



ABSTRACT

Capital Advisors' investment philosophy is unconventional. This document provides a detailed account of what makes us different, presented in three parts: Theory, evidence and implementation. We hope readers will develop an understanding of why we invest the way we do (theory); why we believe our strategies can be effective in the future (evidence); and how each strategy works (implementation).

*Presented by the Research Team of
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- Capital Advisors' investment strategies are different because they are designed for an unconventional model of how asset markets work.
- The foundation of our viewpoint is an expectation that risk markets will overshoot their long-term average value in both directions from time to time.
- We believe overshooting prices are caused by rational mistakes among investors and reinforced by shared incentives among many market participants.
- We believe investor mistakes are unavoidable because structural change ensures the future will be different from the past.

The Prevailing View of How Asset Markets Work...

Professional investment management has followed a common rule book for more than 60 years. The rule book is called Modern Portfolio Theory (MPT), and it evolved from a ground-breaking paper on the topic of portfolio construction published in 1952 by an economist named Harry Markowitz.

In the decades since its introduction, countless professional investors have used MPT as the foundation for their investment process despite aspects of the theory that have been questioned throughout its existence. One particularly controversial element of MPT is the notion of market "efficiency," which assumes the market price of a tradable asset like a stock or a bond reflects everything there is to know about it.

According to the efficient market hypothesis (EMH), the current price of a traded security is assumed to be the best estimate of its "true" value. The model further assumes that future changes in the price of a security are random because they are driven by an unpredictable flow of new information. By assuming price changes are random, EMH concludes that active security selection is futile.

Using EMH as the model of how markets work, MPT directs investors to construct a portfolio of broad market positions appropriate for their own risk profile, and then maintain the portfolio with limited deviation from the static targets for each asset class. These static targets are frequently referred to as the "strategic asset allocation."

To the extent that EMH is an accurate model of how asset markets work, MPT is an optimal blue print for designing investment portfolios. Harry Markowitz shared the Nobel Prize in Economics in 1989 for proving this point mathematically.

An Alternative Model of Asset Markets

It stands to reason that if there is a better model for describing how asset markets work, there might be an alternative approach for designing investment portfolios. This is our belief at Capital Advisors.

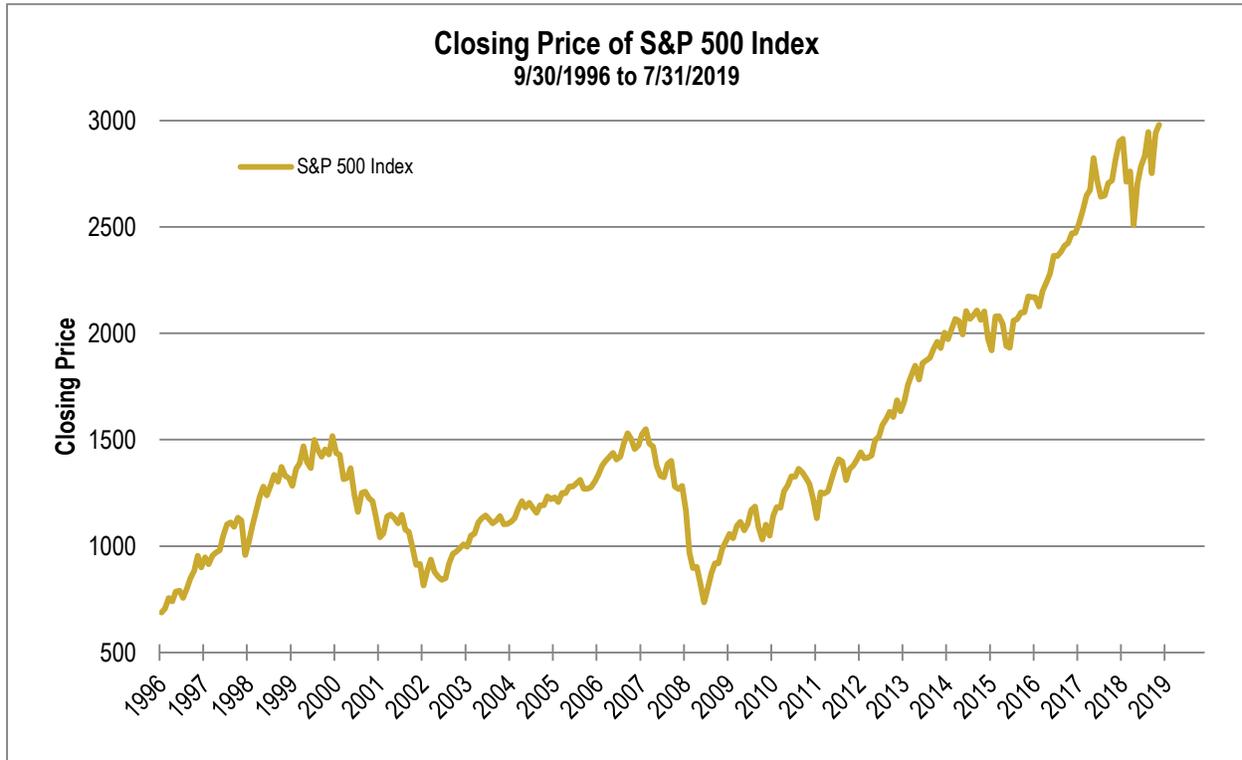
In the mid-1990s an alternative theory of asset market behavior was developed at Stanford University by professor, Mordecai Kurz. The theory of “Rational Belief Equilibrium” (RBE) represents progress in a scientific sense, because it generalized a predecessor theory – EMH – by rendering EMH as a special case within a broader explanation of how markets work. Specifically, RBE overcame two highly restrictive assumptions from the EMH model:

- 1) The assumption that asset market returns are independent and identically distributed random variables (i.i.d.). An example of an i.i.d. distribution is a coin toss, where the probability of heads is always 50% regardless of the sequence of outcomes that preceded it.
- 2) The assumption that market participants share a common pricing model for converting new information into a correct price for traded securities.

The very earliest critics of MPT suggested that neither of these assumptions passed the smell-test of common sense. Numerous empirical studies have subsequently proven these assumptions to be false (examples provided in Section II). Even so, it took more than 40 years for an alternative theory to emerge that explained market behavior more effectively than EMH using mathematical proofs that work without the restrictive assumptions of EMH.

That theory is Rational Belief Equilibrium (RBE), and it is the basis for the investment strategies we implement at Capital Advisors.

Are Stock Market Returns Random? Persistent Trends Suggest Not...



Source: Standard & Poor's; Bloomberg

Bull and bear market cycles reflect “serial correlation” in the historical time series of asset market returns. Serial correlation would not be possible if the distribution of market returns was random (or i.i.d.), as EMH and MPT assume.

The Theory of Rational Belief Equilibrium

Rational Belief Equilibrium (RBE) explains why asset markets tend toward *cycles* – bull and bear markets; booms and busts – in a way that EMH never could. The key ingredient in the RBE model is ignorance. Not that some investors are ignorant at the expense of others, but rather, that we are all ignorant about what matters most in investing – the future.

The assumptions that underlie RBE are refreshing because they acknowledge the obvious – none of us are clairvoyant. Rather than assume market prices are always “right,” RBE allows for the probability that rational investors make mistakes from time to time. **In other words, asset prices are frequently wrong.**

The Role of Structural Change

According to RBE, our ability to forecast the future is constantly derailed by *structural change* within the systems we must forecast. For example, in 1996 who knew how this new thing called the Internet might impact the future of business and society? How altered was the world view of the average American on the evenings of December 7, 1941, or September 11, 2001? Such is the nature of structural change – we can't rely on historical experience alone to interpret what's happening because nothing quite like it has ever happened before.

According to RBE cycles emerge in asset markets whenever the mistakes we make as investors become correlated. The financial crisis in 2008 provides an extreme example of a correlated mistake involving the housing market. Prior to 2008 the risk models used by banks and securities dealers assumed home prices would not decline on a national basis. This seemed like a rational belief at the time because it was consistent with the historical record of home prices prior to 2007. But structural change in the mortgage market caused home prices to evolve in a novel direction, and the rest is history.

The booms and busts that populate the history of all risk markets represent self-reinforcing feedback loops built upon a foundation of assumptions that includes at least one, as yet unrecognized, error; followed by a self-reinforcing unwind when market participants recognize their collective mistake.

Shared incentives among market participants can reinforce these cyclical trends. Many professional investors are incentivized by job security to “follow the herd” due to narrow investment mandates and frequent benchmarking of performance. Short-term traders can reinforce trends due to a profit incentive. Trading strategies that follow the direction of recent price action have been prevalent for as long as there have been markets.

Conclusion

If markets move in cycles – bull and bear markets; booms and busts – optimum portfolio strategy requires dynamic adjustments to prevailing market conditions. Such an approach represents an important departure from the more traditional buy-and-rebalance philosophy of MPT. We employ a dynamic approach to portfolio management at Capital Advisors.



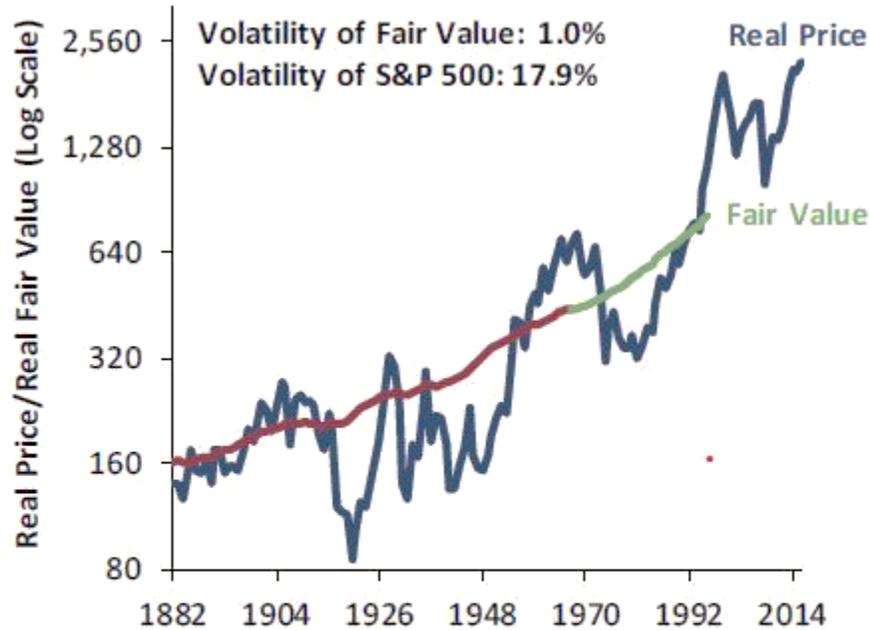
- The historical record of numerous risk-based markets reflects overshooting prices.
- Market cycles reveal themselves as “serial correlation,” or “memory,” in the historical record of asset prices.
- When conditions in an asset market today can influence likely conditions in the market tomorrow (or next week, month, etc.), knowing something about recent conditions can offer predictive value about what might happen next.
- Modern Portfolio Theory (MPT) is blind to the cyclical tendencies of markets because MPT assumes market returns are random, like the flip of a coin.
- The studies in this section demonstrate that market returns are *not* entirely random.

If markets are efficient, why are they so volatile?

Throughout history, risk-based asset prices have been more volatile than the underlying fundamentals they reflect. A widely cited demonstration of this idea comes from a paper published in 1981 by Nobel Prize winning economist, Robert J. Shiller, who used the historical record of interest rates and dividends to calculate a theoretical “rational” price for the stock market, assuming investors had perfect knowledge of future interest rates and dividends. This experiment was extended in 2016 by the research team at the Boston based asset manager, GMO.

By contrasting the volatility of this theoretical price with the actual track record of the stock market, **Shiller concluded that changes in underlying fundamentals only explain about one-third of the actual volatility that occurs in the stock market.**

**U.S. Stock Market
Actual Price vs. Rational Price
Jan. 1882 to Dec. 2016**



As of 12/31/16

Source: Robert Shiller, Federal Reserve, GMO

Note: Clairvoyant fair value based on next 50 years of dividends and earnings. Green series is approximation of clairvoyant value given shorter history.

Source: Robert J. Shiller, "Do Stock Prices Move Too Much to be justified by Subsequent Changes in Dividends?" American Economic Review, June 1981; GMO Quarterly Letter, July 2017

Valuation Cycles

Extensive studies have shown a strong correlation between the beginning valuation level of the stock market and subsequent returns over the ensuing three years or more. Historically, holding periods that began at a low valuation level produced materially better subsequent outcomes compared to periods that started at a higher valuation level.

Setting Expectations for Intermediate Holding Periods

The table below reflects the valuation dynamic for the U.S. stock market. This particular study measured every 3-year holding period (monthly) for the U.S. stock market from 1881 to 2018 (1,740 rolling 3-year observations in all). The outcomes are grouped into four quartiles based on the valuation range at the beginning of each 3-year holding period. Valuation was defined by a cyclically adjusted price-to-earnings ratio (CAPE) according to the Shiller method:

U.S. Stock Market Valuation Cycles (January 1881 to December 2018)

Data Range	Beginning CAPE Range	Average Subsequent 3-Yr. Return	Worst Cumulative 3-Yr. Return	Best Cumulative 3-Yr. Return	% of 3-Yr. Periods Negative
Cheapest Quartile	<11.8	16.97%	0.85%	194.52%	None
2 nd Cheapest Quartile	11.9 – 16.1	10.07%	-23.47%	176.15%	12.0%
3 rd Cheapest Quartile	16.2 – 20.4	7.63%	-35.35%	125.43%	21.8%
Most Expensive Quartile	>20.4	6.89%	-80.84%	134.08%	29.1%

Source: Robert Shiller – www.econ.yale.edu/~shiller/data.htm (1881-1925); Standard & Poor's; Ibbotson; Bloomberg LP (1926-2018); Capital Advisors, Inc.

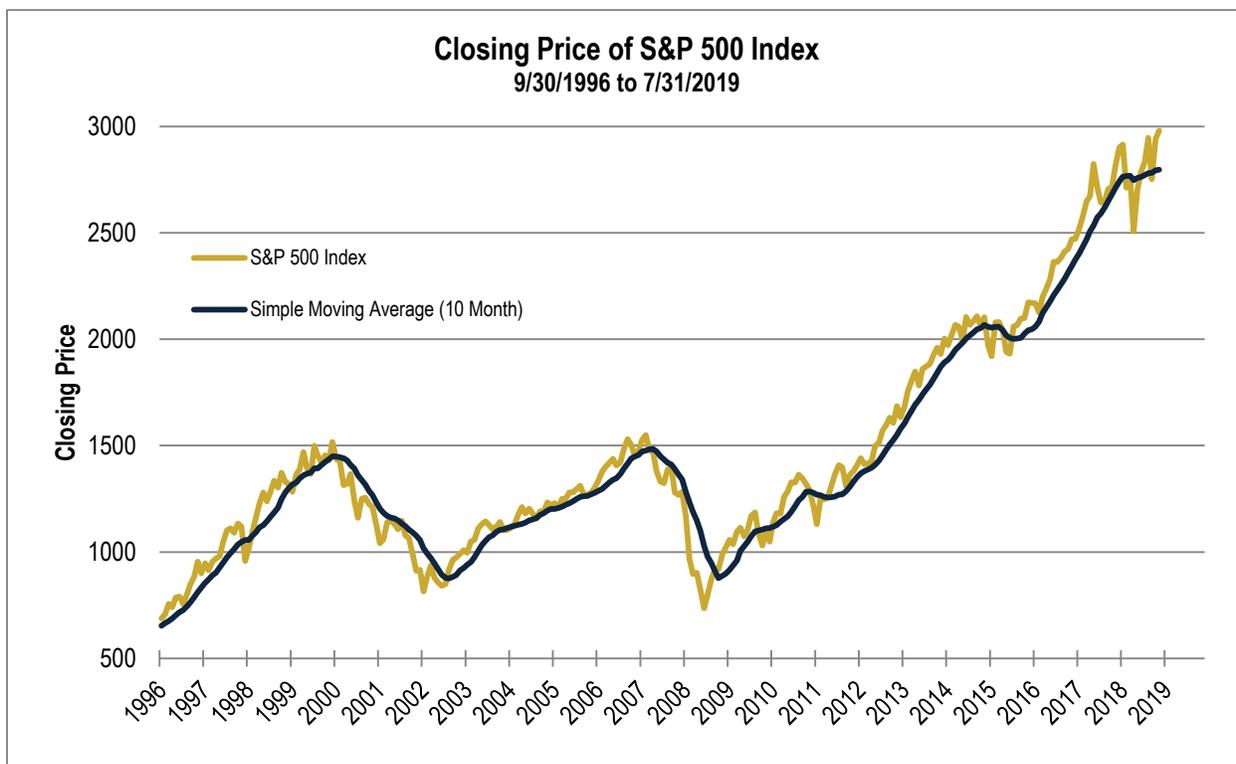
This data reveals two fundamental characteristics of stock market behavior related to valuation:

- 1) The risk-reward tradeoff in the stock market is not static over time.
- 2) The current valuation level of the stock market offers predictive value about the range of outcomes most likely to follow over intermediate holding periods of 3-years or more.

The implication for investment strategy is that portfolios should be more dynamic than the buy-and-rebalance prescription of Modern Portfolio Theory. The optimum allocation to stocks is not the same when the current valuation level is low versus high, regardless of the risk profile of the investor.

The Trend is Your Friend

A quantitative metric called a **moving average** is a common input for trend following investment strategies. A moving average represents the rolling historical average price of a security or market index measured over the previous few months (typically 6 to 10). Studies spanning numerous asset markets, time periods and geographies reveal a tendency for asset markets to deliver a more favorable risk-reward distribution when the recent price of a market index is above its moving average, versus below it.



Source: Standard & Poor's; Bloomberg

The data on the next page shows that monthly returns have been higher, while the frequency of negative returns has been lower, in months following a positive moving average reading across five major asset markets.

In each of these markets, knowing one simple fact – whether the index was trading above or below its moving average – offered predictive value about the range of short-term outcomes most likely to follow.

Distribution of Future Outcomes Based on Recent Trend:

Average Subsequent Month Return:

Pre-Condition	US Stocks (1872-2018)	International (1970-2018)	Emerging Markets (1989-2018)	Natural Resources (1989-2018)	Real Estate (1972-2018)
Index ABOVE its Moving Average	1.15%	1.17%	1.46%	0.79%	1.14%
Index BELOW its Moving Average	0.29%	0.16%	0.17%	0.35%	0.49%

Frequency of Negative Months:

Pre-Condition	US Stocks (1872-2018)	International (1970-2018)	Emerging Markets (1989-2018)	Natural Resources (1989-2018)	Real Estate (1972-2018)
Index ABOVE its Moving Average	34.3%	37.3%	36.0%	42.1%	35.1%
Index BELOW its Moving Average	46.2%	47.3%	46.7%	49.2%	41.8%

Dates for specific markets relate to the year in which the index data for that market began. All periods end as of December 31, 2018. Sources: Robert J. Shiller; Standard & Poor's; Ibbotson; Bloomberg; www.msctibarra.com; www.reit.com; Capital Advisors, Inc.

Tactical Rotation

Another way to apply moving averages to the study of market cycles is to simulate a binary trading rule that invests in risk markets when the outlook is favorable, and shifts to a low-risk bond index when it is not. The study below compares the historical risk-reward data for the *S&P 500 Index* with a hypothetical binary trading strategy that holds the *S&P 500 Index* in months that follow a positive moving average reading (i.e. the stock index closed the previous month-end above its moving average), and shifts to a bond market index in months that follow a negative moving average reading (i.e. the stock index closed below its moving average as of the previous month-end).

Please note that these market studies do not represent actual portfolio performance.

Historical Market Study: Buy-and-Hold vs. Tactical Rotation

Domestic Stock Market – Post WWII

1/1/1945 to 12/31/2018

	Buy & Hold	Tactical
Annualized Return	11.10%	11.99%
Standard Deviation	14.30	10.96
Best 12-Months	61.18%	60.98%
Worst 12-Months	-43.28%	-20.78%
% of 12-Months Negative	21.30%	15.70%
Best 3-Years	136.90%	138.21%
Worst 3-Years	-40.88%	-20.44%
% of 3-Years Negative	11.30%	1.60%
Best 5-Years	266.05%	217.28%
Worst 5-Years	-29.02%	9.79%
% of 5-Years Negative	7.20%	None

Source: Capital Advisors, Inc.; Ibbotson Associates; Standard & Poor's; Barclays PLC

Tactical Rotation – International Markets

Capital Advisors has applied this same tactical rotation strategy to numerous different asset markets and time periods with similar results from each study. In each case, the tactical approach delivered lower volatility, shallower drawdowns, and a much narrower range of outcomes over rolling holding periods of three and five years.

Please note that these market studies do not represent actual portfolio performance.

Historical Market Study: Buy-and-Hold vs. Tactical Rotation

Developed International Markets

1/1/1971 to 12/31/2018

	Buy & Hold	Tactical
Annualized Return	8.93%	13.70%
Standard Deviation	16.70	12.00
Best 12-Months	103.07%	103.07%
Worst 12-Months	-50.23%	-15.39%
% of 12-Months Negative	28.60%	15.80%
Best 3-Years	293.37%	327.78%
Worst 3-Years	-48.13%	-12.60%
% of 3-Years Negative	20.60%	4.20%
Best 5-Years	477.74%	607.58%
Worst 5-Years	-31.69%	-2.46%
% of 5-Years Negative	11.70%	0.60%

Source: Capital Advisors, Inc.; Ibbotson Associates; MSCI, Inc.; Barclays PLC

Historical Market Study: Buy-and-Hold vs. Tactical Rotation

Emerging Markets

1/1/1988 to 12/31/2018

	Buy & Hold	Tactical
Annualized Return	9.47%	14.47%
Standard Deviation	22.70	15.60
Best 12-Months	91.65%	77.34%
Worst 12-Months	-56.42%	-31.12%
% of 12-Months Negative	31.60%	23.00%
Best 3-Years	215.44%	206.23%
Worst 3-Years	-45.23%	-17.70%
% of 3-Years Negative	28.80%	8.00%
Best 5-Years	443.86%	410.55%
Worst 5-Years	-41.57%	-8.14%
% of 5-Years Negative	23.30%	3.50%

Source: Capital Advisors, Inc.; Ibbotson Associates; MSCI, Inc.; Barclays PLC

Note about these studies: S&P 90 Index calculated by Ibbotson from January 1, 1945 to December 31 1955; S&P 500 Index from January 1, 1956 to Dec. 31, 2018. Intermediate bond index returns calculated by Ibbotson from January 1, 1945 to December 31, 1985; Barclays Aggregate Bond Index from January 1, 1986 to Dec. 31, 2018. MSCI EAFE Index from January 1, 1970 to Dec. 31, 2018. MSCI Emerging Markets Index from January 1, 1988 to Dec. 31, 2018. The 10 month moving average was used in this study. The moving average was calculated by adding the closing price of the market index for 10 months then dividing this total by 10 months. A Bullish Pre-condition refers to the market index trading above the 10 month moving average. A Bearish Pre-condition refers to the market index trading below the 10 month moving average. See end of presentation for disclosures.

Please see disclosures on final page.

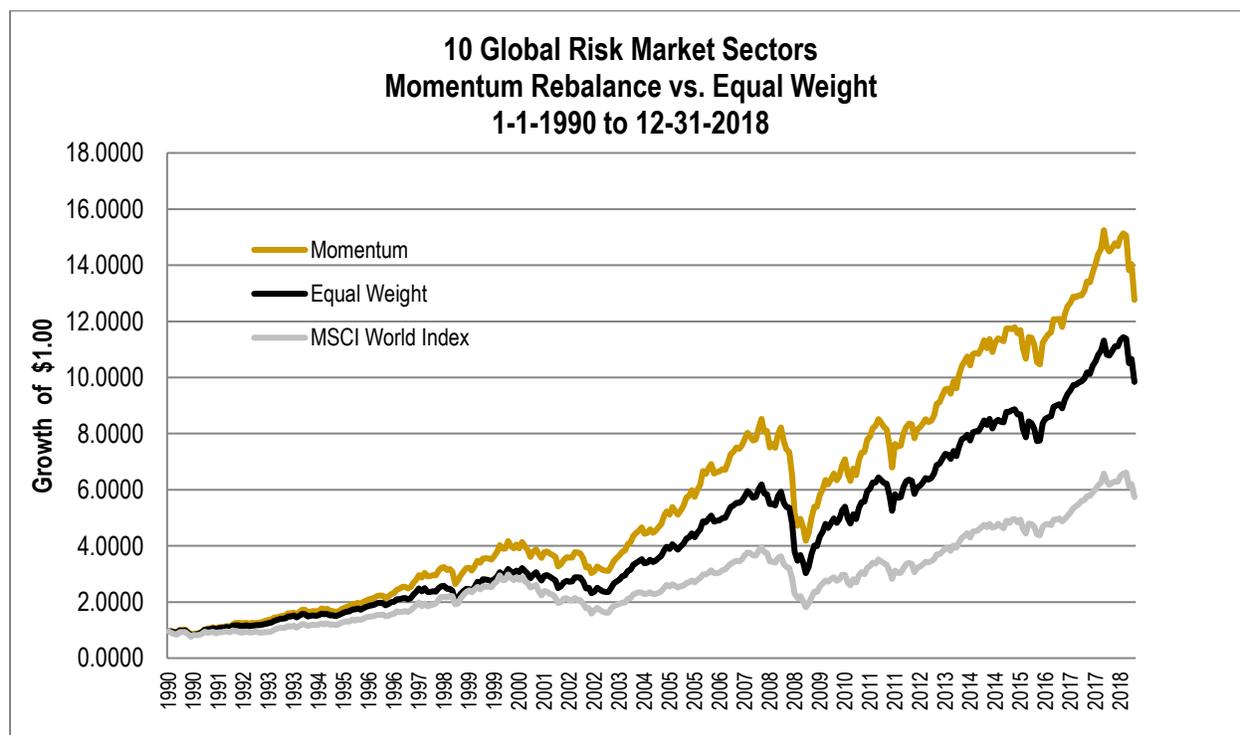
Trend Effects

The implication for investment strategy is that dynamic exposure to risk markets can deliver higher returns per unit of risk assumed. The range of outcomes has been more favorable for numerous risk-based assets when they were trading above their moving average versus below it. This characteristic of markets might be exploited through systematic trading rules that invest in risk markets following favorable pre-conditions, and step aside when pre-conditions are unfavorable.

Momentum Effects

Numerous studies have demonstrated a “momentum effect,” where stocks and/or market sectors that demonstrate strong relative price performance over a period of 6 to 12 months continue performing well over the subsequent 3 to 6 months with non-random frequency.

Please note that these market studies do not represent actual portfolio performance.



Source: Capital Advisors, Inc.; MSCI, Inc.

The study compared a static, equal-weight allocation among 10 global equity market indices to a systematic quarterly rebalancing that over-weights the 3 top-performing sectors over the previous 12-months, while under-weighting the 3 under-performing sectors. It is not possible to directly invest in the strategy reflected in this study.

The implication of momentum effects for investment strategy is that portfolios might benefit from systematic shifts toward relative strength, and away from relative weakness. Historically, the probability that recent trends in the asset markets might persist in the short-term has been greater than 50%.

Please see disclosures on final page.

Conclusion

Extensive historical evidence illustrates that asset markets returns are not entirely random. Objective pre-conditions associated with measurable factors like valuation, trend, and relative strength can offer predictive value about the range of outcomes most likely to follow.

Investors might achieve higher risk-adjusted returns through a dynamic approach to portfolio construction that systematically adjusts to prevailing market conditions rather than re-balancing to static asset allocation targets over time.



- Returns in the asset markets are a function of future prices relative to current prices.
- Active investment management requires a *less wrong* forecast of future prices, and there are only two legitimate strategies for achieving this.
- One strategy is to have a better forecast for the “news” that might influence future asset prices, where “news” refers to anything that matters to investors, such as earnings growth, new products, market share shifts, geopolitics, inflation, etc.
- Success with a “news-prediction” strategy requires an investor to develop a deep understanding of a particular structural change that impacts a company (or a commodity, currency, industry, etc.) before the change is fully reflected in securities prices.
- A second strategy is to develop a better forecast for how asset prices might react to “news” after it occurs.
- Success with a “price-reaction” strategy requires an understanding of what kinds of news announcements and market conditions give rise to overshoot and/or mean reversion in different asset markets.
- These two active investment strategies may be described as “fundamental” and “quantitative,” respectively.
- Either of these strategies, or a combination of the two, is justifiable if asset prices overshoot their long-term average values from time to time.
- Capital Advisors employs both approaches across the various investment strategies we offer.

The remainder of this document describes the specific investment process for each of Capital Advisors’ portfolio strategies. Each strategy operates independently, but the strategies were deliberately designed to complement one another when used in combination within a diversified portfolio.

Summary of Capital Advisors’ Investment Strategies:

Fundamental/Intrinsic Value

Managed Equity Growth
Managed Equity Dividend
Fixed Income Strategies¹

Quantitative

Tactical Dynamic Allocation
Tactical Global Growth
International Focus

¹ Capital Advisors offers multiple strategies within the fixed income asset class, including taxable bonds, tax-exempt municipal bonds; and model portfolios that use ETFs and mutual funds.



Objective:	Long-Term Growth	Process:	Fundamental/Intrinsic Value
Asset Class:	Domestic Equity	Implementation:	Individual Stocks
Holdings:	30-35	Style Box:	Large Growth
Inception:	June 1978	Structure:	SMA / Mutual Fund

Description

Rigorous fundamental analysis and quantitative disciplines are combined to manage risk within a strategy that emphasizes *long-term* commitments to great companies. The portfolio typically holds 30-35 positions, many of which are expected to be retained for many years, if not decades. The strategy strives for lower volatility and drawdown risk relative to peer group benchmarks by complementing its long-term commitments with tactical positions in stocks with a shorter time horizon driven by a more event-driven investment thesis.

Process

We segment the stocks in the strategy into three risk management categories. **Core Holdings** pursue large market opportunities with the benefit of a material competitive advantage that is expected to persist for many years into the future. We anticipate holding these stocks for many years because the sell discipline for these stocks is driven by the durability of their competitive advantage more than any other factor. While we might reduce the position in a Core Holding from time to time, the decision to sell a Core Holding outright would likely require a material deterioration in its competitive advantage.

Strategic Opportunities seek to exploit shorter-term mismatches between a company's stock price and our estimate of its intrinsic value. The framework for these stocks is more event-driven, where we believe the stock price may have over-reacted to a recent negative event or under-appreciate a potential favorable development. In contrast to Core Holdings, the sell discipline for these stocks is driven primarily by the stock price. When a Strategic Opportunity achieves its price objective, we expect to sell it.

Emerging Franchises pursue ground-breaking opportunities. These are frequently smaller companies in an earlier stage of development. Uncertainty can be very high because important drivers of the company's future value may be unknowable at the time of investment. We seek extraordinary returns from these stocks to compensate for the uncertainty we accept by investing at an early stage. These are likely to be volatile, requiring a patient sell discipline that tolerates wide swings in the stock price.

Role in Portfolio

The Managed Equity Growth strategy serves as a core allocation to the domestic equity asset class to achieve long-term capital appreciation and prudent diversification.



Objective:	Dividend Income	Process:	Fundamental/Intrinsic Value
Asset Class:	Global Equity	Implementation:	Individual Stocks
Holdings:	20-25	Style Box:	Multi-Cap Value
Inception:	Jan. 2011	Structure:	SMA ²

Description

This strategy seeks to maximize the annual income stream from a strategically diversified portfolio of equity securities. We apply deep fundamental analysis to the companies selected for this strategy in an effort to filter out stocks with potentially unsustainable dividend yields due to insufficient earnings coverage, or balance sheet weakness.

Process

We use a categorization discipline to support risk management in the strategy. The core of the portfolio consists of two complementary categories we call “Income & Growth” and “Aggressive Yield.” We believe companies in the **Income & Growth** category enjoy a sustainable competitive advantage that can support a growing dividend policy. The current dividend yield for these companies may be lower than other stocks in the strategy, but we expect these companies to grow the dividend consistently over time.

Stocks in the **Aggressive Yield** category help to maximize the current cash flow from the portfolio. These stocks are the primary source of differentiation for the strategy compared to passive index funds or ETFs. The research process for these companies seeks to identify special situations with unusually generous dividend yields, while avoiding stocks whose enticing dividends are too-good-to-be-true.

The third category is **Strategic Opportunities**. These are higher yielding stocks that involve a more idiosyncratic, event-driven investment thesis that supports diversification and risk management for the portfolio as a whole.

Role in Portfolio

The Managed Equity Dividend strategy seeks to maintain an average current dividend yield between 4% and 5%, with long-term growth in the aggregate dividend of at least 4% per annum. These two characteristics combine to produce a target rate of return for the strategy in the range of 8% to 9%. Normal stock market volatility can cause meaningful variability around this target rate of return over short-term holding periods. However, we believe results over longer-term measurement periods can cluster around the 8%-9% target if the strategy maintains its long-term objectives for dividend income and growth over time.

² The acronym SMA refers to “Separately Managed Account.”



Objective:	Tactical Allocation	Process:	Quantitative
Asset Class:	Global Multi-Asset	Implementation:	ETFs
Holdings:	2 - 5	Style Box:	Large Blend
Inception:	Oct. 2009	Structure:	SMA ³

Description

This strategy complements the core of a portfolio by delivering tactical adjustments to market exposures on a weekly basis. The strategy holds up to five ETFs representing the major risk markets globally, with a fixed income out-position that ranges from zero to 90%. Portfolio changes are driven by a quantitative marker called a “moving average.” Risk market ETFs are retained in the portfolio when they demonstrate a positive trend, and they are removed when the trend turns negative.

Process

Risk market exposures are diversified across four quadrants – domestic equity, international equity, emerging markets and tangible assets (natural resources and real estate). Each quadrant is reviewed on a monthly cycle, but the reviews are staggered weekly throughout the month.

International equities are reviewed on the first Friday of every month; domestic equities on the second Friday; emerging markets on the third Friday, and tangible assets on the final Friday of each month. If the price of a risk market ETF is higher than its moving average on the date of its review, the ETF is retained in the portfolio for another month. When a sector ETF closes below its moving average on a review date, the ETF is sold from the portfolio, and replaced with cash reserves and an ETF for short-term U.S. government bonds.

The objective of this trading discipline is to retain exposure to risk markets when their moving average indicator suggests a relatively favorable short-term outlook, while switching to fixed income and cash when the outlook is less favorable.

Role in Portfolio

The Dynamic Allocation strategy systematically adjusts the risk profile of a diversified portfolio to reflect prevailing market conditions. When the recent trend in the global risk markets has been positive, this strategy is likely to contribute more exposure to risk markets within a diversified portfolio. When the recent trend has been negative, this strategy is likely to shift more resources toward the fixed income allocation of a diversified portfolio.

³ The acronym SMA refers to “Separately Managed Account.”



Objective:	Long-Term Growth	Process:	Quantitative
Asset Class:	Global Equity	Implementation:	ETFs
Holdings:	10	Style Box:	Multi-Cap Blend
Inception:	June 2007	Structure:	SMA ⁴

Description:

This strategy seeks to participate in the long-term growth potential of risk markets globally through low-cost index funds representing 10 broad asset markets worldwide. Portfolio weightings among the 10 sectors are rebalanced quarterly using a quantitative discipline to systematically over-weight sectors that demonstrate relative price strength, while reducing sectors that exhibit relative weakness. The strategy seeks to exploit momentum effects among the major asset classes, while maintaining a strategic commitment to global risk markets in aggregate.

Process:

At the end of each calendar quarter in March, June, September and December, the 10 equity market sectors in the strategy's investment universe are ranked according to trailing 12-month performance. The three top-performing sectors receive an over-weight allocation for the subsequent quarterly holding period. The three bottom-performing sectors are under-weighted for the subsequent holding period, while four sectors receive a neutral weight each quarter. This re-weighting discipline is repeated every three months.

The 10 asset markets are: Domestic Large Value, Domestic Large Growth, Domestic Mid-Cap, Domestic Small-Cap, International Equity, Emerging Markets, International Small-Cap, Global Natural Resources, Real Estate and High-Yield Credit.

Role in Portfolio:

The discipline of tilting the sector weightings in this strategy toward relative strength incorporates a momentum effect into the portfolio to exploit the historical tendency for price momentum to persist in the asset markets over short-term periods of a few months. This strategy can serve as a core position for investors seeking global diversification within the equity portion of their portfolio.

⁴ The acronym SMA refers to "Separately Managed Account."



Objective:	Long-Term Growth	Process:	Quantitative
Asset Class:	International Equity	Implementation:	ETFs
Holdings:	5	Style Box:	Multi-Cap Blend
Inception:	Dec. 2016	Structure:	SMA ⁵

Description:

The International Focus strategy delivers broad exposure to the global equity markets, excluding the United States. The strategy seeks to capture a return premium relative to common international equity benchmarks through disciplined exposure to three market factors that demonstrate a long-term history of attractive risk-reward characteristics: value, momentum and low market capitalization. The portfolio model is strategically diversified across four ETFs that provide broad exposure to international stocks and emerging markets. One of the ETFs uses a quantitative discipline to overweight securities that exhibit characteristics of value such as low price-to-book, low price-to-earnings or low price-to-sales. One ETF applies a quantitative process to overweight securities that demonstrate recent price momentum. The remaining ETFs are comprised on international small-cap companies, and emerging market stocks, respectively.

Process:

Systematic adjustments to tilt the portfolio toward characteristics of value, momentum and low market capitalization occur within the index funds that comprise the portfolio model. The strategy includes two ETFs for developed international markets – one designed to emphasize value stocks and one that focuses on momentum. The portfolio also includes a low-cost index fund for emerging market equities, and separate ETF for small-cap stocks. The strategy maintains flexibility to shift the relative weightings among its sectors in response to market conditions, but changes are expected to be modest, and infrequent.

Role in Portfolio:

The International Focus strategy participates in the long-term growth of the global equity markets, excluding the United States. It can be used as a complement to domestic portfolio strategies to enhance diversification. By systematically overweighting securities that exhibit characteristics of value, momentum and low market capitalization, the strategy seeks to capture a return premium relative to common international equity benchmarks over time. Since the systematic adjustments that maintain the strategy's factor tilts occur within each ETF, rather than at the portfolio level, the strategy may be relatively tax efficient.

⁵ The acronym SMA refers to "Separately Managed Account."



Objective:	Capital Preservation	Process:	Fundamental/Intrinsic Value
Asset Class:	Fixed Income	Implementation:	Bonds, ETFs
Holdings:	4 - 20	Style Box:	Intermediate High Quality
Inception:	June 1978	Structure:	SMA ⁶

Description

Within an overall philosophy that emphasizes preservation of capital, we design bond portfolios for one of three client priorities: Liquidity, Income, or an Aggregate of the two. For tax-sensitive portfolios we emphasize tax exempt municipal bonds, including state-specific municipal bonds for residents of states with an income tax. For others, the strategy invests in taxable bonds with a heavy emphasis on corporate credits rated investment-grade by the major ratings agencies.

Process

We combine credit research with yield curve optimization to maximize income from the municipal and credit markets within the boundaries of a priority to preserve capital. Our fixed income portfolios utilize investment-grade securities almost exclusively, although we may include high-yield, international or non-rated securities in some Aggregate and Income portfolios. Our clients' bond portfolios can be constructed with individual securities, while allocations less than \$250,000 are designed with low-cost exchange traded funds (ETFs).

Role in Portfolio

Our fixed income strategies are customized according to three broad priorities – Liquidity, Income or Aggregate. A Liquidity portfolio invests exclusively in high credit quality securities and short-term maturities to achieve stability of principal and ready access to capital. An Income portfolio extends further out on the yield curve and includes a broader range of credit quality to generate a higher level of income. The Aggregate approach incorporates elements of the Liquidity and Income designs for a “core” exposure to the fixed income asset class.

⁶ The acronym SMA refers to “Separately Managed Account.”

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DISCLOSURES

Introduction

This presentation is not an offer or a solicitation to buy or sell securities. The information contained in this presentation has been compiled from third party sources and is believed to be reliable; however, its accuracy is not guaranteed and should not be relied upon in any way, whatsoever. This presentation may not be construed as investment advice and does not give investment recommendations.

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The **S&P 500 Index** is a stock market index based on the market capitalizations of 500 large companies having common stock listed on the NYSE or NASDAQ. The index components and their weightings are determined by S&P Dow Jones Indices.

MSCI EAFE Index is a free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the US & Canada.

MSCI Emerging Markets Index is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets.

S&P North American Natural Resource Index is an equity index that represents U.S. traded securities across a broadly defined North American Natural Resource sector. S&P Indices uses GICS® to determine a company's classification. The index is modified-capitalization weighted, where a stock's weight is capped at a level determined on a sector basis.

FTSE NAREIT U.S. Real Estate Index: An equity index that represents traded securities in the U.S. market structured as real estate investment trusts (REITs).

Bank of America/Merrill Lynch Government/Corporate 1-5 Year Bond Index is an index consisting of Treasury or government agency securities and investment grade corporate debt securities with maturities of one to five years.

Barclays Capital Aggregate Bond Index is a broad index of domestic investment grade fixed income securities designed to reflect the domestic investment grade bond market. The index includes U.S. government bonds, agency securities, and corporate bonds across the entire spectrum of the maturity yield curve.

Capital Advisors changed the name for three of its investment strategies on August 7, 2015. C Tactical Dynamic Allocation was changed to Capital Advisors Tactical Dynamic Allocation. C Tactical Global Growth was changed to Capital Advisors Tactical Global Growth, and C Tactical Equity Income was changed to Capital Advisors Tactical Global Income. The investment process did not change for any of the strategies.

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