

## Death of the value premium?

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U.S. value equities have underperformed U.S. growth markets over the past 1-, 3-, 5-, 7-, and 10-year periods<sup>1</sup>. Value equities in international developed equities have underperformed since the mid 2000s, and those in emerging markets have also underperformed, albeit more recently<sup>2</sup>. Twice in the last 89 years we have seen long-term value underperformance in the U.S. followed by a rapid value bounce-back shortly thereafter. It seems reasonable to question whether we can expect this to happen again, or whether we are witnessing the death of the value premium.

In this research piece we take an objective look at value in the U.S. market. We define value for these purposes using the standard definition in academic literature as the return difference between cheaper U.S. stocks and more expensive U.S. stocks.

We ask three questions:

- How dependable has the value premium been through time, and how does this compare to other recognized risk premia?
- Have unique macro forces contributed to value performance in recent years, and if so do we believe those macro forces affect the long-term efficacy of value?
- What are the philosophical underpinnings of value and has anything changed?

In conclusion, it appears unlikely that the value premium is dead. It seems likely that the long period of underperformance will eventually reverse, although we would advise most investors against trying to time that reversal. We also discover some interesting behaviors included within the value premium, which provide insight into what we are doing when we think about value.

## Value has been dependable over longer periods

Risk premia often test the patience of investors, and years or decades of underperformance is not uncommon. This applies even to the most generic risk premia. For example, the S&P 500 underperformed 20-year Treasury bonds during the 30-year period from October 1981 to September 2011, and risky bonds underperformed the risk-free rate from 1927 to 1981. Lack of dependability is a key trait of most sources of investment return – explaining the “risk” in “risk premia”.

We can test for long term reliability by looking at various risk premia over a range of different rolling periods. We do this for three factors: value (return difference between cheaper and more expensive stocks), size (return difference between smaller companies and larger companies) and equity (return difference between the broad equity market and Treasury bills).

EXHIBIT A - 20YR ROLLING PERFORMANCE

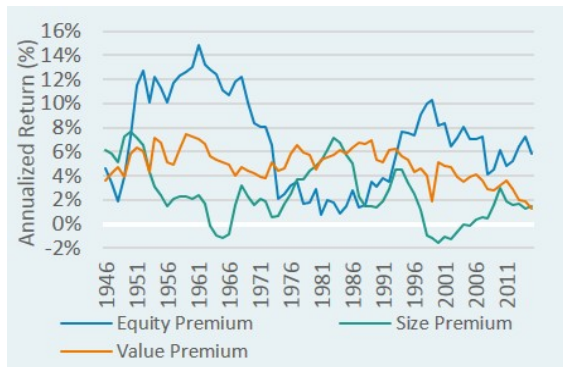


EXHIBIT B - 10YR ROLLING PERFORMANCE

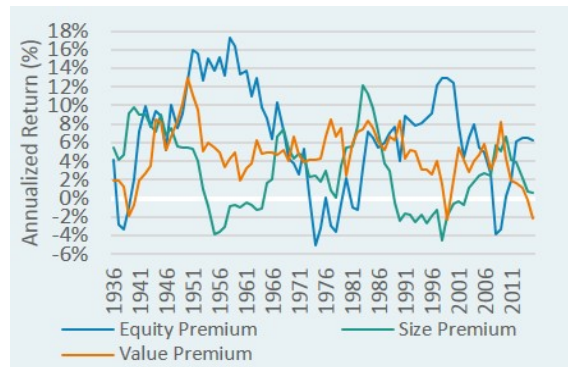


EXHIBIT C - 5YR ROLLING PERFORMANCE

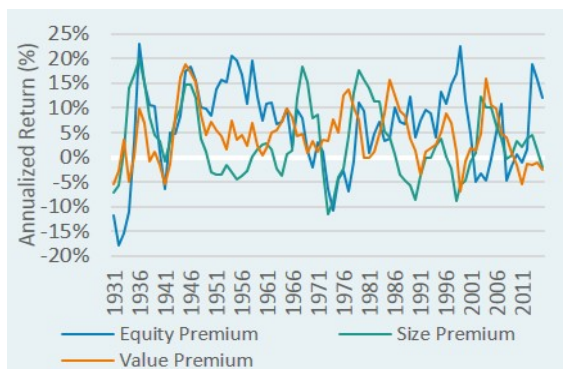
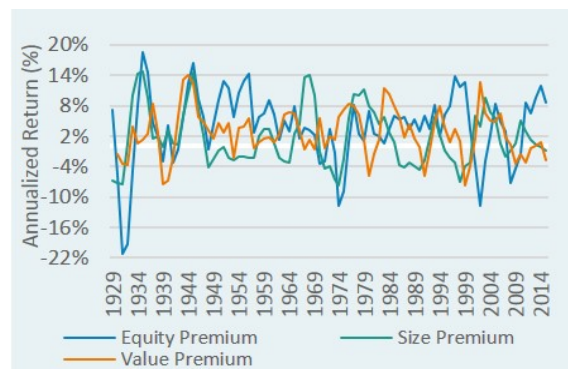


EXHIBIT D - 3YR ROLLING PERFORMANCE

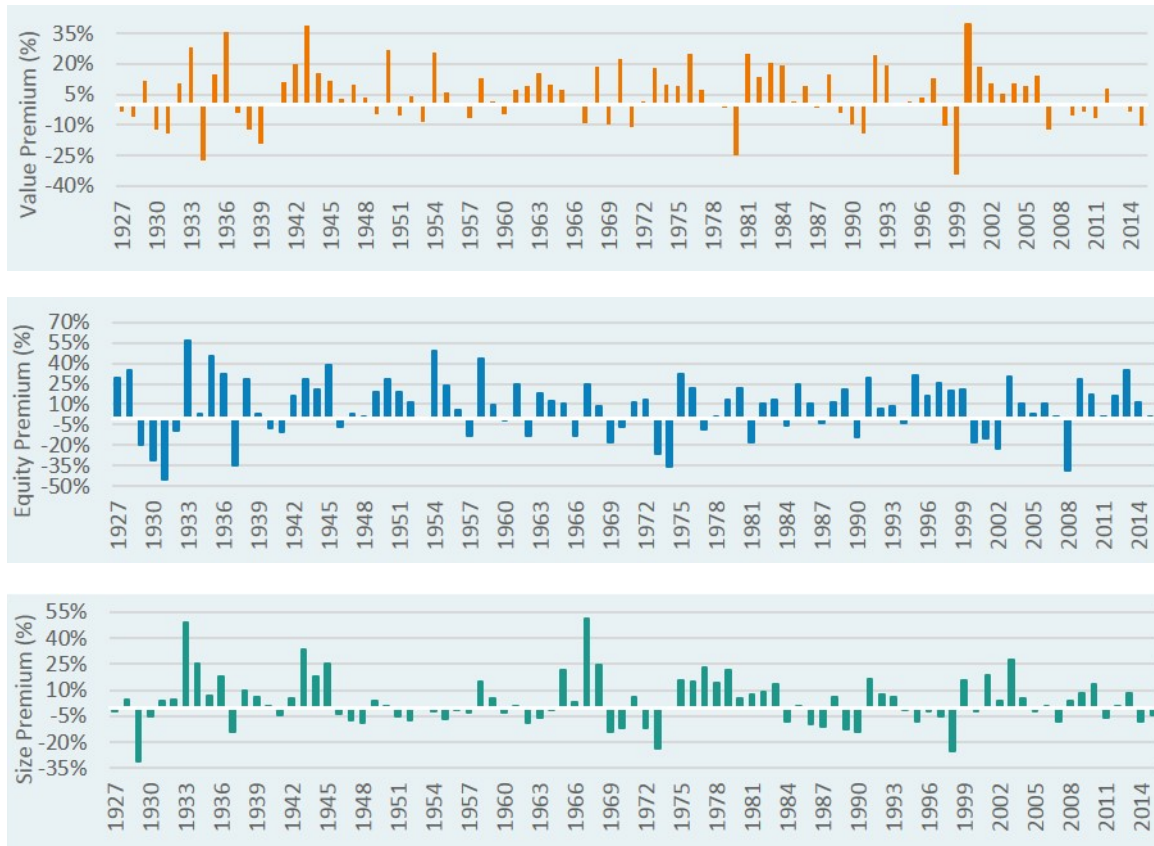


Source: Kenneth French's Data Library, as of 12/31/15

From these charts it is clear that increasing the holding period drastically improves an investor's success rate with value investing. Value (see orange lines above) never produced negative performance over a rolling 20-year period, and has only dipped into negative territory on a 10-year basis two other times – 1937 and 1999. Both of these occasions were followed by a strong reversion to value outperformance.

We can also look at performance of various premia over individual years, rather than on a rolling basis.

**EXHIBIT E - YEARLY PREMIA PERFORMANCE**



Source: Kenneth French's Data Library, as of 12/31/15

Value (orange bars above) delivered a positive return in 54 of 89 years (61%) since 1927. During this same time the equity premium (blue bars above) was slightly more reliable at 62 of 89 years (69%). The size premium (teal bars above) was least reliable at 49 of 89 years (55%).

The dependability of these key risk premia can also be tested using traditional risk and return measures.

**EXHIBIT F - VOLATILITY (since 1926)**

	Annualized Volatility*	Average Annual Return	Sharpe Ratio
Equity risk premium	18.7%	8.3%	0.44
Value risk premium	12.2%	4.8%	0.39
Size risk premium	11.1%	3.3%	0.30

Source: Kenneth French's Data Library, Verus, July 1926 thru March 2016

\*Risk premia have exhibited slightly higher skew, though not to a degree which would materially affect our conclusions. Equity skew of 0.2, value skew of 2.1, size skew of 2.0

In Exhibit F above we calculate the Sharpe Ratio of the value premium since 1926, in the same way that we might evaluate other investment options. Value exhibited lower volatility but with slightly less attractive risk-adjusted returns than the equity risk premium. However, it is important to note that these risks are different. The equity premium reflects exposure to the market as a whole, while the value premium is harvested through an active decision to invest in cheaper equities rather than expensive equities. They represent somewhat different approaches and investment opportunity sets.

Taking the above analyses together we can say that the value premium has been more reliable than the equity premium over rolling periods, as seen in Exhibit A through D, but has had slightly weaker risk-adjusted performance, as demonstrated by Exhibit F.

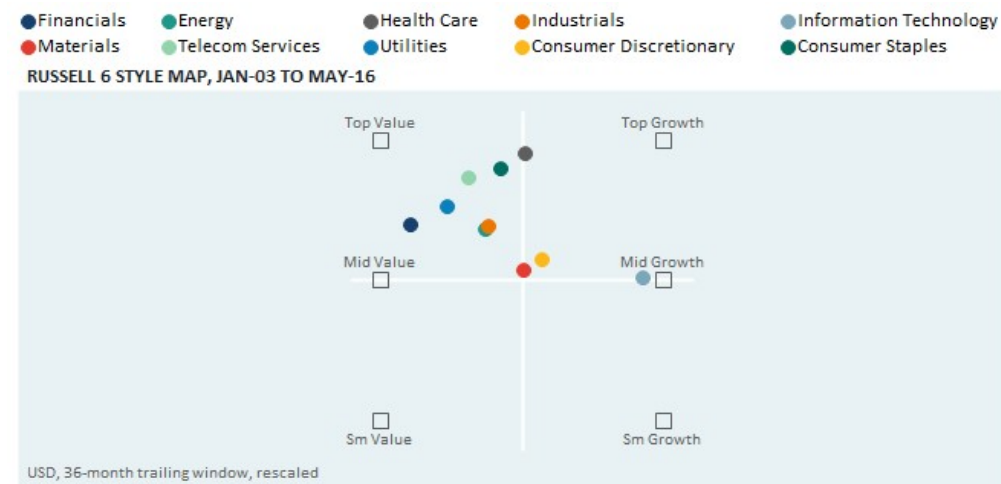
## How have macro events affected the value premium?

Macro events have often impacted the performance of the value premium. Market dislocations can affect specific types of companies or whole sectors. We take a look at two topics here which may be important for understanding the recent path of value – how financial services stocks affected the value premium during the 2007-2008 global financial crisis, and general economic boom/bust cycles.

### SECTOR EFFECTS AND THE 2007-2008 GLOBAL FINANCIAL CRISIS

To continue our test of recent value underperformance, we examine which sectors are typically value- or growth-oriented. This information can then be used to identify sector performance impacts on value, in particular during the global financial crisis.

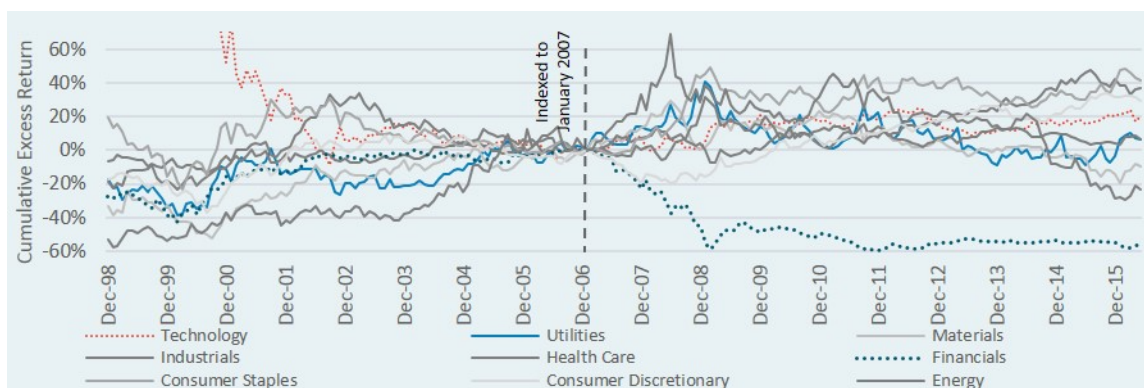
#### EXHIBIT G - STYLE MAP - S&P 500 SECTORS (returns-based style regression - 20YRS)\*



\*6-style map using a 20 year historical window

As we note from the basic style map above, financials and utilities tend to be value oriented, while technology tends to be growth oriented. The recent financial crisis clearly affected different sectors in different ways, and this can be expected to have had differential effects for the value premium. For illustration, a red coloring is applied to technology (growth) and a blue coloring to financials & utilities (value). A neutral grey coloring is applied to other sectors.

#### EXHIBIT H - SECTOR EXCESS PERFORMANCE PRE- & POST-FINANCIAL CRISIS\*



Source: Standard & Poor's, as of 5/31/16

\*Sector returns net of market return (S&P 500 TR)

The financial sector was hit hard during the crisis. This sector remains down -32% from January 2007 in total return terms, while the S&P 500 is up 81% (as of May 31, 2016). This equates to an annualized underperformance of -7.7%. Taking into account the sector's 22% weight in the overall index at the beginning of 2007, suggests that the behavior of financial sector stocks contributed roughly -1.7% annualized<sup>3</sup> to the underperformance of value. Since the value premium delivered an annualized negative performance (-3.8%) during that time, this suggests that roughly half of the value premium underperformance may have been due to the financial sector.

Is it typical for the financial sector to have such a significant effect on value? Below we look at value performance relative to the financial sector since 1974<sup>4</sup>. To do this we chart for each year the performance of the financial sector relative to the whole market (financials minus S&P 500 return) on the x-axis and value performance on the y-axis. We also chart the worst 10 years and best 10 years of value performance to identify whether the financial sector was of particular influence during these outlier periods.



## EXHIBIT I - VALUE VS FINANCIALS



## EXHIBIT J - BEST & WORST 10 YEARS



Source: Standard & Poor's, 2015 year-end, annual data since 1974

This analysis appears to show that financials have had a material impact on the value premium. The relationship is captured by the upward sloping regression line (good years in the financial sector coincide with good years for the value premium). Since 1974 the overall relationship between value and financials is weaker (R-squared of 0.26) but the relationship strengthens materially during relatively good and bad times for the financial sector (R-squared of 0.52). Investors are gaining a good amount of financial sector exposure when investing in value stocks.

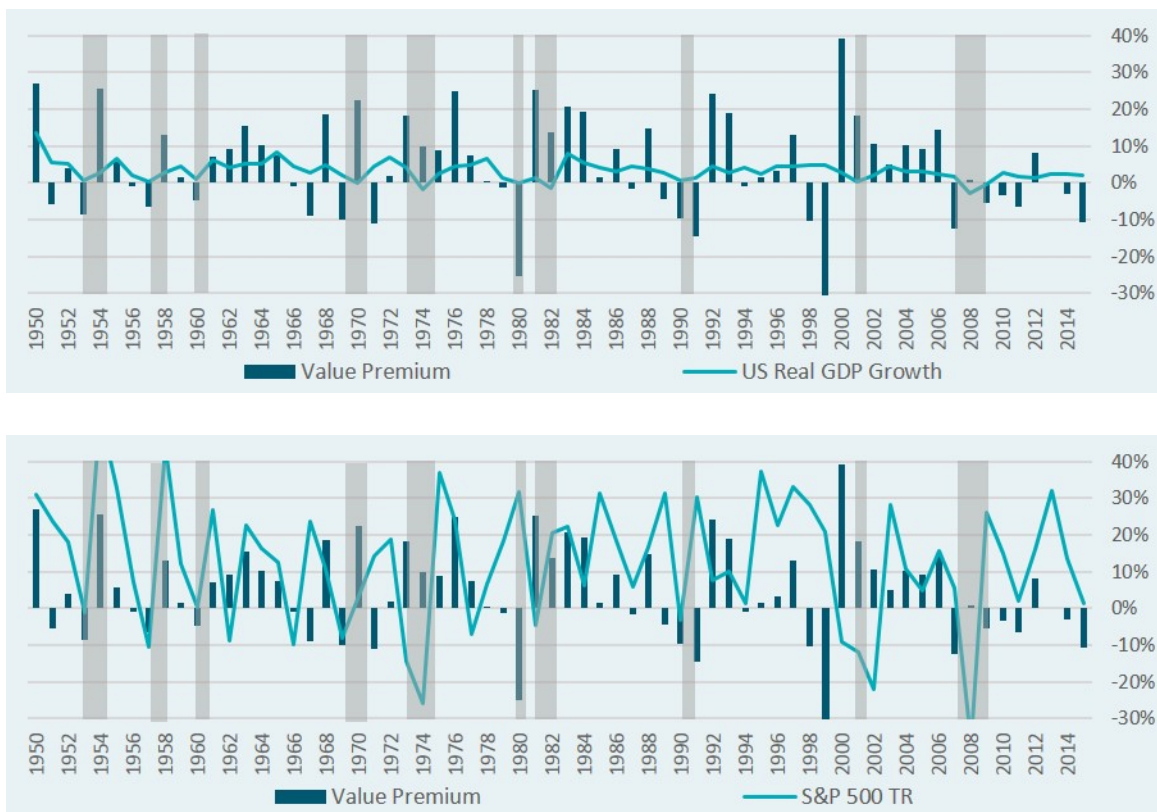
In summary, it seems that the value premium has been dragged down recently in part by financial sector underperformance following one of the most severe financial crises of history. This may be a useful consideration for investors considering their value exposure – if the behavior of financial sector stocks is key for the behavior of value as a whole then investors should ensure their attitude to these two components of the market are consistent and understood.

*Side note: Some avid fans of value may be quick to point out that sector-neutral value funds do exist, which can help to strip out these swings in sector performance. But because these funds typically define value on an intra-sector basis, they miss out on opportunities when entire sectors become under or overvalued. For example, during the dot-com bubble a sector-neutral fund might still be required to hold a material portion of tech stocks in order to maintain sector neutrality. We tend to believe that value stocks are value stocks, regardless of sector, and attempting to untangle sector effects might not be accretive to performance.*

## ECONOMIC CYCLE HISTORY MAY SUGGEST VALUE OPPORTUNITY

A long-running debate exists regarding when and why value underperforms (growth outperforms) during various points in the economic cycle. Boom and bust cycles have an effect on the value premium, and understanding these cycles may help our understanding of recent value underperformance.

## EXHIBIT K - VALUE THROUGHOUT THE CYCLE (grey bars indicate recessionary periods)



Source: Kenneth French's Data Library, Standard & Poor's, as of 5/31/16

An examination of value performance relative to recessionary periods (grey bars) indicates that value often shines during and after recession. As the economy reaches the later stages of an economic boom, value tends to suffer (growth wins), but as the economy peaks and falls into recession, value begins to win and this often continues for several years. We touch a bit more on this widely debated topic in the next section.

It seems likely that we are currently in the later stages of an economic cycle. If this is indeed the case it may be reasonable to expect that the next incidence of value outperformance is closer rather than more distant.

### Investor behavior contributes to value opportunities

The underlying mechanism behind the value premium remains unclear. The classical theory proposes that value equities are exposed to some type(s) of systematic risk(s) associated with businesses perceived as riskier. These risks might include illiquidity and/or financial distress. Other investors and academics believe the value premium is a behavioral effect. Proponents of this view suggest that investors tend to bid up the price of growth stocks (stocks with rosy prospects) and sell less popular value stocks (with dimmer prospects), but that these investors

tend to be overconfident in their growth expectations, leading to overpaying for growth and undervaluing value too much. This behavior is thought to lead to an ongoing but cyclical performance differential between value and growth.

The behavioral story seems to rhyme with Exhibit K in that rising investor sentiment later in a cycle could be expected to lead to the bidding up of growth stocks, depressing the value premium. As the market turns and drops, investor optimism is put in check and brings value back into play. A recent example of this late-stage optimism might be “FANG” stocks – Facebook, Amazon, Netflix, and Google (although Google was recently renamed “Alphabet”) – which have exhibited extremely strong price growth in recent years, outpacing earnings growth. The S&P 500 would have delivered a negative return in 2015 if FANG stocks were excluded.

A less recent example supporting the behavioral argument is the dot-com bubble of the late 1990’s. Extreme optimism surrounding technology stocks and the possible future earnings growth of these companies led the tech sector to very high valuations. The 10-year rolling value premium turned negative here for the 2nd time in history, and the “value is dead” story became a popular one in the investment community. This was followed by significant downturns in the value of these high-growth tech stocks and large relative performance gains for value investors.

History seems to be fairly clear in suggesting that medium-term underperformance of value does not imply long-term continued underperformance. In fact, medium-term underperformance may exacerbate investor behavior to further bid up growth stocks, presenting patient investors with a greater opportunity to profit.

## Conclusion

We sought answers to three questions to test the efficacy of the value premium:

First, how dependable has the value premium been through time, and how does this compare to other recognized risk premia?

- It is not unusual for value (and risk premia in general) to underperform for extended periods of time, though currently we are in a longer rut than usual.
- The value premium has been more dependable than the equity premium, but risk-adjusted performance has been slightly weaker.

Second, have unique macro forces contributed to value performance in recent years, and if so do we believe those macro forces affect the long-term efficacy of value?

- The effect on the financial sector of the 2007-2008 global financial crisis may have contributed to around half of value’s recent underperformance due to value’s typically significant exposure to the financial sector.
- Value appears to perform best during recessionary environments and for some time thereafter. As the current cycle appears to be moving towards its later stages this may mitigate in favor of intermediate term allocations to value.



Third, what are the philosophical underpinnings of value and have things changed?

- The behavioral explanation of value seems to rhyme with data examined in this document. Medium-term underperformance of value does not necessarily imply long-term continued underperformance. In fact, recent medium-term underperformance may exacerbate investor behavior to further bid up growth stocks, presenting patient investors with a greater opportunity to profit over the long term, although timing the turn in this trend appears likely to be a very challenging task.

In conclusion, each of our three tests support the case for value. While the economic environment appears to suggest that a move back towards value may be expected in the intermediate term investors should be careful with market timing decisions. For more information regarding the value premium in the current environment please reach out to your consultant.

## Notes & Disclosures

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1. As defined by Kenneth R. French's HML (High Minus Low) factor. Equal to the average return on the two value portfolios minus the average return on the two growth portfolios,  $HML = 1/2 (Small Value + Big Value) - 1/2 (Small Growth + Big Growth)$ .
2. International value performance defined by MSCI EAFE Value minus MSCI EAFE Growth Indices. Emerging markets value performance defined by MSCI EM Value minus MSCI EM Growth Indices
3. To arrive at an exact annualized performance number it would be necessary to multiply sector performance by sector weight for every period in the time series. We do not carry out this full calculation here..
4. Sector performance data is limited to 1974.

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