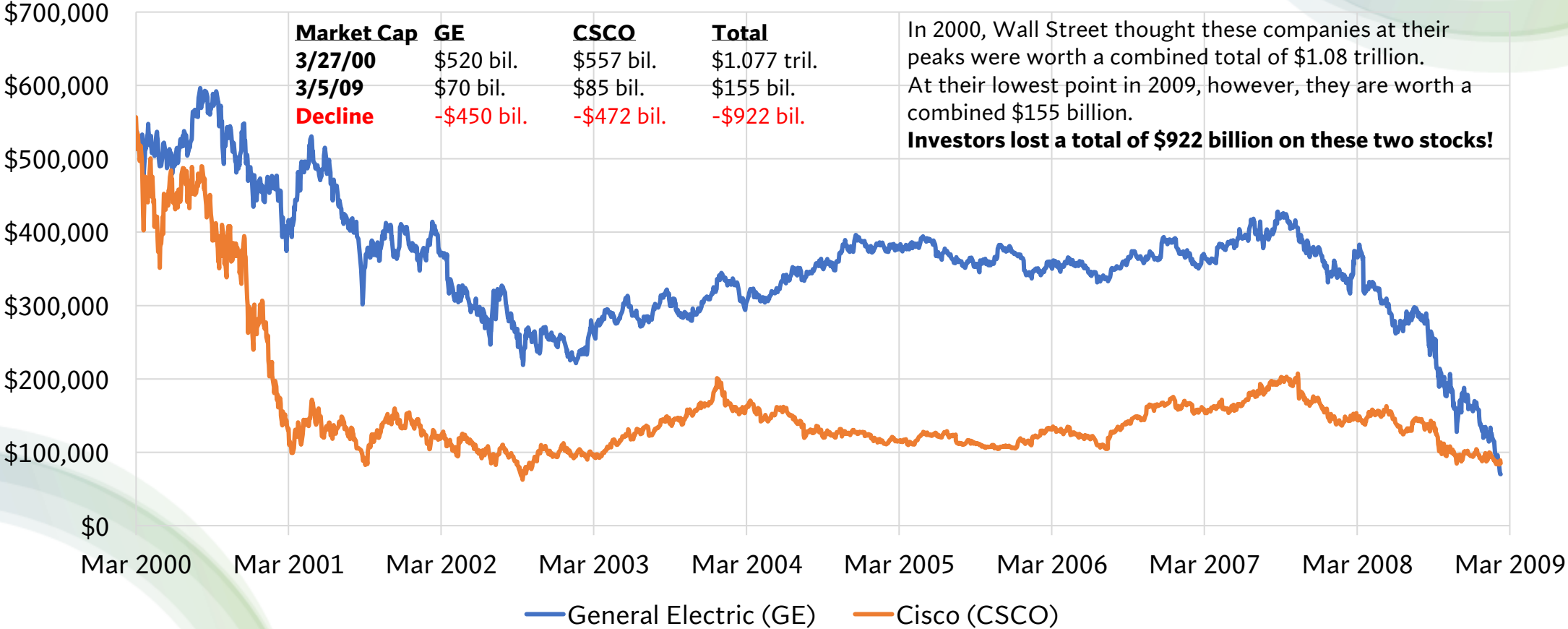
The New York Times

Economic Scene | Leonard Silk

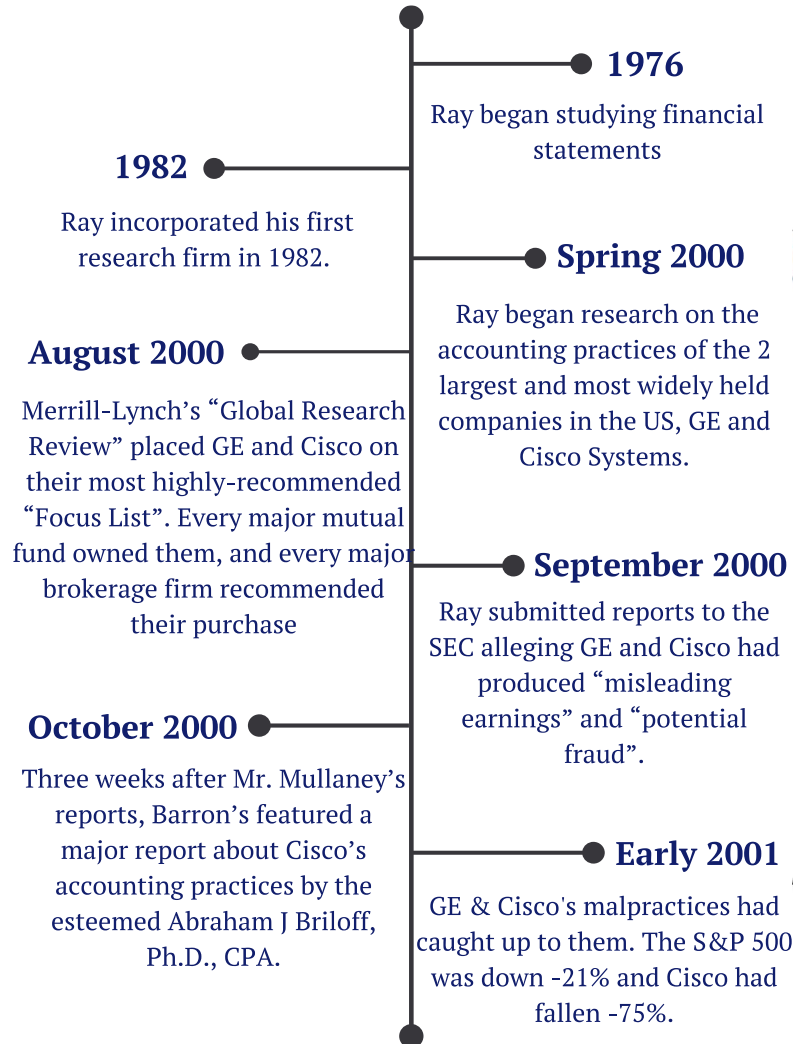
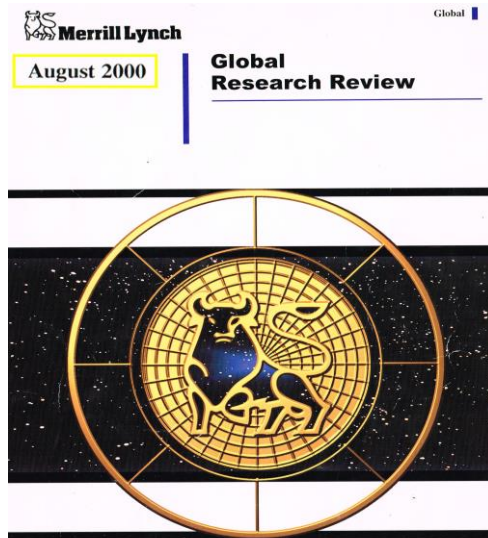


# GE AND CISCO – 3/27/2000 TO 3/5/2009

GE and Cisco's Market Caps, 3/27/00 to 3/5/09



# PREDICTING GE AND CISCO'S PRICE COLLAPSE IN 2000



# WHEN GE & CISCO WERE THE HOTTEST STOCKS ON WALL STREET MR. MULLANEY PROVIDED REPORTS TO THE SECURITIES EXCHANGE COMMISSION ALLEGING GE AND CISCO MANIPULATED EARNINGS



DIVISION OF  
ENFORCEMENT

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

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 information provided to the Commission relates to an ongoing investigation or provide assurances that an investigation will be initiated.

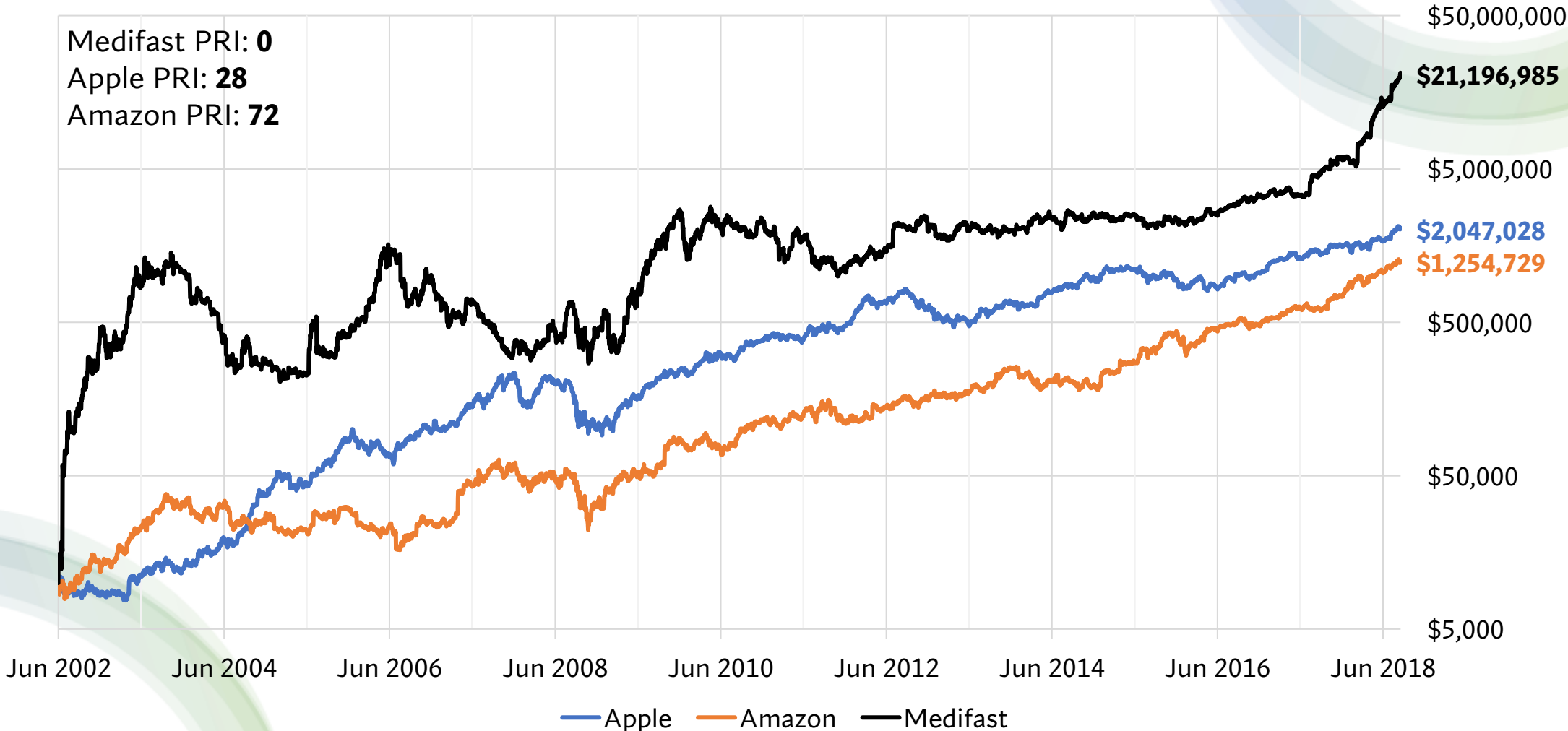
Let me know if I can be of further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "S.A. Mathews".

Susan A. Mathews  
Senior Counsel

# INVESTMENT OF \$10,000 IN APPLE, AMAZON AND MEDIFAST JUN 27, 2002 – SEP 12, 2018



# GAMESTOP VS AMC – IS THE MARKET EFFICIENT?

These two companies had the same market value on the same day. If investors had reliable technology which identified, measured and rated the risks and opportunities of stocks, on 9/18/20, most assuredly, investors would have purchased GameStop and avoided AMC like the plague. ERS has invented that technology!

	GameStop 9/18/2020	AMC 9/18/2020
Market Cap	\$617	\$620
Revenue	\$5,596	\$3,725
Liabilities	\$2,023	\$12,847
NTE	\$352	-\$4,738
Net Income	-\$339	-\$2,806
Retained Earnings	\$413	-\$3,464
Cash & ST Invs	\$735	\$498
Debt to Revenue	0.36	3.45
<b>Price to Sales</b>	<b>0.11</b>	<b>0.17</b>
<b>Price to NTE</b>	<b>1.75</b>	<b>-0.13</b>
PRI Rating™	12	78
<b>Total Return from 9/18/2020 to 12/31/2022</b>	<b>680%</b>	<b>-28%</b>