U.S. Equity Market Reaction to Crisis Events

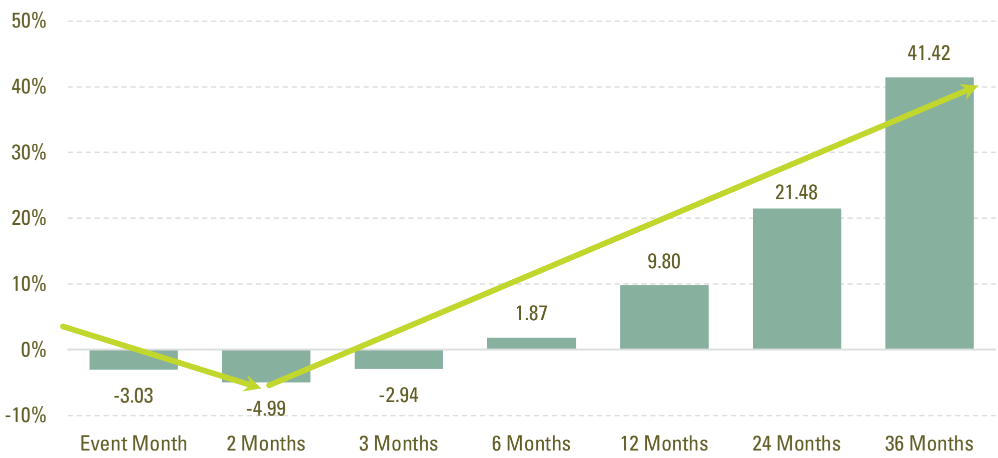
Half-Century Review of 27 Crisis Events

EXECUTIVE SUMMARY

The combined events of the COVID-19 global pandemic and the Saudi-Russian oil price war have devastated the U.S. and global equity markets. After enduring a -25% loss in a short period, investors look for insight as to what the investment environment may produce going forward. Using history as a guide, we have analyzed 27 past crisis events since 1963 that have impacted the U.S. economy, markets, and the psyche of investors. Here are some key observations:

- While the magnitude of the reaction varies by event, on average, U.S. equity markets fall for the first two months of a crisis event. We are currently experiencing this trend in real time.
- More encouraging is the change in direction that starts to emerge by the third month.
- By the end of the sixth month, markets on average have regained their losses and by the completion of 12 months have rebounded by nearly 10% (see **Figure 1**). Years two and three see average gains of over 20% and 40%, respectively. While every event differs, the historical pattern suggests patience and perseverance will be rewarded.
- Furthermore, value has demonstrated an advantage over the broad market following these events.

Figure 1 Large-Cap Equity Behavior After Crisis Event
Russell 1000 Index



Source: Brandywine Global, FactSet, FTSE Russell

In this paper, we delve into the return patterns of past events and analyze the behavior of the broad market and value investing under different crisis event and disruption scenarios.

As long-term investors with a quantitative approach, the Diversified Equity Team appreciates the insights gained by looking analytically at the past to put current events into perspective. This analysis of prior crisis events may help frame the current challenges relative to historical U.S. equity market downturns and their ultimate patterns of recovery.

All quantitative research analysis was conducted and authored by Brandywine Global's Diversified Equity Team. The team manages process-driven, value-oriented equity strategies designed to optimize risk-adjusted returns.

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U.S. EQUITY MARKET REACTIONS TO CRISIS EVENTS

Over time, the U.S., its economy, and its stock market have faced a variety of challenging crises, including presidential assassinations, financial disruptions, terrorist attacks, and others. Often, though not always, these events have triggered sudden and sharp declines in the stock market. In the middle of such a crisis, uncertainty dominates people's perspectives and the financial markets: how bad will this crisis be and how long will the adverse effects last? In such uncertain times, we believe it is useful and reassuring to look back at how markets have responded historically to crises. Financial markets, of course, cannot capture all the detrimental aspects of a disruptive event, but we believe they do provide one very important measure of the country's overall health and a gauge of how soon a sense of normalcy returns. Looking back, we are reassured by the speed and the strength with which the financial markets have often recovered from sometimes devastating events.

2020: NOT JUST THE FLU

Today, we are confronted with a -25% equity market decline precipitated two major shocks—the COVID-19 global pandemic declaration by the World Health Organization (WHO)[1] and an oil price war initiated by the Saudi government[2] that caused oil prices to drop -30% overnight. As of March 30, 2020, this virus has already caused 37,578 deaths globally and 2,968 in the U.S.[3] Unfortunately, the U.S. outbreak is only getting started, so the market reactions are not without warrant. However, as equity investors we must look to the future and determine the appropriate course of investment action for the long term.

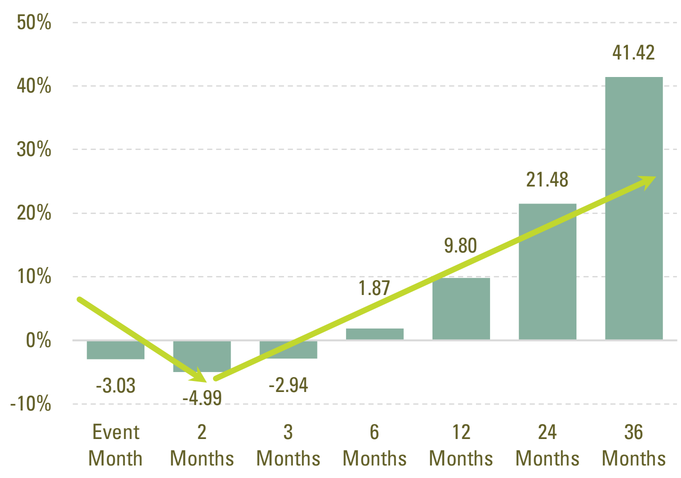
LOOKING TO THE PAST TO UNDERSTAND THE PRESENT

Growth stocks have significantly outperformed value stocks since the styles diverged in the second quarter of 2007. From 2007 through the end of 2019, large-cap value gained nearly 20% while large-cap growth gained almost 60%.[4] Since the current market decline began in the middle of February 2020, both styles have moved in lockstep through the middle of March 2020. What should we expect going forward?

Since we cannot predict the future, we need to look to the past for guidance on how investors have behaved in prior crisis events. In our analysis, we look both at overall market performance surrounding these important events as well as the relative performance of the value investment style. The fear and uncertainty of the coronavirus should not be implied to be something other than a major health and economic threat. However, the country has faced many perils in the past half century and overcame the adversity with resolution, innovation, and courage to persist. Since 1963, the start of our market data set[5], the U.S. has endured 27 crisis events that have been identified for this study. We analyzed the equity market behavior, calculating the absolute and relative returns of the broad market and value style. The following charts provide an initial look at the return patterns.

Equity markets tend to react to any crisis event with declines, which are on average down -3.0% to -5.0% in the first one to two months (see **Figure 1**). Obviously, some events generate more dramatic declines, but occasionally the decline and partial recovery occur within a calendar month. More importantly, by three months out, the average cumulative decline is improving. By the sixth month, the average return is in positive territory by +1.9%. A full year out, returns are near 10%. In two years, returns average 21.5%, and by the third year, markets average over 40% gains from the starting month of the crisis event.

Figure 1 Large-Cap Equity Behavior After Crisis Event[6]
Russell 1000 Index



Source: Brandywine Global, FactSet, FTSE Russell

On average, U.S. equity markets tend to decline following a crisis. However, by three months out, the cumulative decline is improving. By the sixth month, the average return is in positive territory.

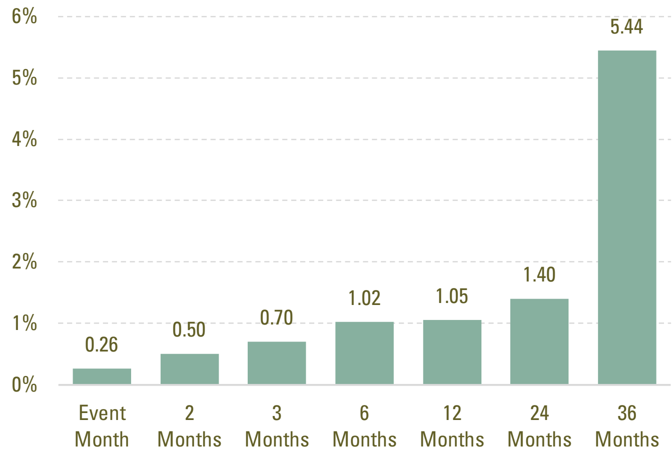
Large-cap value exhibits a similar behavior with slightly less decline and a stronger recovery pattern. **Figure 2** illustrates the relative advantage of value over the broad market, including more defensive behavior through the down cycle and stronger recovery in years one, two, and three. Two months into the crisis, value averaged a 50 basis points (bps) advantage over the broad market, which increased to over 100 bps by the end of the first-year period. This lead continues to increase considerably with a 140 bps advantage by the second year and a 544 bps gain by the end of the third year.

Obviously, all crisis events do not generate the same equity market reactions. Further refinement of our analysis separates out those that precipitated a significant market decline of more than -10% in the first one or two months. While we are early in the current crisis, it is reasonable to assume that the first two months will exceed -10%.

Figure 3 shows a similar pattern, though more impactful on the downside. The first two months after a major crisis tend to define the downside, followed by improvement and recovery through six months. On average, the broad market returned to positive territory by month 12. Longer two- and three-year returns show sustained strength.

Here again we see strength in value over the broad market (see **Figure 4**). Value typically increases its defensive characteristics in the aftermath of a major market dislocation with near 150 bps of defensiveness in the first year and over 800 bps advantage by year three.

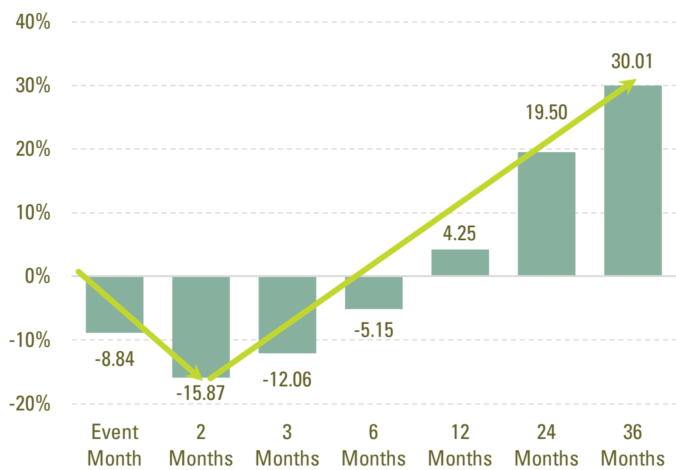
Figure 2 Large-Cap Value Equity Relative to Broad Large-Cap Behavior After Crisis Event Russell 1000 Value Index vs. Russell 1000 Index



Source: Brandywine Global, FactSet, FTSE Russell

Compared to the broad market, large-cap value produced more defensive behavior on average through the down cycle and a stronger recovery. This advantage increased considerably by the end of the third year following a crisis.

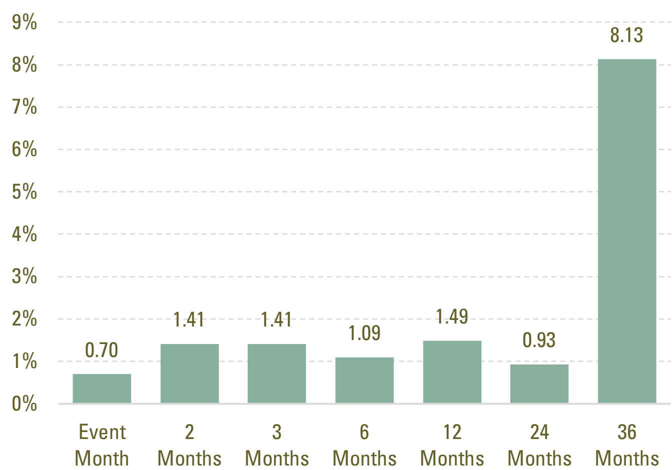
Figure 3 Russell 1000 Return Pattern when First 2 Months Are Down More Than -10%



Source: Brandywine Global, FactSet, FTSE Russell

Major crisis events, characterized by broad market declines of -10% or more, exhibit a similar pattern, although the initial downside and longer-term recovery are more pronounced.

Figure 4 Russell 1000 Value vs. Russell 1000 when First 2 Months Are Down More Than -10%



Source: Brandywine Global, FactSet, FTSE Russell

Once again, value demonstrates its defensive characteristics following major crises and market declines of -10% or more.

A LONG HISTORY OF RESILIENCE

Throughout U.S. history, there have been multiple significant catastrophic events that have impacted the markets, the economy, and everyday life. In fact, since 1963, there have been 10 acts of war or terrorism impacting the U.S.; 3 social or political crises; 9 market, currency, or commodity crises; 3 shootings of domestic leaders; and 2 commodity shocks (see **Figure 5**). Through these events, the nation weathered the difficulties with strength and resilience. We made some interesting observations in our analysis of these events. One observation is that individuals are not critically important to financial markets in the long run. In all three assassination attempts, the market reactions were surprisingly muted, perhaps because the market recognizes that the resiliency of the American people drives the economy, not the acts of the individual. In times such as the present, having the historical perspective of market reactions to past crisis events can provide direction and assist an investor to act appropriately.

Figure 5 The U.S. Has Experienced 27 Major Events in the Last Half-Century

Since 1963, the U.S. has experienced 27 major crises, including significant market and world events. While the significance of some crises may have faded over time, these events were selected because they were impactful to the U.S. when they occurred. Not all events resulted in a large equity market impact.

	Event	Date	Category
1	John F. Kennedy Assassination	11/21/1963	Assassination/Attempt
2	Martin Luther King, Jr. Assassination	4/4/1968	Assassination/Attempt
3	U.S. Bombs Cambodia & Kent State Shooting	4/29/1970	War
4	Munich Olympic Athlete Hostage Crisis	9/5/1972	Social or Political Crisis
5	Arab Oil Embargo	10/18/1973	Commodity Shock
6	Richard Nixon Resigns	8/9/1974	Social or Political Crisis
7	USSR in Afghanistan	12/24/1979	War
8	Hunt Silver Crisis	2/13/1980	Commodity Shock
9	Ronald Reagan Shot	3/30/1981	Assassination/Attempt
10	Falkland Islands War	4/1/1982	War
11	U.S. Invades Grenada	10/24/1983	War
12	U.S. Bombs Libya	4/15/1986	War
13	Stock Market Crash	10/2/1987	Financial Dislocation
14	Invasion of Panama	12/15/1989	War
15	Iraq Invades Kuwait	8/2/1990	War
16	Gorbachev Coup	8/16/1991	Social or Political Crisis
17	ERM U.K. Currency Crisis	9/14/1992	Financial Dislocation
18	First World Trade Center Bombing	2/26/1993	War
19	Russia-Mexico-Orange County Crisis	10/11/1994	Financial Dislocation
20	Oklahoma City Bombing	4/19/1995	War
21	Asian Stock Market Crisis	10/7/1997	Financial Dislocation
22	Russian Debt/Long-Term Capital Management	8/7/1998	Financial Dislocation
23	al-Qaeda Terrorist Attack - September 11	9/11/2001	War
24	Lehman Brothers Failure - Global Financial Crisis	9/15/2008	Financial Dislocation
25	Europe Sovereign Debt Crisis/2010 Flash Crash	5/6/2010	Financial Dislocation
26	2011 Stock Market Crash	8/1/2011	Financial Dislocation
27	2018 Global Stock Market Decline	10/1/2018	Financial Dislocation

Source: Ned Davis Research as originally cited by *The New York Times* in 2002 with updates and modifications by Brandywine Global.

AMID UNCERTAINTY, INVESTORS SEEK PROVEN DISCIPLINES

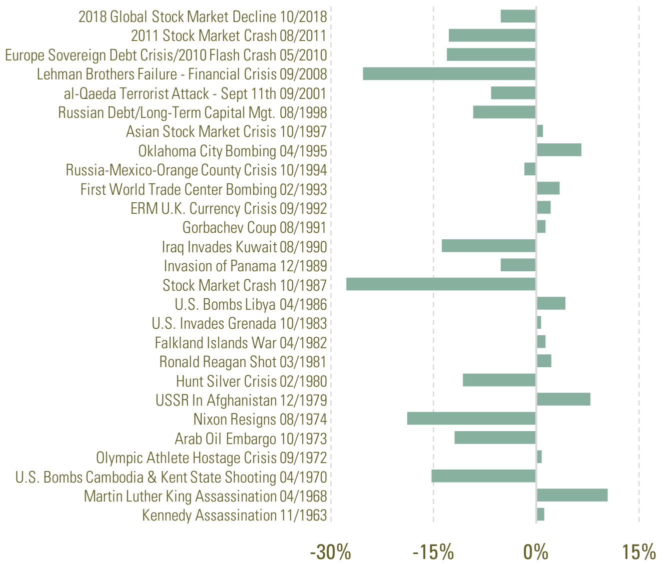
Crisis events bring about patterns of market reaction. The month of the event typically is characterized by the expected market selloff. Fear and uncertainty cause investors to retreat from equity market investments. This is not an irrational act in the short term since new risk factors have entered the market on the heels of the uncertainty created by the event. As the impact of the event is better understood in the following weeks and months, market participants return to equity investments with optimism governed by a new uncertainty. This remaining uncertainty tends to drive investors back to trusted, proven, and less speculative investment disciplines, such as value investing. This behavior is evident in the performance patterns occurring in the months and quarters following all 27 crisis events occurring in the test period since 1963.[7] On average, the equity markets demonstrate resilience with strong rebound returns in the year following a crisis event. While the broad market rebounds on average +9.8% in the first year after a crisis, the value segments exceed that threshold by 105 bps across all 27 events and by 150 bps following the 10 major events that resulted in a -10% or greater dislocation in the first or second month.[8] Value leads in the recovery as investors, shaken by events, seek out value companies with lower downside risk and greater upside potential.

"Value leads in the recovery as investors, shaken by events, seek out value companies with lower downside risk and greater upside potential."

CRISIS EVENT DETAIL

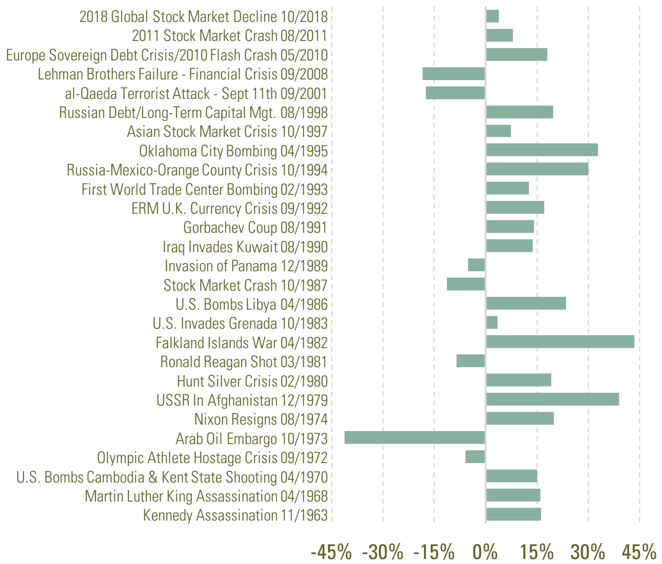
Every crisis has a different market response and magnitude. The following horizontal bar chart (see **Figure 6**) provides a detailed, graphic view of the intensity of the first two months after each identified crisis using the Russell 1000[9] Index to demonstrate the behavior of the broad large-cap market. Double-digit declines are not infrequent with 9 out of 27 events ending the first two months down over -10%. Four of those events even surpass a -15% decline. **Figure 7** shows in detail the results 12 months after the event. One year forward, 20 of 27 periods are in positive territory with an average +9.8% gain. By the end of the second year (see **Figure 8**), all but four events are back into positive territory with an average +21.5% gain. Year three (see **Figure 9**) concludes with 26 of 27 events back in positive territory with an average 41.4% cumulative increase.

Figure 6 Russell 1000 Return Pattern 2 Months Forward



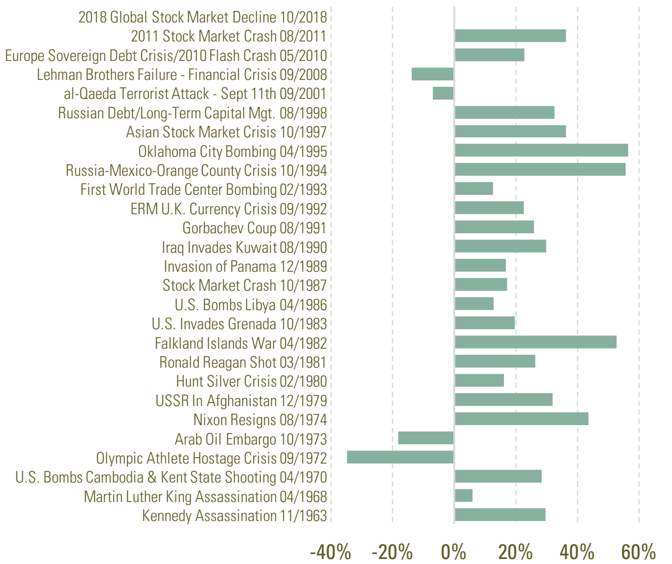
Source: Brandywine Global, FactSet, FTSE Russell

Figure 7 Russell 1000 Return Pattern 12 Months Forward (Avg. Gain 9.8%)



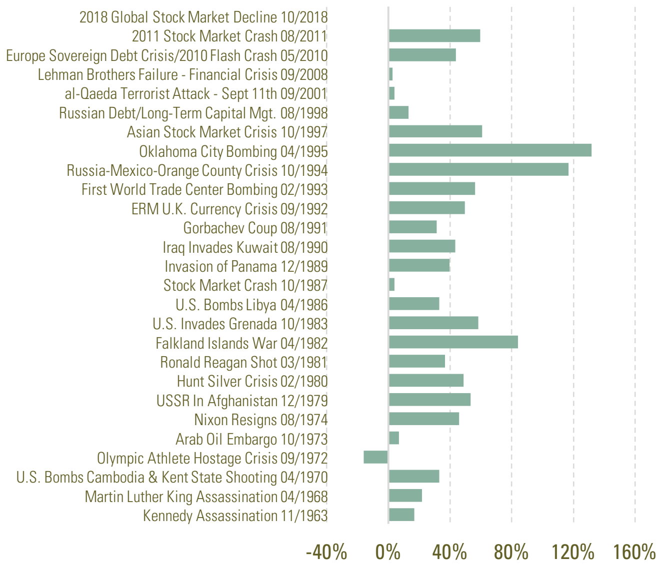
Source: Brandywine Global, FactSet, FTSE Russell

Figure 8 Russell 1000 Return Pattern 24 Months Forward (Avg. Gain 21.5%)



Source: Brandywine Global, FactSet, FTSE Russell

Figure 9 Russell 1000 Return Pattern 36 Months Forward (Avg. Gain 41.4%)



Source: Brandywine Global, FactSet, FTSE Russell

CONCLUSION: THE CASE FOR VALUE FOLLOWING CRISIS EVENTS

While every event is unique, the often-misquoted Mark Twain phrase "History does not repeat itself, but it often rhymes" is appropriate. We are undoubtedly in uncharted territory with unique challenges. However, given history as a guide and the global effort to contain the COVID-19 coronavirus, there is a high probability of a strong rebound, particularly for value stocks.

"While every event is unique, the often-misquoted Mark Twain phrase 'History does not repeat itself, but it often rhymes' is appropriate."

1. March 11, 2020, the WHO declared COVID-19 a global pandemic.

2. Sunday March 8, 2020, Saudi Arabia initiated an oil price war with Russia after a breakdown in discussions with OPEC nations and Russia's overproduction limits. Oil started 2020 at over $60/barrel (West Texas Intermediary), fell to around $45 by the end of February, then plummeted to $31.13 on Monday, March 9, 2020.

3. As of March 30, 2020, the worldwide death count was 37,578 with 781,485 reported cases, including 2,968 deaths and 161,088 reported cases in the U.S.

4. Growth and value represented by the Russell 1000 Growth and Russell 1000 Value Indices.

5. Reliable Compustat equity market data begins December 1962.

6. How to read the chart: All return patterns start their calculation including the month when the crisis event occurred. All periods are cumulative linked and include the event month. Using September 11, 2001, as an example, the initial month is September 2001. "Event Month" = Sep 2001, "2 Month" = Sept and Oct 2001, etc. Average calculations are simple averages of the events that qualify for the criteria.

7. Crisis events since 1963 include Kennedy Assassination 11/21/63; Martin Luther King Assassination 4/4/68; U.S. Bombs Cambodia and Kent State Shooting 4/29/70; Olympic Athlete Hostage Crisis 9/15/72; Arab Oil Embargo 10/18/73; Nixon Resignation 8/9/74; USSR in Afghanistan 12/24/79; Hunt Silver Crisis 2/13/80; Ronald Reagan Shot 3/30/81; Falkland Islands War 4/1/82; U.S. Invades Grenada 10/24/83; U.S. Bombs Libya 4/15/86; Stock Market Crash 10/2/87; Invasion of Panama 12/15/89; Iraq Invades Kuwait 8/2/90; Gorbachev Coup 8/16/91; ERM UK Currency Crisis 9/14/92; First World Trade Center Bombing 2/26/93; Russia-Mexico-Orange County Crisis 10/11/94; Oklahoma City Bombing 4/19/95; Asian Stock Market Crisis 10/7/97; Russian Debt/Long Term Capital Management 8/7/98; Al-Qaeda Terrorist Attack - Sept 11th 9/11/2001; Lehman Brothers Failure – Global Financial Crisis 9/15/2008; European Sovereign Debt Crisis and 2010 Flash Crash 5/6/2010; 2011 Stock Market Crash 8/1/2011; 2018 Global Stock Market Decline 10/1/2018. The Coronavirus and Saudi/Russia Oil Price War 3/9/2020 are not included in test data set. Returns start with the first whole month after event. Research performed by Brandywine Global Investment Management, LLC., Philadelphia, PA.

8. Ten of the crisis events resulted in a decline of -10% or greater in the first or first plus second months. One event declined over -10% the first month then recovered to less than -10% by the end of month two, thus Figures 4 and 5 only include nine events with a two-month return below -10%.

9. Actual Russell benchmark return data used starting January 1985. Prior periods simulated using annually rebalanced backtest with comparable parameters.

Data for Russell Index simulation prior to 1985 is obtained from Compustat (c2020) through FactSet Research (c2020) using Alpha Tester and CRSP NYSE Market Capitalization Decile information, all of which is believed to be reliable and accurate. FactSet provides fundamental stock and return calculations. Compustat provides fundamental stock information and price history. CRSP (Center for Research in Security Pricing) provides historical market capitalization groupings based on NYSE listed companies. Backtest simulation of index first calculates the top 1,000 stocks by market capitalization or the equivalent NYSE market cap decile cut point to produce the same relative market capitalization range in earlier years when there were fewer listed companies. The value index is calculated using the lower half of companies in the market-cap range when ranked by price-to-book value. Rebalancing occurs annually at the end of June to maintain consistency with the Russell methodology. FTSE Russell was not involved in the simulation of the index prior to 1985.

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