

**American Association of Individual Investors  
presents  
Financial Planning Workshop**

**Active vs. Passive Investment Strategies**

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# Financial Planning Workshops

- Fundamentals of Investing
- Building a Diversified Portfolio
- >>> **Active versus Passive Investment Strategies**
- Retirement Planning
- Managing your Cash Flow in Retirement
- Safe Withdrawal Rates from your Retirement Portfolio
- Claiming Social Security Benefits
- Estate Planning

# In Previous Workshops

- Reviewed the fundamental tools of investing
  - Determined how to measure risk and return
  - Techniques to control risk
  - Evaluated investment vehicles
    - Stocks, bonds, mutual funds, ETFs, REITs, etc.
  - Written our Personal Investor Profile, PIP
- Learned to build a diversified portfolio
  - Modern Portfolio Theory and the role of correlation
  - Reviewed the major asset classes
  - Written our Investor Policy Statement, IPS
- Slides available at [www.siliconvalleyaaii.org](http://www.siliconvalleyaaii.org)

# Today we will cover ...

- **The Efficient Market Hypothesis, EMH**
- **The Capital Asset Pricing Model, CAPM**
- **Active versus Passive Investment Strategies**
- **How to decide where you stand on these controversial issues**

# The Efficient Market Hypothesis

- Developed by Eugene Fama in 1960s
- Asset prices fully reflect all available information
- Stocks always trade at their “fair value”

# Three Forms of the EMH

- **Weak form**
  - All information in past trading history
  - Technical analysis cannot provide excess returns
- **Semi-strong form**
  - Prices adjust rapidly to release of new information
  - Fundamental analysis cannot provide excess returns
- **Strong form**
  - All information including insider information
  - Impossible to achieve excess returns consistently.

# Implications of the EM Hypothesis

- If the Efficient Market Hypothesis is valid .....
  - Impossible to beat the market thru expert stock selection or market timing
  - Research is a waste of time and resources
  - A broad portfolio picked by trained monkeys is likely to perform as well as expert selections
- Only path to higher returns is thru higher risk

# But... but... but... but ...

- What about ...Warren Buffet?

19.2% pa for 35 years (Nov 1980 – Nov 2015)

- Peter Lynch (Fidelity Magellan)?

29.2% pa for 17 years (1977 -1990)

- Bill Miller (Legg Mason Value Trust)?

Beat the S&P 500 for 15 straight years (1991 – 2005)

- What about October 29, 1987?

DJIA fell by over 20% in a single day

- What about 1999 internet bubble? 2008?



# That Was Then, This Is Now

- Buffet's great record was mostly earned decades ago (pre-internet)
  - 20 years (Nov 1995 – Nov 2015): 9.8% cagr
- Lynch's record also dates back to pre-internet days
- Very difficult to separate skill from luck
  - The odds of beating the S&P 500 for 15 straight years by luck alone are 1 in 32,768
  - Bill Miller: "This was an accident of the calendar; we've been lucky"

# Limitations to Our Theories

- MPT and the EMH make assumptions which are not always accurate, e.g. investors are rational beings
- They may work most of the time but fail occasionally
- But ... if you behave like a believer they still prevent you from making serious errors
- Consider an analogy:
  - Did Einstein make Newton's law of gravity obsolete?
- Behavioral Finance
  - Tries to exploit investors' irrational behavior and cognitive errors

# The Capital Asset Pricing Model

- The CAPM was developed in the 1950s by Harry Markowitz and Bill Sharpe
- Expected Portfolio Return
  - = Alpha + Beta x Market Return
- Alpha is defined as the excess return above an appropriate risk-adjusted benchmark
- Used as a performance measure for a fund manager

# Definitions

- **Passive Investor**
  - Anyone who attempts to replicate the market at minimum cost  
i.e. is happy to realize the market “beta”
- **Active Investor**
  - Anyone who is not a Passive Investor
  - Attempts to beat the market  
i.e. aims to generate excess returns, “alpha”, above the market return

## In Practice .....

- **Passive investors build a diversified portfolio of low cost index funds and rebalance diligently**
  - Do not confuse this with a Buy and Hold strategy
  - Rebalancing is important to control risk
- **Active investors**
  - **Stock pickers:** must know something the market doesn't
  - **Market timers:** try to avoid excessive draw-downs
    - Momentum players: buy rising stocks
    - Contrarians: buy out-of-favor stocks

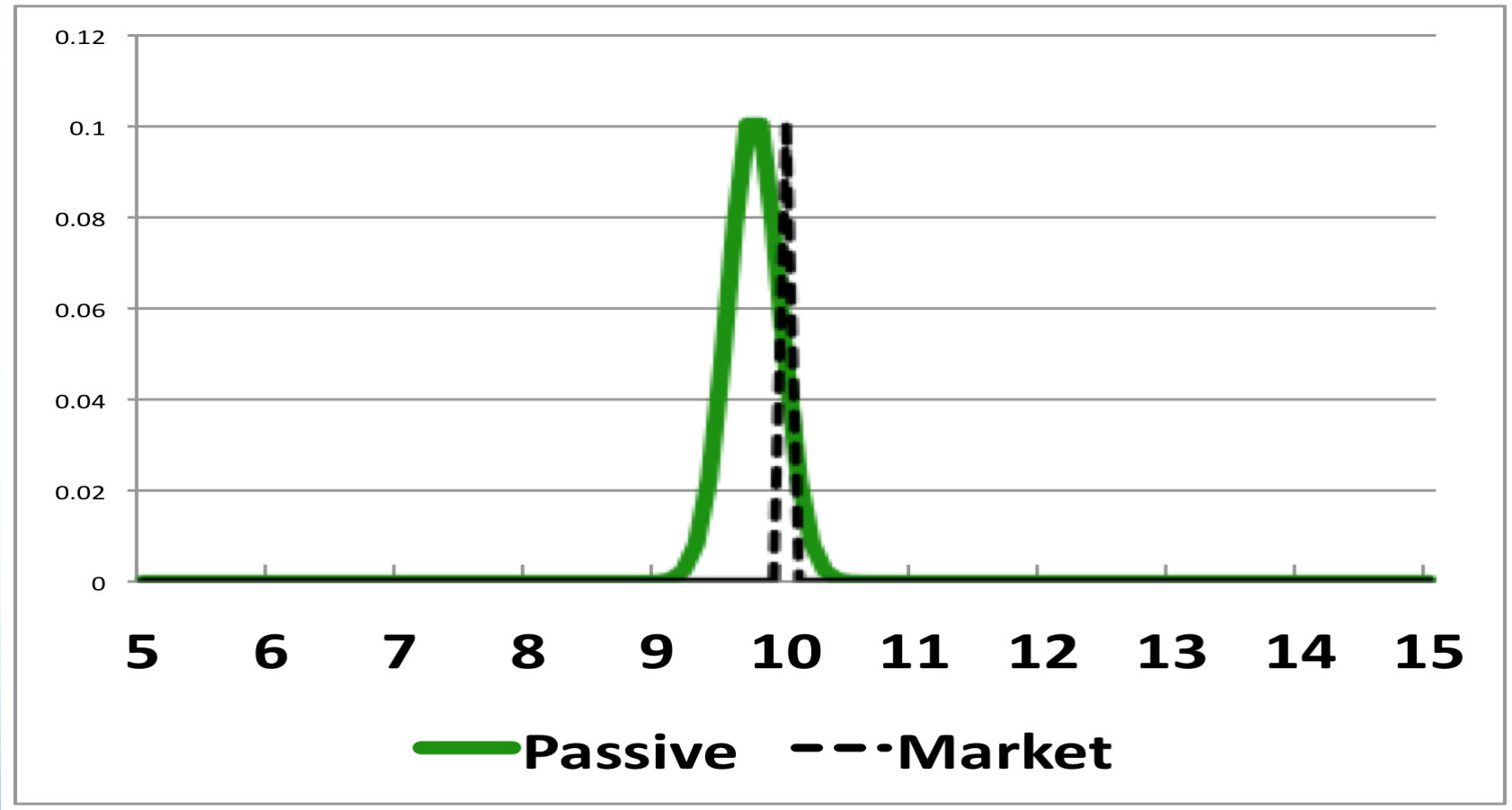
# Active + Passive = Total Market



# Passive Investors

- Passive investors, by definition, get the market return (less costs)
- Assume market return = 10% pa
- Assume costs = 0.25%
  - The expense ratio for many passive index funds <0.1%
- All passive investors are aiming for the same target with minimal tracking error
- Therefore distribution is very narrow  
e.g. Some index fund managers may sample the market

# Passive Returns form a Tight Distribution around the Market Return





# Active Investors

- Since active investors + passive investors = Market
- and passive investors, by definition, get the market return (less costs) .....
- ..... Therefore active investors in aggregate must also get the market return (less costs)
- Assume market return = 10% pa  
Same as passive investors
- But ... active costs and distributions are very different from passive investors

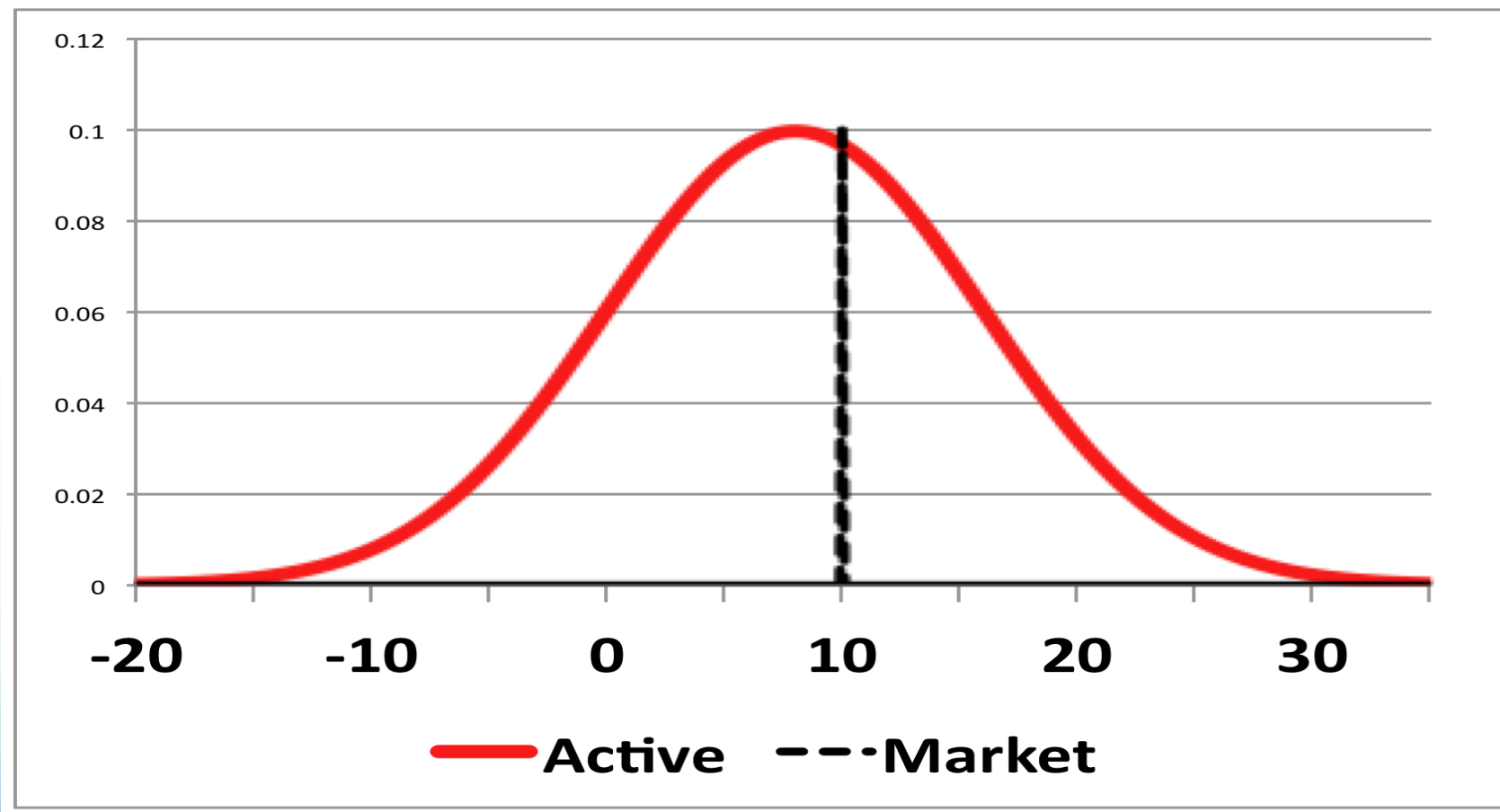
# Higher Costs for Active Investors

- **Costs are higher for an active investor**
  - **Must pay for more research**
  - **Trades more often (with other active investors)**  
Higher transaction costs
  - **Higher bid/ask spreads than index funds**  
Thinner markets than index funds
  - **Higher expense ratio than index funds**  
Extreme case for hedge funds; 2.0% pa + 20% of profit
- **Bogle's estimate of the average all-in investment expense for an active fund = 2.27% pa**
- **Assume 2.0% pa total cost**

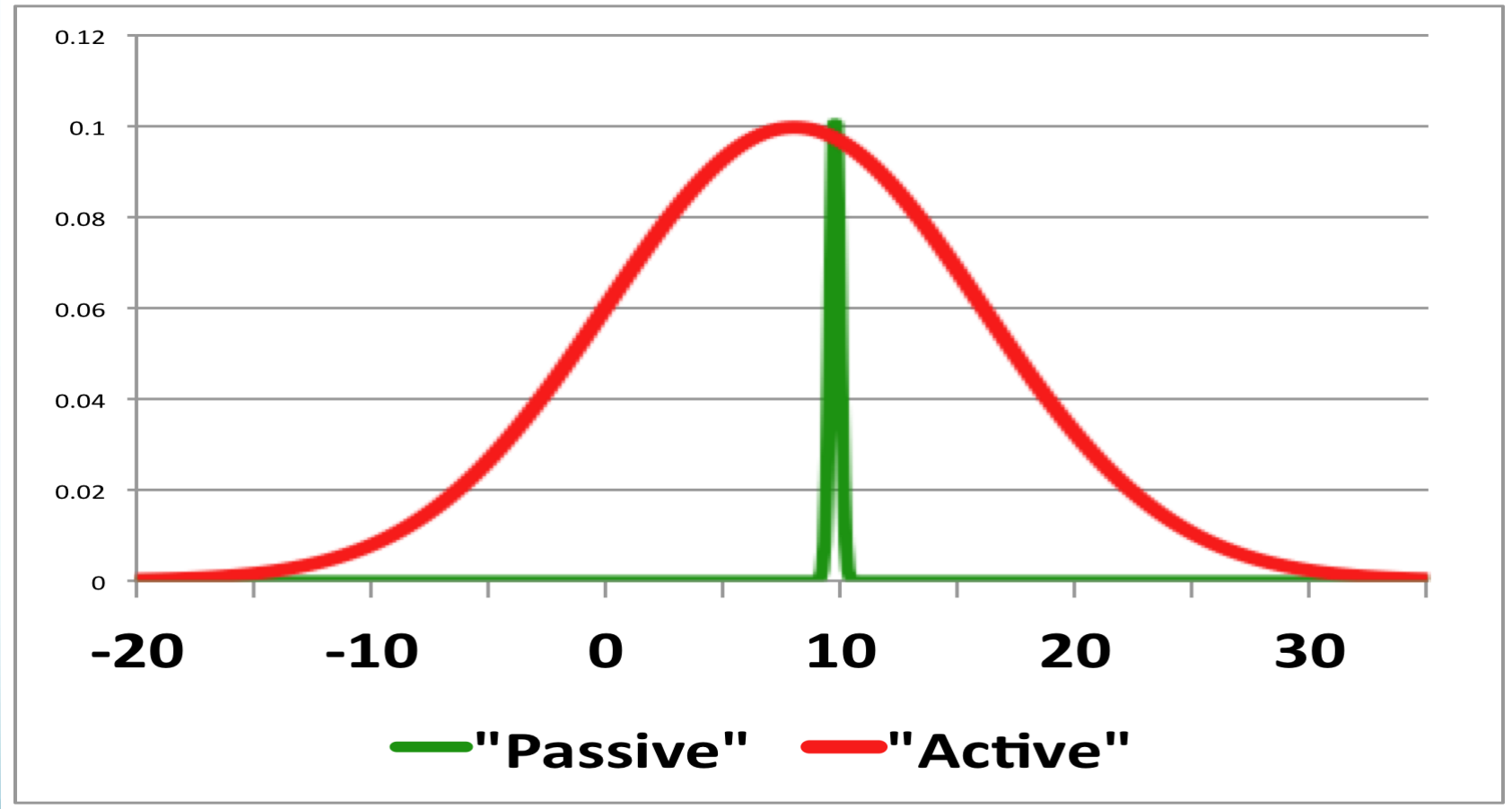
# Wide Distributions for Active Investors

- Distributions are wider for an active investor
  - Aiming for diverse targets with broad range of strategies
    - Growth stocks, value stocks
    - High dividend stocks, low price/book stocks, etc,
    - Momentum plays, Contrarian approaches, etc. etc.
  - Concentrated portfolios, less diversification
    - Want to avoid “closet indexer” slur

# Active Returns form a Wide Distribution around the Market Return



# Let's Compare the Active and Passive Distributions



# Active Trades

- **Since active investors must get the market return on average**  
Half the active investors will beat the market  
and half will do worse than the market
- **For every trade an active investor makes**  
Either he will prove to be a winner beating the market,  
and the guy on the other end of the trade will prove to be  
a loser .....  
Or vice-versa
- **Unlike the children in Lake Wobegon, not all active investors can be above average**

# Questions to Ask Yourself for Every Trade

- Do I have any advantage over the other guy?
- Am I smarter than the other guy?
- Do I have access to better data?
- Do I have better resources for research?
- Am I feeling lucky today?

# Consider Both Sides of The Trade

- **Who is on the other side of the transaction?**  
Pension plans, Endowment plans  
Mutual funds, Exchange traded funds  
Individual investors:      Smart  
                                         Not so smart
- **Asymmetric information risk**  
Probability that an institutional investor on the other end of a trade knows something you don't know
- **What is the probability of your trade proving to be a winning one?**  
Are there enough “not so smart” investors to take the other side of your trade?



# Trading is Detrimental to your Financial Health!

- Most investors trade too often
- Research study on 78,000 brokerage accounts:
  - On average, one year after the trade, the asset sold outperformed the asset bought
- Mark Hulbert
  - “If you are thinking of calling this number, don’t”

# A Paradox

- If a passive strategy is low cost and efficient, why would anyone follow an active strategy?  
Why not just accept a free ride?
- But if everyone adopts a passive strategy, and no one does any security analysis, what brings about the efficiency of the market?
- Active investors: Keep up the good work!  
We need you to continue your analysis, and trading amongst yourselves, to maintain an efficient market.

# The Callan Periodic Table of Investment Returns

Annual Returns for Key Indices Ranked in Order of Performance (1995–2014)

1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
S&P 500 Growth	S&P 500 Growth	S&P 500 Growth	S&P 500 Growth	MSCI Emerging Markets	Russell 2000 Value	Russell 2000 Value	Barclays Agg	MSCI Emerging Markets	MSCI Emerging Markets	MSCI Emerging Markets	MSCI Emerging Markets	MSCI Emerging Markets	Barclays Agg	MSCI Emerging Markets	Russell 2000 Growth	Barclays Agg	MSCI Emerging Markets	Russell 2000 Growth	S&P 500 Growth
38.13%	23.97%	36.52%	42.16%	66.42%	22.83%	14.02%	10.26%	56.28%	25.95%	34.54%	32.59%	39.78%	5.24%	79.02%	29.09%	7.84%	18.63%	43.30%	14.89%
S&P 500	S&P 500	S&P 500	S&P 500	Russell 2000 Growth	Barclays Agg	Barclays Agg	Barclays Corp High Yield	Russell 2000 Growth	Russell 2000 Value	MSCI EAFE	MSCI EAFE	MSCI EAFE	Barclays Corp High Yield	Barclays Corp High Yield	Russell 2000	Barclays Corp High Yield	Russell 2000 Value	Russell 2000	S&P 500
37.58%	22.96%	33.36%	28.58%	43.09%	11.63%	8.43%	-1.41%	48.54%	22.25%	13.54%	26.34%	11.17%	-26.16%	58.21%	26.85%	4.98%	18.05%	38.82%	13.69%
S&P 500 Value	S&P 500 Value	Russell 2000 Value	MSCI EAFE	S&P 500 Growth	S&P 500 Value	Barclays Corp High Yield	MSCI Emerging Markets	Russell 2000	MSCI EAFE	S&P 500 Value	Russell 2000 Value	S&P 500 Growth	Russell 2000 Value	Russell 2000	Russell 2000 Value	S&P 500 Growth	S&P 500 Value	Russell 2000 Value	S&P 500 Value
36.99%	22.00%	31.78%	20.00%	28.24%	6.08%	5.28%	-6.00%	47.25%	20.25%	5.82%	23.48%	9.13%	-28.92%	34.47%	24.50%	4.65%	17.68%	34.52%	12.36%
Russell 2000 Growth	Russell 2000 Value	S&P 500 Value	S&P 500 Value	MSCI EAFE	Russell 2000	Russell 2000	Russell 2000 Value	Russell 2000 Value	Russell 2000	S&P 500	S&P 500 Value	Russell 2000 Growth	Russell 2000	MSCI EAFE	MSCI Emerging Markets	S&P 500	MSCI EAFE	S&P 500 Growth	Barclays Agg
31.04%	21.37%	29.98%	14.69%	26.96%	-3.02%	2.49%	-11.43%	46.03%	18.33%	4.91%	20.81%	7.05%	-33.79%	31.78%	19.20%	2.11%	17.32%	32.75%	5.97%
Russell 2000	Russell 2000	Russell 2000	Barclays Agg	Russell 2000	Barclays Corp High Yield	MSCI Emerging Markets	MSCI EAFE	MSCI EAFE	S&P 500 Value	Russell 2000 Value	Russell 2000	Barclays Agg	S&P 500 Growth	S&P 500 Growth	Barclays Corp High Yield	S&P 500 Value	Russell 2000	S&P 500	Russell 2000 Growth
28.45%	16.49%	22.36%	8.70%	21.26%	-5.86%	-2.37%	-15.94%	38.59%	15.71%	4.71%	18.37%	6.97%	-34.92%	31.57%	15.12%	-0.48%	16.35%	32.39%	5.60%
Russell 2000 Value	Barclays Corp High Yield	Russell 2000 Growth	Barclays Corp High Yield	S&P 500	S&P 500	Russell 2000 Growth	Russell 2000	S&P 500 Value	Russell 2000 Growth	Russell 2000	S&P 500	S&P 500	S&P 500	Russell 2000	S&P 500 Value	Russell 2000 Growth	S&P 500	S&P 500 Value	Russell 2000
25.75%	11.35%	12.95%	1.87%	21.04%	-9.11%	-9.23%	-20.48%	31.79%	14.31%	4.55%	15.79%	5.49%	-37.00%	27.17%	15.10%	-2.91%	16.00%	31.99%	4.89%
Barclays Corp High Yield	Russell 2000 Growth	Barclays Corp High Yield	Russell 2000 Growth	S&P 500 Value	MSCI EAFE	S&P 500 Value	S&P 500 Value	Barclays Corp High Yield	Barclays Corp High Yield	Russell 2000 Growth	Russell 2000 Growth	S&P 500 Value	Russell 2000 Growth	S&P 500	S&P 500	Russell 2000	Barclays Corp High Yield	MSCI EAFE	Russell 2000 Value
19.18%	11.26%	12.76%	1.23%	12.73%	-14.17%	-11.71%	-20.85%	28.97%	11.13%	4.15%	13.35%	1.99%	-38.54%	26.47%	15.06%	-4.18%	15.81%	22.78%	4.22%
Barclays Agg	MSCI EAFE	Barclays Agg	Russell 2000	Barclays Corp High Yield	S&P 500 Growth	S&P 500	S&P 500	S&P 500	S&P 500	S&P 500 Growth	Barclays Corp High Yield	Barclays Corp High Yield	S&P 500 Value	S&P 500 Value	S&P 500 Growth	Russell 2000 Value	S&P 500 Growth	Barclays Corp High Yield	Barclays Corp High Yield
18.46%	6.05%	9.64%	-2.55%	2.39%	-22.08%	-11.89%	-22.10%	28.68%	10.88%	4.00%	11.85%	1.87%	-39.22%	21.17%	15.05%	-5.50%	14.61%	7.44%	2.45%
MSCI EAFE	MSCI Emerging Markets	MSCI EAFE	Russell 2000 Value	Barclays Agg	Russell 2000 Growth	S&P 500 Growth	S&P 500 Growth	S&P 500 Growth	S&P 500 Growth	Barclays Corp High Yield	S&P 500 Growth	Russell 2000	MSCI EAFE	Russell 2000 Value	MSCI EAFE	MSCI EAFE	Russell 2000 Growth	Barclays Agg	MSCI Emerging Markets
11.21%	6.03%	1.78%	-6.45%	-0.82%	-22.43%	-12.73%	-23.59%	25.66%	6.13%	2.74%	11.01%	-1.57%	-43.38%	20.58%	7.75%	-12.14%	14.59%	-2.02%	-1.82%
MSCI Emerging Markets	Barclays Agg	MSCI Emerging Markets	MSCI Emerging Markets	Russell 2000 Value	MSCI Emerging Markets	MSCI EAFE	Russell 2000 Growth	Barclays Agg	Barclays Agg	Barclays Agg	Barclays Agg	Russell 2000 Value	MSCI Emerging Markets	Barclays Agg	Barclays Agg	MSCI Emerging Markets	Barclays Agg	MSCI Emerging Markets	MSCI EAFE
-5.21%	3.64%	-11.59%	-25.34%	-1.49%	-30.61%	-21.44%	-30.26%	4.10%	4.34%	2.43%	4.33%	-9.78%	-53.18%	5.93%	6.54%	-18.17%	4.21%	-2.27%	-4.90%

# What about History?

- Beware back-test data and data mining
- Be aware of mean reversion
- With hindsight its easy to find actively managed funds that have outperformed the market in the past
- The challenge is to identify them going forward and to recognize quickly when they fail to outperform
- “All strategies work until they don’t work”
  - By the time you’ve figured out it’s time to switch to a new strategy it’s too late
- “There are lies, damn lies, and statistics!” Be careful!

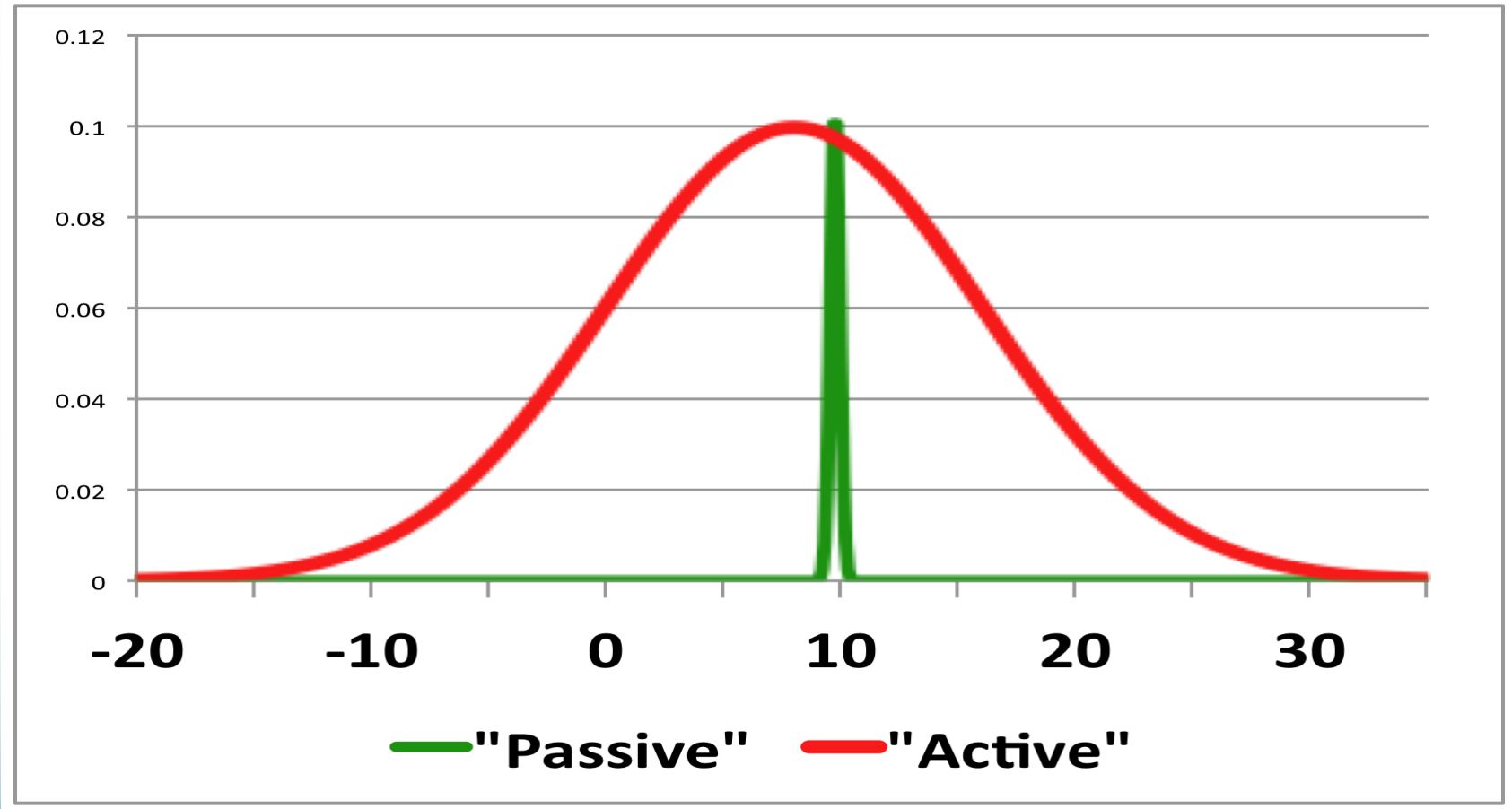
# Opinions on Predicting the Future

- **Past performance is no guide to future returns.**
- **To beat the market you have to be able to predict the future. (Harry Domash opinion)**
- **To beat the market you have to predict the future better than everyone else. (Fred Smith opinion)**
  - If you predict the same future as everyone else you get the same market returns as everyone else.**
- **We can't predict the future, but we can prepare for it. (Fred Smith opinion)**

## Fred's Folly (opinion)

- All successful investing strategies lead to comparable long-term risk adjusted returns.
- Building a diversified portfolio of cheap index funds is a successful long-term strategy giving the market return.
- Therefore all successful long-term strategies lead to the market return.

# Very Few Investors Can Beat The Market Consistently





# A Challenge To Active Investors

- Last month we reviewed various passive portfolios
  - Number of funds = 1 to 4
  - In 20 years \$10k becomes \$36 to \$63k
  - Compound annual growth rate (20 yrs) = 7% to 10%
  - Sharpe ratio (20 years) = 0.6 to 1.0
  - Rebalance annually
- What is the equivalent data for your active portfolio?
  - How much time do you spend managing it?
  - How long can you survive without internet access?
  - Would you rather be fishing?



# A Perspective on Pension Funds

- **US state and local government funds**  
diversified portfolios including hedge funds, private equity, etc.
- **Average returns for past 25 years: 8.5% pa**  
**5 years: 9.5% pa**  
**Projected future returns: 7.7%**
- **Many pension funds, including CALPERS, are switching significant portions of their portfolios to passive index management.**

# Who Should Be an Active Investor?

- You should consider being an active investor if ...
  - You are smarter than the average investor
  - You have access to better data, tools, other resources
  - You are prepared to risk losing to the market
  - You enjoy the challenge
  - You don't mind giving up weekends
  - You consider yourself luckier than most

# Who should be a Passive Investor?

- You should consider being a passive investor if ...
  - You are comfortable earning the market return
  - You are happy knowing that your strategy beats 60-80% of all other investors
  - You can stay-the-course in spite of occasional major downturns
  - You enjoy spending your weekends fishing rather than sitting in front of a computer
  - You like to know that you can relax on safari for three weeks without worrying about what the market is doing

Think **B**oring **I**s **G**ood

# For Those Who Can't Decide

- How about a “Core and Explore” compromise?
- Core:
  - Use passive index strategy for 80% of portfolio
- Satellite:
  - Use active strategy for remaining 20% of portfolio
  - Important to keep costs down
  - Track the long-term performance of both sections carefully

# In Summary

- Today we covered
  - The Efficient Market Hypothesis, EMH
  - The Capital Asset Pricing Model, CAPM
  - Goals and strategy for active and passive investors
  - How to decide where you stand
- This concludes our 3-workshop series on investing
  - All slides are available at [www.siliconvalleyaaii.org](http://www.siliconvalleyaaii.org)

# Next Month We will Cover .....

- **Retirement Planning**
  - **Accumulation Phase**
    - Why to start early
  - **Account attributes**
    - Traditional IRA, Roth IRA, 401(k), etc.
  - **Managing your accounts**
- **This is the first of 3 workshops on retirement**

# **Before Next Month's Workshop .....**

- **Review your Investment Policy Statement, IPS**
  - **Do you wish to revise it based on anything you may have learned today?**
- **Review the 20-year risk and return data for your retirement accounts**
  - **Are you satisfied with the results?**

# To Probe Further

- Achieving Greater Long-Term Wealth Through Index Funds, An Interview with Jack Bogle, AAI Journal, June 2014
- Common Investor Mistakes and Other Investing Insights, An Interview with Jack Bogle, AAI Journal, July 2014
- Is Outperforming the Market Alpha or Beta? Larry Swedroe and Andrew Berkin, AAI Journal. July 2015
- Trading More Frequently Leads to Worse Returns, Terrance Odean, AAI Journal, November 2014
- Portfolio Selection, Harry Markowitz, Journal of Finance, 1952
- The Loser's Game, Charles Ellis, The Financial Analysts' Journal, July 1975
- Winning the Loser's Game, Charles Ellis, McGraw-Hill, 2002
- A Random Walk Down Wall Street, Burton Malkiel, W.W. Norton & Company
- The Efficient Market Hypothesis and Its Critics, Burton Malkiel, CEPS Working Paper No. 91, April 2003



# Useful Websites

- [www.aaii.com](http://www.aaii.com) Broad selection of investing material
- [www.siliconvalleyaaii.org](http://www.siliconvalleyaaii.org) Previous presentations on various topics
- [www.santaclaracountylib.org/Adults/Business & Money](http://www.santaclaracountylib.org/Adults/Business%20&%20Money)  
Morningstar Investment Research Center  
Standard & Poors NetAdvantage  
Value Line
- [www.investopedia.com](http://www.investopedia.com)
- [www.bogleheads.org](http://www.bogleheads.org)
- [www.obvliviousinvestor.com/index-funds/](http://www.obvliviousinvestor.com/index-funds/) Mike Piper blog
- [www.rickferri.com/investment-philosophy/](http://www.rickferri.com/investment-philosophy/) Rick Ferri blog
- [www.callan.com/research/files/989.pdf](http://www.callan.com/research/files/989.pdf) Callan Chart

# The Motley Fool's Financial Rules

- Every five to seven years people forget that recessions happen every five to seven years.
- You're twice as biased as you think (four times if you disagree with this statement).
- Read more history and fewer forecasts.
- The stock market can stay irrational longer than you can stay solvent. John Maynard Keynes
- Are you smarter than the average professional investor? Probably not. William Sharpe
- Investors were probably better informed 20 years ago when there was 90% less financial news.

# DILBERT | Scott Adams

