



*Sixth Global Fixed Income
Capital Markets/Investment Management Workshop/Retreat
July 20-24, 2002
Aspen, Colorado*

CASE 1:

Managing Geopolitical Risk In Investment Decision-Making

CASE MODERATOR:

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*The case preparers would like to thank
Jonathan Carmel, Bruce Phelps, Dexter Senft,
and Jeff Applegate for their helpful comments.*



*Sixth Global Fixed Income
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9:45 am

July 11, 2002

The summer morning was perfect. Gentle surf splashed Sarah Campbell's bare feet as she glided through her daily three-mile run along the Bridgehampton beach.

Her runner's high lasted briefly. Before she even turned to walk back to her imposing beach house, this cloudless, low humidity, mid-70s temperature day reminded her of the ideal weather on that awful day, September 11, 2001, and to her pressing responsibilities as the new chief investment officer for all global fixed-income assets at Diamond Asset Management Company, the asset management arm of Universal Investment & Commercial Banking Corp. With offices scattered across all major financial centers, Diamond's debt arm alone presided over \$175.0 billion of assets in money markets, mutual funds, and large institutional accounts.

The morning news on CNBC had been disheartening. So far, the summer equity rally had been a fizzle. Another homicide bombing on the West Bank claimed the lives of seven innocents. The Bush administration confirmed the *New York Times* front-page story of July 5, 2002; the U.S. military was drawing up plans to engineer a regime change in Iraq during early 2003. A small South Korean patrol boat was sunk in contested waters off the North Korean coast with the loss of a dozen lives. The SEC announced plans to investigate another 25 large U.S. firms for potential accounting misrepresentations. In response to these unsettling developments, Asian equity markets shed 2.5% overnight; European equity markets had already given up nearly 2.0% on this fair morning; and U.S. equity futures pointed to another big down day on Wall Street. The dollar was off 1%, most major yield curves had rallied 3-5 bp, producing a nearly equivalent spread expansion across investment-grade spread product; high-yield corporate and emerging-market debt prices were down \$2.00-\$3.00 on average; and gold, which her funds unfortunately couldn't own, was up \$5.50 per ounce.

Now exactly 10 months after September 11, 2001, Sarah was certain that Diamond Asset Management had done very little to formally incorporate geopolitical risk into its investment decision-making process. They had tried. Several investment committee meetings were convened to focus exclusively on geopolitical risk. Professor Charles Bohlen from John Hopkins, a noted authority on international relations and the Middle East in particular, had delivered a fascinating guest lecture to Diamond's investment committee in February 2002. Separately, on a one-on-one basis, her team had buttonholed economics and finance academics at conferences and during their regular visits to Diamond about portfolio



*Sixth Global Fixed Income
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July 20-24, 2002
Aspen, Colorado*

optimization during periods of high geopolitical risk. So far, the responses had not been especially helpful. Diamond's asset management team already knew that extra caution should be exercised, but it wasn't sure what else it should be doing.

The subject of geopolitical risk commanded more than passing academic interest for Sarah and her team. Arguably, her immediate predecessor and respected mentor of nearly two decades, Arang Nabar, had fallen on his career sword in early 2002 partially due to Diamond's failure to have a detailed contingency plan for geopolitical events like September 11. In promoting Sarah to the CIO slot, Al Grupe—a former chairman of the U.S. Export-Import Bank (Exim)—had thinned the legacy of her predecessor for Diamond's "geopolitical planning void" as he put it:

"Sarah, I've met third-rate U.S. exporters of zippers at Exim with a greater awareness and preparation for international risks than Arang. Over the next two years, you can miss on duration, you can miss on spreads, but don't blow up our performance by failing to be prepared on the international front. There's no excuse. Assume that the world's on a wartime footing. I've praised you to the hilt to our Universal bosses. Don't let me down. You can start by acing a presentation on geopolitical risks at our annual Aspen offsite. Be great."

Three months into her new position, Sarah was using this working vacation, her first in over a year, to prepare an address on "Managing Geopolitical Risk in Investment Decision-Making" at the annual offsite of all the senior investment management teams of Diamond and Universal at Aspen, Colorado, on July 22, 2002. As she restlessly strode into her cozy office on the second floor of her beach house with the commanding view of the smooth blue sea and bright beach, she fired up her computer to check her e-mails and dialed into her 10:00 am conference call with her senior investment staff.



*Sixth Global Fixed Income
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THE CONFERENCE CALL

Sarah: “Is everyone here? Okay, let’s get started. We need to review this Aspen assignment. Even prior to 9/11, the geopolitical risk thermostat had risen above its 1990s settings. For this offsite, our colleagues have asked us to examine the current and medium-term outlook for geopolitical risk, attempt to quantify these risks, consider the effects of these risks for the overall global capital markets, and analyze how investors/risk managers can best manage financial assets during periods of potentially high geopolitical stress. If possible, our colleagues would like us to comment on how investment firms dealt with 9/11 and also how financial institutions grappled with the geopolitical events of the early and mid-20th centuries.

As a reminder: please e-mail your written presentations to me by the end of Monday, July 15. I will need all of next week to pull this material together for our Aspen offsite. Have a great week. And with that, let me get back to the beach.”



*Sixth Global Fixed Income
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July 20-24, 2002
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To: Sarah Campbell **July 12, 2002**
From: Samuel Weaver
Director
Georgetown Center for Peace & Security Studies (CPASS)
Re: Strategic Geopolitical Risk Assessment
CC: Dennis Toffler, Maureen Patrick, Alvin Pearle

Dear Sarah,

As you requested on June 10, my colleagues and I at the Georgetown Center for Peace & Security Studies are providing your team with this attached overview in slide form of strategic geopolitical risks to be used in your investment decision-making. Given that your fine firm actually manages our pension fund assets, I very much hope that this report enhances your investment results through time.

We are delighted that you solicited our views. The global capital markets lie outside of our expertise. From our less knowledgeable perspective, the capital markets generally appear somewhere between complacent to outright indifferent about geopolitical affairs. Again and again, our Center members are puzzled by the capital markets' chaotic reactions to very familiar geopolitical problems. Although 9/11 caught us all off guard, a likely collusion between the Taliban and Muslim extremists against the West has been anticipated for years. For example, the front cover of *Foreign Affairs*, November/December 1999 issue, cited two articles, "The Taliban: Exporting Extremism" by Ahmed Rashid and "Kashmir: Fundamentalism Takes Root" by Jonah Blank.

The topic of your forthcoming offsite looks timely and holds great relevance, in our opinion. The end of the Cold War helped spark the freest movement of people and capital ever. In the spirit of post-Cold War triumphalism, the exciting, almost intoxicating promise of global capitalism was heralded in popular treatises, such as Tom Friedman's *The Lexus and the Olive Tree* (May 2000), during the 1990s and early Oughts. In addition to raising living standards, the celebrants of global capitalism also claim liberty and democracy as collateral benefits. As seen in the Asian financial crisis of 1997, these rapid movements, especially of capital, ironically may be destabilizing and contribute to heightened geopolitical risk from cultures accustomed to a slower pace of change.

In his masterpiece, *The Structure of Evolutionary Theory*, the late Stephen Jay Gould notes the application of his concept of punctuated equilibrium to economics and political science (p. 977). The global historical order now appears in the midst of straining to find a new punctuated equilibrium in the welcome wake of the cold war.



*Sixth Global Fixed Income
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July 20-24, 2002
Aspen, Colorado*

At the turn of the 21st century, great geopolitical risks abound. Vital natural resources, such as oil, are concentrated in unstable areas. Governments and global organizations will have to proceed wisely to avoid conflicts. Like the British from the Victorian era through the onset of World War I, the U.S. holds the geopolitical leadership position. This responsibility carries many challenges.

The stakes are high. Our friend Walter Russell Mead writes in his forthcoming *With God on Our Side: American Apocalypse and the Mall at the End of the World*: “As the twenty first century progresses, fears of mass destruction and the end of the world will become more prevalent even than during the Cold War. There will be more and more actors capable of wielding more and more weapons of mass destruction.”

Mead’s not a doomsayer: “Just as the 20th century unleashed good and evil beyond the ability of 19th century humanity to comprehend or cope with, so too the twenty first century will witness unimaginable blessings and horrors. .With bodies and even souls remade by the marvels of genetic engineering and the fusion of the biological and mechanical kingdoms, our descendents may inhabit mental and physical universes only dimly imagined today.” (p. 25)

The U.S. may have the means to head off this apocalyptic course. But in so doing, the U.S. must guard against the perception of hegemonic hubris, a vision shared even by some of the European allies of the U.S. Rather than seeking unilateral solutions, the U.S. and the greater geopolitical good would be better served by improved multipolar cooperation. As currency union has proceeded in Europe, the global order might also benefit from consideration of an eventual global currency. As non-economists, we are struck by the frequency of currency crises and their tendency to overwhelm even sound governments. And a global parliament might make a worthy successor to the tired U.N. Ultimately, though, the avoidance of apocalyptic military engagements lies in the provision of better health care, education, economic aid, and environmental protection. With our imperfect institutions presided over by imperfect human beings, this progressive route cannot be fully assured. But our global civilization will have a higher probability of successfully negotiating the perilous 21st century if sovereign governments work ever more closely together to turn this progressive vision into reality.

As always, we would be delighted to consult further with your investment team on any of the enclosed topics. Our slides for your conference follow:



*Sixth Global Fixed Income
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July 20-24, 2002
Aspen, Colorado*

GEOPOLITICAL RISKS DURING THE FIRST QUARTER OF THE 21ST CENTURY

Two Dominant Themes

- Globalization versus fragmentation
- Proliferation and accessibility of weapons of mass destruction

Definition of Geopolitical Risk for Capital Markets

- Putting the “Political” back in front of “Economy”: It’s back to “Political Economy” and time for “Geopolitical Economics”
- Geopolitical risk: term coined by Rudolf Kjeflen (1916), Swedish political scientist, to consider role of geography in international relations
- Modern capital market connotation of geopolitical risk: any international event (incident, war, threat of war, disruption of major trade flow (oil), revolution, terrorist action, coup, assassination) that adversely affects global commerce and capital markets
- Sharper definition required: “sudden geopolitical shocks” vs. long-term strategic realignments—end of Cold War and this unfolding “Clash of Civilizations”

The Late 20th/Early 21st Century View of Geopolitical History

As former U.N. Ambassador Richard Holbrooke noted:

- First half of 20th century will be remembered for defeat of fascism
- Second half of 20th century will be recalled for defeat of communism

So, too, we believe that:

- First quarter of 21st century, and hopefully in less time, will be recalled for the defeat of terrorism

A Longer View of Geopolitical History

- Technology and information have accelerated the flow of world history
- Geopolitical specialists grapple with defining this new era
- Fukuyama’s *The End of History* (1989)
 - History follows universal reason
 - Horizontal analyses looking at the forces operating across all regions



*Sixth Global Fixed Income
Capital Markets/Investment Management Workshop/Retreat
July 20-24, 2002
Aspen, Colorado*

- Huntington's *The Clash of Civilizations and the Remaking of World Order* (1996)
 - History flows from “irrepressible conflicts and irreconcilable logics”
 - Vertical analyses of world politics, shaped by region and culture
- Mead's forthcoming *With God on Our Side: American Apocalypse and the Mall at the End of the World*
 - Proposes a third way, an integration of the Fukuyama and Huntington theses
- Yergin and Stanislaw's *The Commanding Heights* (1998)
 - Proclaims political triumph of free market ideology over statist economic models in the last quarter of the 20th century

Incidence of Geopolitical Risk: 1900-July 2002

The 1990s Were an Exception; Commonplace Historically

- For global capital markets, major geopolitical event occurs about once every decade and a half: World War I (1914-1918); World War II (1939-1945); Korean War (1950-1953); Cuban Missile Crisis (1962); Vietnam War (1965-1973); Arab Oil Embargo (1973); Iranian Revolution (1979); Gulf War (1990-1991); 9/11/01
- Minor incidents more frequent, a sample includes: Berlin Blockade (1948); Hungarian Revolution (1956); “Suez Crisis” (1956); “Cultural Revolution” in China (1965); Soviet tank invasion of Prague (1968); Pueblo incident (1968); Watergate denouement (1974); U.S. hostages in Tehran (1979); U.S. invasion of Grenada (1983); U.S. invasion of Panama (1989); Tiananmen Square (1989); potential Russian Coup (1991); World Trade Center Bombing (1993); Chinese missile testing over Taiwan (1996); India and Pakistan nuclear testing (1998); U.S. reconnaissance plane in China (2001)
- Expect higher frequency of geopolitical events in a more integrated world of 189 U.N. member nations

Major Geopolitical Risks: 2002-2020

Dispute Framework:

“Old” Problems, “New Old” Problems, “New” Problems

“Old” Problems

- Liberal capitalism, with attendant “creative destruction” or kinder “socialist recidivism”
- Religious tolerance or “clash of civilizations”
- Lack of compromise among sovereigns and ideological factions
- Corruption



*Sixth Global Fixed Income
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Aspen, Colorado*

“New Old” Problems

- Role of terrorism as a tool to engender geopolitical change
- Political and economic convergence to regional aggregates (eurozone) or nationalist-fueled unraveling into smaller units (Balkans)
- Shift in the global balance of power
- Distributionist policies: trade, technology, information, healthcare, wealth
- Modernization of Bretton Woods institutions: World Bank and IMF

“New” Problems

- Radical Muslims struggle to renew the Arab world through conflict with the West
- Proliferation and potential use of weapons of mass destruction
- Reduced barriers to substantive terrorist operations thanks to technology
- Reduction in the efficacy of nation-state borders due to the enormous trade, information, and population flows increased by economic globalization
- Accountability for long-term environmental issues under the 1997 Kyoto Protocol
- AIDS and possibility of new pandemics
- Cyber sabotage
- Genetically modified food
- Intellectual property rights
- Eclipse of European military and diplomatic power and emergence of U.S. as only credible activist military/security power in an increasingly unipolar world

Regional Risks

East Asia

- Rising influence of China; its political/economic stability; Taiwan question
- Japan’s economic recovery and potential veer to nationalism
- Korean unification
- Muslim terrorists in the Philippines
- Indonesian unbundling
- Singapore’s role

South Central Asia

- India/Pakistan conflict
- Economic liberalization vs. traditionalism



*Sixth Global Fixed Income
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Middle East

- Resolution of the Palestinian question
- Iraq: longevity of current regime
- Iran: moderation of theocracy and partial turn to the West
- Future of Saudi monarchy, Egypt, Jordan, and other “moderate” Arab states: a turn toward the West or fundamentalism
- Potential power vacuum should the radical Middle Eastern states collapse: Iran, Iraq, Syria, Libya
- Turkey: stability; West or East

Europe

- Expansion of the EU
- Economic integration offsetting political differences vs. rejection of capitalism and embracing of populist economics and right-wing politics
- Support current U.S.-based order or advocate for new global order
- Russia’s role: domestic social and economic stability
- Separatist agitators: Basques, Ireland, Balkans
- Future of NATO

Latin America

- Democracy, capitalism, populism, or authoritarianism
- Final lessons from Argentine devaluation/default? Failed experiment in liberal capitalism or bad local and IMF policy-making
- Venezuela: which political model
- Brazil: moving on Argentine or Mexican path
- Mexico: extent of reform; into the First World or back to the Third World

Africa

- Mainstreaming the “lagging continent”
- HIV epidemic
- Will the wealth, health, technology, and education divide narrow or widen
- Addressing “state failures”

North America

- Will the U.S. amend its superpower role by taking either a unilateralist or multi-lateralist route



*Sixth Global Fixed Income
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July 20-24, 2002
Aspen, Colorado*

Geopolitical Risks Contribute Directly to International Financial Crises

- Between 1980 and 2000, the Council on Foreign Relations reported that at least 125 countries experienced some banking problems, with half becoming insolvent
- Global interconnectivity has never been higher. U.S. exports represented 5% of GDP in 1960, 7.5% in 1980, and 15% by 2000
- Global economic system racing to incorporate quickening technological changes will frequently fall on the cusp of deflationary excess supply—a natural breeding ground for political instabilities

Finally, as with many decision-makers, perhaps guided by their subscriptions to country risk rating services, you asked us to assign probabilities to the menu of geopolitical risks. We can and, in the past, have made up “subjective” or “heuristic” risk probabilities for our quantitatively inclined clients. These euphemisms cannot camouflage the “back-of-the-envelope” nature of such “probability inventions.”

For example, we can assert that the probability of Korean unification looks high (80%-90%) over the next 25 years. But we cannot state the when or how with any precision. In our opinion, our clients would be ill served by our assignment of such probability inventions. In our experience, the temptation to rely on such probability figures can engender complacencies. As we often have learned the hard way, the sudden emergence of low probability events can be far more unsettling than the occurrence of a perceived high probability event. We advise Diamond to refrain from this practice. Think independently, view all risks as high, and be ready for the unexpected.

We very much look forward to your feedback.

Best wishes,
Samuel



*Sixth Global Fixed Income
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July 20-24, 2002
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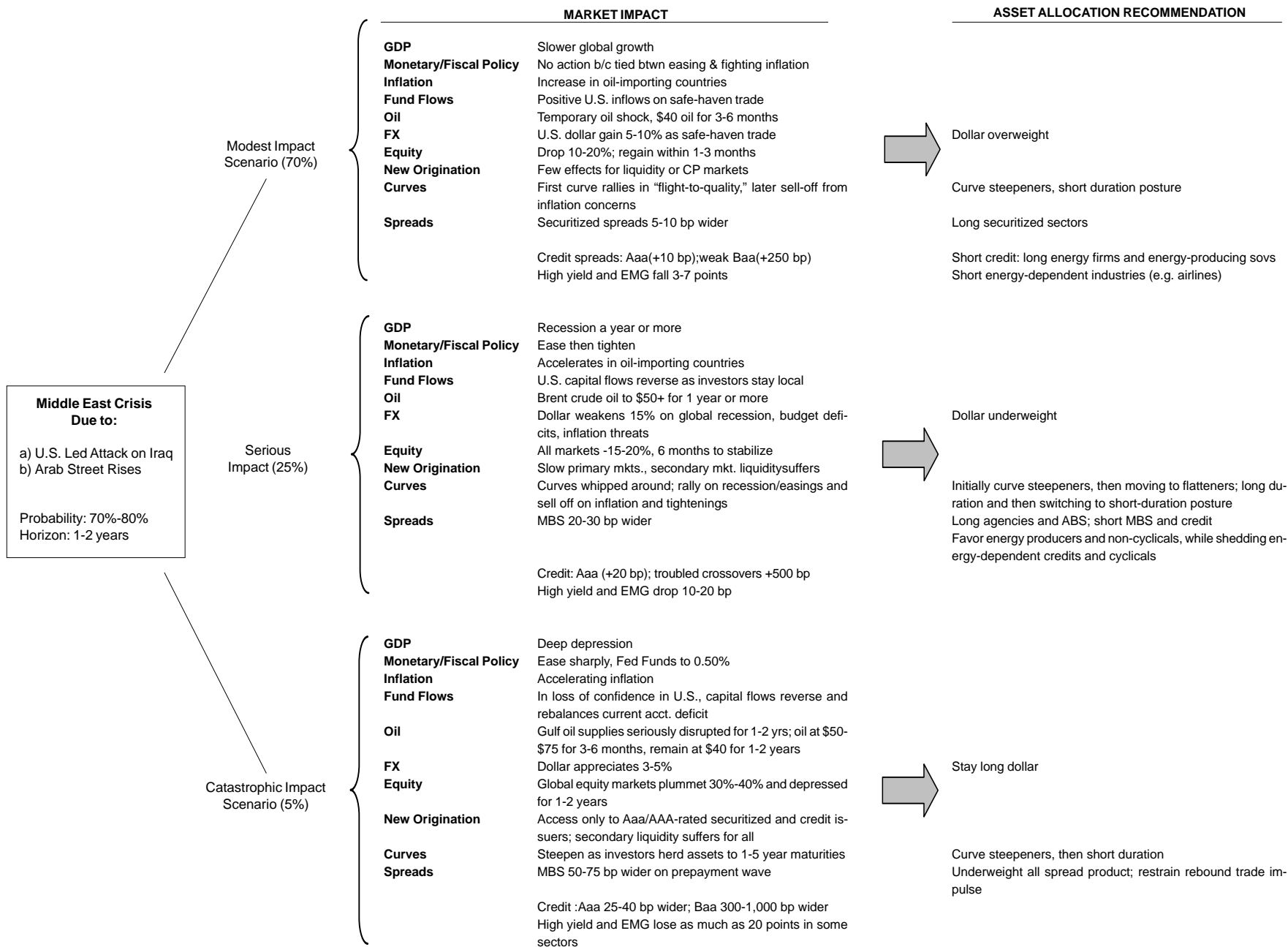
To: Sarah Campbell **July 13, 2002**
From: Maureen Patrick
Research Director, Diamond Asset Management
Re: Geopolitical Risk Scenarios for Aspen Offsite
CC: Samuel Weaver, Alvin Pearle, Dennis Toffler

SCENARIO PLANNING EXERCISE OVERVIEW

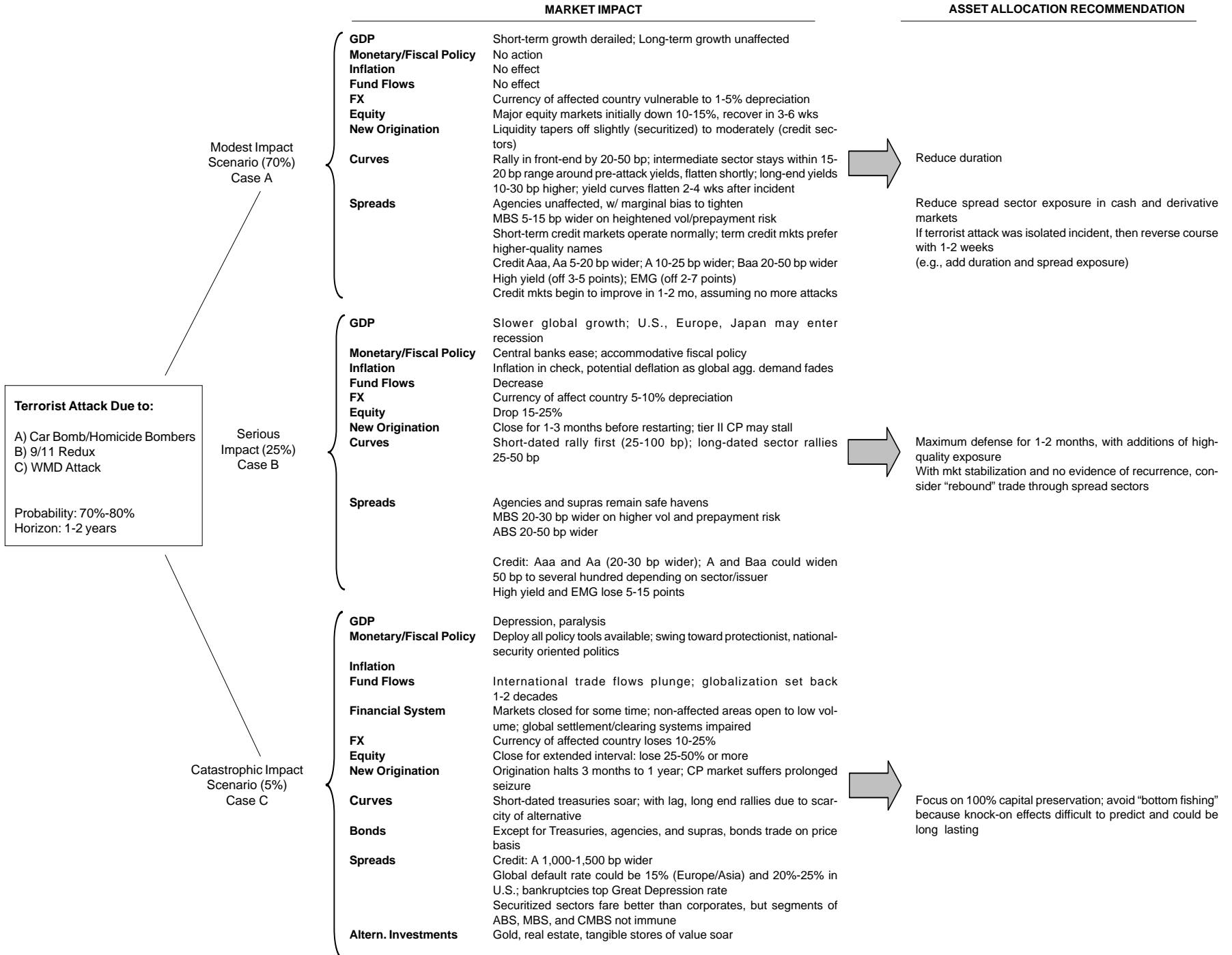
Using Samuel Weaver's excellent preliminary input from late June, my research team and I identified geopolitical risks to the global capital markets that could have major effects on our portfolio performance during 2002-2003. From numerous possibilities, we concentrated on the two major crisis scenarios with the highest probabilities, in our view, for further analyses to illustrate our methodology. Specifically, we looked at a Middle East crisis and terrorist attack(s). If you'd like, we can easily extend this framework to analyze other geopolitical events of a lower likelihood, such as an outright war between India and Pakistan or political unification of the Korean peninsula, over your suggested timeframe. To make our analyses hopefully clearer, we also have supplied a tree diagram of the market's likely reaction to the two main geopolitical risks reviewed in this memo.

Unfortunately, the likelihood of these two chosen scenarios taking place looks uncomfortably high as of mid-July 2002. After further consultation with Samuel Weaver and his team and despite their cautionary counsel, we created subjective probabilities for these scenarios, ranging anywhere from minor to devastating, and then evaluated the potential economic and market effects. Finally, we studied the likely effects on our portfolios.

Probability Tree for Scenario I: Middle East Crises



Probability Tree for Scenario II: Terrorist Attack





*Sixth Global Fixed Income
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**I. MIDDLE EAST CRISIS:
PROBABILITY OF AN EVENT IN 1-2 YEARS = 70%-80%**

Base Scenario: A Middle East crisis leading to a major and sustained shock in world oil prices develops due to one or a combination of the following factors:

a) U.S.-Led Attack on Iraq:

- i. The invasion succeeds but unleashes waves of political unrest in the Middle East that prove far more difficult and costly to contain than anticipated. Results in U.S./Western oil embargo by some or all Middle Eastern exporters.
- ii. Iraq employs weapons of mass destruction (WMD) against U.S. troop concentrations, Israel, or oil production and shipping in the Persian Gulf. Slows the military campaign against Iraq and raises the economic, military and diplomatic cost of engineering a regime shift. Complicates the task of cleaning up after the war and creating a more peaceful regional order.
- iii. The U.S. experiences unexpected early setbacks in the invasion leading to loss of support from regional allies, causing supply line disruptions and depriving the U.S. of potential staging areas for next phases of the invasion. In the worst case, due to effective use of WMD, the U.S. invasion bogs down and the U.S. is caught in a morass and/or abandons the invasion.
- iv. The invasion destabilizes the region such that the U.S. cannot win the peace in Iraq or neighboring countries. This could take the form of extended, expensive, and dangerous military occupation of one or more countries in the region. It could result in oil embargoes from individual states or persistent supply disruptions.

b) Further Deterioration of Israel/Palestine Crisis (and/or a U.S.-led Invasion of Iraq) Provokes Arab Street to Rise Against Regional Leaders:

- i. Could result in the overthrow of one or more of the Saudi, Jordanian, Syrian, or other regional regimes
- ii. Could provoke a broader political, diplomatic and/or military crisis than the U.S. and its allies are able to contain, leading to sustained disruption of oil production and transportation in the region



*Sixth Global Fixed Income
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Middle East Crisis Scenario Effects

- **Political:** A Middle East crisis as outlined above would have severe political consequences that would hurt the global economy:
 - **Loss of Credibility:** Since the Gulf War in 1991, the U.S. has enjoyed a high degree of credibility for its capacity to project military force. There is every reason to expect success in a new war against Iraq. Should the use of WMD slow the invasion and/or result in an even less stable regional order, global perceptions of the U.S. government's capacity to project force to protect key global interests may diminish substantially.
 - Arguably, the misapplication of massive military force to resolve a complicated geopolitical problem in Vietnam caused such a blow to U.S. credibility.
 - Such an outcome could embolden potential adversaries and rivals of the U.S. and NATO, leading to an upsurge of low intensity guerilla and terrorist conflicts around the globe.
 - U.S.-NATO and/or U.S.-Europe infighting could negatively affect Western unity and limit the effectiveness and perceived legitimacy of the exercise of U.S. diplomatic and military power
 - The risks associated with potential rogue state attacks and with major regional conflicts such as China/Taiwan and India/Pakistan would require recalculation by market players.
 - **U.S. Political Weakness:** The Bush administration could suffer a sharp drop in U.S. political support and enter a period of political malaise, hurting its ability to inspire market confidence and to run a coherent fiscal policy.
- **Economic:** Since the Arab-Israeli conflict of October 1973 (Yom Kippur War), it's become axiomatic to predict oil price shocks each time tensions rise in the Middle East. True, an oil price shock could occur. But perhaps even worse than the price fluctuation of a capricious commodity such as oil, business and consumer confidence throughout much of the world would be dented. Such conditions could lead to another global recession.
 - Japan and emerging-market Asia would suffer from both of these effects: the IMF projects a 0.4%-0.9% loss in GDP growth for Asian EMG oil importing countries due to every permanent \$5.00 per barrel increase in crude oil prices.



*Sixth Global Fixed Income
Capital Markets/Investment Management Workshop/Retreat
July 20-24, 2002
Aspen, Colorado*

- Non-Arab oil exporters, such as Russia, Venezuela, Ecuador, Indonesia, Nigeria, and Mexico, stand to profit from higher oil prices, though the slowdown in global demand would still be detrimental as those countries strive to create broader-based export sectors and to generate greater domestic demand.

Potential Market Effects and Associated Probabilities:

Middle East Crisis

In the event that a Middle East crisis scenario does take place in the next 1-2 years, here is our best guess at the range and probability of market effects:

- **Modest Impact Scenario (70%):** A temporary oil price shock sending Brent Crude to \$40 per barrel for 3-6 months is the most likely crisis outcome. Knock-on effects would include slower global growth marked by a delayed pickup in domestic demand and investment in the U.S. and Europe, as well as slower export growth in Asia. Overall inflation rates would pick up in oil importing countries. Central banks would be over a barrel, trapped between a tightening impulse to fend off inflation and an easing disposition to compensate for possible recession. The dollar likely would gain by 5%-10% as the safe-haven currency of choice. Global equity markets would drop (10%-20%) in the initial phase of the crisis but would likely recover within 1-3 months. After first strengthening on the flight-to-quality shift by asset managers, bond prices would fall in the presence of higher inflation expectations. We envision few effects for capital market liquidity or the commercial paper market under this scenario. The securitized spread sectors would fare reasonably well, with only minor initial spread expansion (5-10 bp), if at all. A march toward recession would slap all credit sectors, with investment-grade sectors widening by 10 bp (Aaa/AAA's) to 250 bp (weak Baa/BBB's). High-yield and emerging-market debt would fall by 3-7 points. At Diamond, we'd recommend a dollar overweight, curve steepener, short duration, long securitized sectors, and short credit sector portfolio posture. Naturally, we'd want to be long energy firms and energy-producing sovereigns and short energy-dependent industries such as airlines.
- **Serious Impact Scenario (25%):** More serious oil supply disruptions send Brent Crude to \$50+ for a year or more. The U.S., Europe, and Asia plunge back into recession for at least a year. Inflation accelerates dramatically in oil importing countries. Focusing on recession first, central banks initially ease and then tighten as inflation vigilance wins out over worries about economic growth. The dollar weakens by 15% on global recession, trade and budget deficits, and inflation threats.



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U.S. capital flows reverse as non-U.S. investors stay in their regional markets. All equity markets fall sharply (15%-20%) in the first few weeks of the crisis and take six months or more to stabilize at lower levels. Yield curves are whipped around: rallying on recession and easings, selling off on inflation and central bank reversals. Primary markets slow. Secondary market liquidity suffers. MBS widens by 20-30 bp on increased volatility. The credit markets sustain a frontal assault from recession, with spreads leaping from 20 bp for Aaa/AAA's to up to 500 bp for problematic crossovers. The high-yield corporate and emerging-debt markets drop 10-20 points. For Diamond, we'd suggest a dollar underweight, curve steeper then flattener, long duration then short duration, long agencies and ABS, short MBS and credit portfolio position. Again, we'd favor energy producers and non-cyclicals, while shedding energy-dependent and cyclicals.

- **Catastrophic Impact Scenario (5%):** Persian Gulf oil supplies are seriously disrupted for 1-2 years, perhaps in a last-ditch stand by Iraq, and U.S. and G-7 resources are diverted to war and reconstruction needs. Oil prices soar to \$50-\$75 for the first 3-6 months and then remain in the \$40 range for 1-2 years afterward. Investors lose confidence in the U.S. economy, reversing capital flows and forcing the current account deficit into balance rapidly as imports dry up and inflation accelerates. European and Asian economies also enter prolonged deep recessions. On balance, the dollar appreciates slightly (3%-5%) on lower U.S. import demand and its role as the preferred global currency store of value. Of course, the Swiss franc soars. Global stock markets plummet by 30%-40% and remain depressed for 1-2 years. Major central banks decide to look the other way on inflation, easing sharply. The Federal funds rate falls to 50 bp. Yield curves steepen and remain steep as risk aversion herds asset managers into the 1-5 year areas of major yield curves. The primary markets afford access only to Aaa/AAA rated securitized and credit issuers. Secondary liquidity suffers for all spread sectors. The MBS sector widens 50-75 bp in OAS on a massive prepayment wave. Credit spreads lift off in a standard recession configuration: Aaa/AAA's rise 25-40 bp; Baa/BBB's zoom 300-1000 bp. High-yield corporate and emerging-market debt loses as much as 20 points in some sectors. In such an environment, Diamond should play dollar long, curve steepeners, long then short duration (with a lag of up to a year), and underweight all spread product. The natural impulse to pursue the rebound trade should be restrained. The greatest virtue would be patience. An energy price calamity of this magnitude would likely have unforeseen, secondary consequences that might not become manifest for six months or longer.



*Sixth Global Fixed Income
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II. TERRORIST ATTACK: PROBABILITY OF AN EVENT IN 1-2 YEARS = 70%-80%

Base Scenario: A successful attack—or campaign—against New York, Washington, London, or another key world political or financial center. The range of possibilities for the terrorist attack scenario spans from small homicide bombings to the use of weapons of mass destruction:

- a) **Car Bomb/Homicide Bombers:** In many parts of the world and throughout history, terrorist organizations have opted for a larger number of smaller scale bombing attacks, kidnappings, assassinations, or other forms of terrorism. Europe may be even more susceptible than the U.S. to such attacks, but both are vulnerable. The macroeconomic and market impacts of a sustained “smaller” terror campaign certainly would be less serious than in the “WMD Attack” or “9/11 Redux” scenario variations.
- b) **9/11 Redux:** A conventional attack on the scale of the 9/11 disaster in New York or another key city, while hopefully less devastating than the “WMD Attack” variation, would have many of the same results. It would also force the public to view massive terrorist attacks as an ongoing reality and to adjust their market and macroeconomic expectations accordingly.
- c) **WMD Attack:** Between 2002 and approximately 2005, the most serious attack could take the form of a dirty nuclear bomb detonation in a major American city (New York, Washington), the deployment of a chemical weapon (recall the nerve gas attack in the Tokyo subway system), or biological weapon (the U.S. already has sustained an anthrax attack; the release of other agents in to the food or water supply could occur). Sometime after 2005, and hopefully well beyond 2010, a conventional nuclear weapon might be used. The legendary Warren Buffet has even suggested the likely use of a nuclear weapon against New York or Washington at some point over the next 50 years. Such attack(s) would lead to enormous loss of life, catastrophic property damage, and the likely incapacitation of the target city and most businesses operating within it, destroy much of the financial center (if in New York), divert national economic and political resources indefinitely, terrorize the general population, and seriously disrupt world financial markets for an indefinite period of time.



*Sixth Global Fixed Income
Capital Markets/Investment Management Workshop/Retreat
July 20-24, 2002
Aspen, Colorado*

III. THE EASY WESTERN WIN

Alternate Scenario: Once identified and targeted, the terrorists are tracked down. Their actual resources are few when facing a determined and focused police action. All are killed or brought to justice in short order with minor collateral damage. Nations and states all over the Islamic world correctly perceive that the terrorists are at least as great a danger to them as to the Western world. Unusual alliances emerge in local law enforcement agencies that help apprehend the terrorists, coupled with severe and certain justice that serves to dissuade potential followers.

The terrorist attempt to embroil the West into a conflict with the broader Islamic world fails. Technological advantages of the Western nations come through, and a relatively quick return to the status quo follows. The initial market acknowledgement of this scenario would be a glorious upward burst in equity valuations, business/consumer confidence, and credit market performance.

First-Order Effects

- **Politically**, renewed terrorist attacks could generate one of three outcomes depending on their severity and the government's response:
 - The attacks produce a salutary, uniting effect in the West, increasing public support for and confidence in government efforts to fight terrorism and protect the economy
 - Renewed attacks succeed at making the government look ineffective and baffled, reducing public confidence in the Bush administration and in the U.S.'s ability to lead a successful war on terrorism. The NATO alliance begins to unravel. In Asia, Japan, South Korea, and Taiwan begin to pursue political agendas that call for less reliance on the U.S. military shield.
 - In a quest for general civilian safety, some populations would become more prone to subscribe to right wing and even fascist ideology.

In each case, pressure likely would mount for the U.S. to take direct military action against state sponsors of terrorism, especially Iraq.

- **Economically**, renewed terrorist attacks would increase pressure on government budgets due to recovery costs, increased defense and security spending, the contingent liability on the government of terrorist insurance for businesses and specific



*Sixth Global Fixed Income
Capital Markets/Investment Management Workshop/Retreat
July 20-24, 2002
Aspen, Colorado*

industry sectors, and other factors. U.S. budget constraints likely would weaken the dollar, add to inflationary and interest rate pressures, and reduce investment inflows.

Potential Market Effects and Associated Probabilities:

Terrorist Attack

The market effects of a terrorist attack(s) are difficult to predict—hence our expression in terms of wide ranges—and even more uncomfortable to contemplate. Should such an attack(s) occur, the following “general” market responses would follow, in our opinion. Note: we did not try to forecast potential market responses down to the intra-asset class level. For example, certain elements of the equity and credit markets might rally (defense, large blue chips, consumer non-cyclicals), while other sectors would be even more adversely affected (airlines, autos, other cyclicals, B-rated high-yield corporates). These finer forecasts should be supplied by our asset managers and sector analysts in a subsequent, more-detailed analysis. As a first approximation for further discussion, however, we have included general recommended portfolio responses by Diamond to each terrorist scenario.

- **Modest Impact Scenario (70%) Associated with Car Bomb Type-Incidents/Homicide Bombings:** Long-term global economic growth prospects are unaffected, but short-term growth is derailed for 1-2 quarters as consumer and executive confidence briefly wilts. There is no effect on inflation. The Fed and other major central banks likely do not react. Settlements and clearing are unaffected. The currency of the affected nation would be vulnerable to a 1%-5% temporary slide. Major equity markets trade off initially by 10%-15%, but then recover completely within 3-6 weeks. Short-dated treasuries in major government bond markets immediately rally by 20-50 bp as the classic “flight-to-quality, safe-haven trade” is executed. Intermediate treasury obligations stay within a 15-20 bp range around pre-attack yields. Long-dated treasury obligations see a 10-30 bp yield expansion as investors rotate to the front end of yield curves. Two weeks to a month after the terrorist incident, yield curves flatten as investors regain confidence and seek incremental yield. The liquidity of the spread markets tails off slightly (securitized sectors) to moderately (credit sectors). Agency spreads remain largely unaffected, with a marginal bias to tighten on the “safe-haven effect.” MBS spreads move out by 5-15 bp OAS on heightened volatility and prepayment risk concern. The short-term credit markets operate normally. The long-dated credit markets exhibit a preference for higher quality. Credit spreads expand in relation to credit quality; the highest quality credits (Aaa/AAA's and Aa/AA's)



*Sixth Global Fixed Income
Capital Markets/Investment Management Workshop/Retreat*

*July 20-24, 2002
Aspen, Colorado*

suffer a 5 bp-20 bp upward bump: single-A's (10 bp-25 bp), Baa's (20 bp-50 bp), high-yield corporates (3-5 points), and emerging-market debt (2-7 points) follow. Credit markets begin to recover within 1-2 months assuming no additional follow-up attacks. If this scenario occurs, then the best immediate debt portfolio strategy for Diamond would be maximum short-term defense: reduce duration, credit, and spread-sector exposure in the cash (if possible) and the derivatives markets. If our evaluation suggested that the terrorist attack was an isolated incident unlikely to be repeated over the short term, then our debt asset managers should consider reversing course within 1-2 weeks: add duration and spread sector exposure.

- **Serious Impact Scenario (25%), Consequence of 9/11 Redux:** Economic growth would slow in most regions. A more serious outcome might be that the U.S., Europe, and Japan enter recession for 2-3 quarters. Inflation not only stays in check, but elements of deflation appear as global aggregate demand suddenly shrinks. Major central banks ease. Central governments boost fiscal spending. The currency of the affected nation would be vulnerable to a 5%-10% slide. Equity markets trade down substantially (15%-25%) and stay depressed for six months or more. Again, government bonds (treasuries, agencies, supranationals) remain a safe haven, with short-dated bonds (1-5 years) faring best, rallying by 25-100 bp on correct anticipation of easing. With a lag, long-dated treasuries also rally by 25-50 bp as the primary markets for spread-product effectively close for 1-3 months before restarting in a sequence similar to the phased reopening of the credit markets after the Great Spread Sector Crash of August-October 1998. As shown in late 2001, the Tier II commercial paper market may stall. All spreads widen, and secondary liquidity falls in spread-sector markets. Like the 2-month period immediately after 9/11, agency spreads likely suffer the least damage among spread sectors and even could tighten slightly as investors search for some spread-sector participation. MBS would widen 20-30 bp on heightened volatility and prepayment risk. ABS would participate in the generalized expansion of credit spreads, potentially adding 20-50 bp of spread premium. Credit spreads would detonate, with high-yield corporate and EMG bonds losing 5-15 points. Investment-grade credits would be fortunate to add only 20-30 bp in Aaa/AAA's and Aa/AA's. Single A-rated and Baa/BBB's could gap by 50 bp to several hundred bp depending on the industry and the issuer. Diamond's optimal debt portfolio strategy would be maximum defense for 1-2 months, with situational additions of high-quality positions that sustained some collateral market damage. With capital market stabilization and if our evaluation suggests no immediate attacks of similar magnitude, then our portfolio should consider the "rebound



*Sixth Global Fixed Income
Capital Markets/Investment Management Workshop/Retreat
July 20-24, 2002
Aspen, Colorado*

trade” through the addition of spread-sector exposures. Given our mandate to preserve capital, our asset managers should avoid trying to be too early.

- **Catastrophic Impact Scenario (5%) Stemming from the Use of WMD:** We did not try to differentiate among weapons of mass dislocation (e.g., a dirty nuclear bomb that renders a 10-block grid of Manhattan or London uninhabitable for 2-5 years, a confined nerve gas attack in a single subway station, the use of biological agents such as anthrax and smallpox, or the detonation of a suitcase nuclear weapon). The actual economic and market effects naturally would hinge on the severity of the attack. The singular use of nerve gas in a subway system would have an immediate but a transitory impact akin to our modest impact scenario above. A broad dissemination of anthrax might function like the serious scenario outlined above. Here, we address the worst case: the use of a weapon of mass dislocation (property damage and business disruption effects running into the hundreds of billions of dollars, with fortunately little immediate loss of human life) and a weapon of mass destruction (tens of thousands of fatalities/casualties, property damage/business interruption upwards of a trillion dollars). This worst-case outcome could lead to a depression and even a paralysis of the global economy. International trade flows plunge; the process of globalization is set back by 1-2 decades. A major swing toward protectionist, national-security oriented right wing politics would likely result in many nations. Central banks and central governments would deploy all monetary and fiscal tools to resurrect the global financial system. In particular, infrastructure and defense spending would proceed at a wartime pace. Markets could be closed for an extended interval. Markets in non-affected regions would reopen more quickly to very thin trading. Global settlements and clearing could sustain a prolonged setback. Upon the general reopening of global markets, the currency of the affected nation would be subject to a 10%-25% loss in value. There would be a major selloff in financial assets. Equities might retreat by 25%-50% or more. Short-dated treasuries (1-3 years) in the U.S. and European markets would soar, with yields collapsing to double-digit JGB standards. With a lag, longer-dated treasury obligations also would rally given the scarcity of alternative choices, central bank easing, and deflation. The commercial paper market might suffer a prolonged seizure. Spread-sector origination would be halted for an extended period of 3 months to a year. The corporate and individual bankruptcy rate would skyrocket and probably top the Great Depression of the 1930s given higher systemic leverage. The global default rate would run from the 15% area (Europe and Asia) to 20%-25% (U.S.). Except for treasuries, agencies, and surprationals, most bonds would be trading on price basis for an extended



*Sixth Global Fixed Income
Capital Markets/Investment Management Workshop/Retreat
July 20-24, 2002
Aspen, Colorado*

period. On a spread basis, A-rated paper easily might be trading at spreads in excess of 1,000-1,500 bp. Securitized debt (ABS, MBS, and CMBS) would fare better than standard corporate debt. But segments of the ABS market (home equity loans, manufactured housing, and even credit cards) and CMBS markets would not be immune. Gold, some real estate (think log cabins in Idaho), the Swiss franc, and other tangible assets would be the preferred store of value. At Diamond, our asset management goal would be 100% capital preservation. With markets largely non-operational in the immediate aftermath of such a catastrophic incident, Diamond and other market participants would not likely be able to implement any defensive measures. Portfolio prices, especially for spread products, would be estimates for an extended period. Index comparisons might be meaningless for a while. "Bottom-fishing expeditions" should be avoided. Like the U.S. and Europe in the 1930s and Japan in the 1990s, the knock-on effects would be difficult to predict and could be long lasting.

Hopefully, none of these awful geopolitical risks will ever materialize. But our team very much supports your new approach at Diamond. You have forced us to contemplate some very unpleasant possibilities. Please let us know if you would like us to extend our analysis to other geopolitical risks.

Maureen



*Sixth Global Fixed Income
Capital Markets/Investment Management Workshop/Retreat
July 20-24, 2002
Aspen, Colorado*

To: Sarah Campbell **July 14, 2002**
From: Dennis Toffler, Senior Portfolio Manager
Re: Historical Capital-Market Reactions to Geopolitical Events
CC: Maureen Patrick, Alvin Pearle, Samuel Weaver

Along with nearly a dozen portfolio manager colleagues at Diamond, we scoured a plethora of sources for guidance in capital market reactions to geopolitical events. Initially, we were struck by the lack of academic perspectives: the economics and finance profession operate mainly within conventional boundaries. Alternatively, foreign policy think tanks have put forth insightful research on this matter. For example, the Council on Foreign Relations published an excellent book, *Stress Testing the System: Simulating the Global Consequences of the Next Financial Crisis*, by Roger Kubarych. Still, our analysis was formed mainly by reviewing the historical record.

We readily concede methodological caveats. The structure of the global capital markets has shifted markedly since many of these events. However fascinating, the response of the U.K. equity market to the arrival of the Great War on August 1, 1914, may not be that instructive for the global capital markets of the early 21st century.

Here's what we think that we know. An outright military campaign against Iraq, while economically adverse, would probably not be as unsettling to long-term investor confidence as would continued terrorist attacks on non-military targets. If investors draw the conclusion that the human and physical capital employed to generate profits are not safe, then a higher equity risk premium would become required. As a result, fewer projects would clear this higher investment hurdle rate, slowing the rate of innovation. Moreover, the need for contingencies planning would increase redundancy.

Although the equity risk premium discounted by the market has risen from 3% to 5% since 9/11, it is difficult to attribute this rise solely to geopolitical risk. The 2% jump in the equity risk premium is almost as high as that reverse engineered in current U.S. equivalent terms to replicate the 33% U.K. stock market correction following the September 1941 London bombings, assuming the U.K. market was fairly valued beforehand. Arguably, Germany in the mid-20th century was a more imposing foe than today's terrorist organizations—at least the enemy was external and identifiable.

While external terrorists abound, the current situation has an added complexity because the U.S. is a nation of immigrants. Geopolitical risks have the potential to develop from within



*Sixth Global Fixed Income
Capital Markets/Investment Management Workshop/Retreat
July 20-24, 2002
Aspen, Colorado*

as well as from without. In addition, internal and external reactions must be taken into account as the U.S. manages this war on terror. For example, there are roughly 7 million Muslims living in the U.S., about a quarter of whom are of Middle-Eastern Arabic descent.

Regardless of how the scenarios ultimately unfold, the market is apt to revert to first principles when assessing and coping with geopolitical risk. Just as the fixed-income markets may reduce duration or gravitate to higher-quality credits to reign in risk during times of heightened uncertainty, equities will react in a similar manner. For instance, the time-weighted duration of stock market earnings equals the price/earnings ratio. When perceived risk rises, the market favors lower P/E ratio stocks. All else being equal, equity investors gravitate to stocks with slower EPS growth, higher earnings predictability, higher dividend yields, and lower betas.

In the short run, the market could become preoccupied with geopolitical risks. But over the longer term, the market will continue to weigh earnings on a scale calibrated for interest rates and a few other determinants such as economic and profitability growth. Assuming the doomsday scenario does not materialize, coping with geopolitical risks should not deter the market from its long-term tendency to rise.

For your further review, I am enclosing an appendix of charts from which I sketched a broad analysis. But before delving into the data, I'd like to offer a contrarian suggestion.

After immersing myself in these historical data since September 11, 2001, I have come to two conclusions. First, many crisis incidents are wholly unpredictable. Second, other than an "event-related ripple" of variable magnitude and duration, academic research suggests that other factors better explain security prices, namely the classical macroeconomic analysis and credit fundamentals. For example, in "The Effects of News on Bond Prices: Evidence from the United Kingdom, 1900-1920" (*The Review of Economics and Statistics*, May 1996), Elmendorf and Hirschfeld conclude that "much of the variability in bond prices cannot be explained by news" (p. 344). Therefore, I suggest that we try to ignore the uncertain gravitational pulls of geopolitical events.

At your behest, I also tried to review the historical record to learn how major institutions coped with geopolitical risks in the past. Other than some observations in publications such as *Forbes*, *Businessweek*, and *The Economist*, I am not sure that our searches revealed much. Much like now, forecasting capital market parameters during the Great War was, at best, conjecture. For instance, a *Forbes* article from the end of April 1917 (2 weeks after



*Sixth Global Fixed Income
Capital Markets/Investment Management Workshop/Retreat
July 20-24, 2002
Aspen, Colorado*

the U.S. entered World War I) chronicled bank managers' views on the trajectory of short-term interest rates, supply of "government loans," and overall investment posture. Surprisingly, their insights ring of the same themes currently circulating in the financial press: the importance of liquidity during bouts of geopolitical uncertainty, increased government borrowing during wartime, and the purported outperformance of higher-quality credits.

But enough anecdotal evidence, now onto the hard data.

I. HISTORICAL PERSPECTIVE POST-9/11

Per a well-known Ned Davis Research study dated September 11, 2001 (Figure A1), the U.S. Dow Jones Industrial Average fell by 4.34% on average during 41 separate crisis periods, subsequently rebounding by 7.80% over the ensuing 126 trading days.

Of course, not all crises and market reactions are equal. The U.S. invasion of Grenada on October 24, 1983, paled in comparison with Pearl Harbor on December 7, 1941. And of these 41 episodes, 11 are purely U.S. events, such as Truman's upset victory in 1948, Eisenhower's heart attack in 1955, Nixon's resignation in 1974, and the Oklahoma City bombing in 1995. Another six events cannot really be classified as geopolitical: the U.K. currency crisis in 1992, Orange County default in 1994, the Asian Contagion in 1997, and Russia/LTCM in 1998. Accordingly, we extracted these 15 events and decomposed the averages, observing a similar pattern.

Next, we ranked the crises in terms of severity. The beginning of World War II, the Korean War, and the Cuban Missile Crisis occupy the upper echelon of major geopolitical events for the capital markets. In retrospect, Sputnik, the Russian invasion of Afghanistan, the U.S. invasion of Grenada and Panama, and the Gorbachev Coup can be characterized as class-B events. We rated the Falklands War and the U.S. embassy bombings in Africa as class-C events.

Initial capital market reaction to U.S. political events precipitated an average 8.80% (median 6.54%) decline in the Dow, followed by a 9.98% mean recovery during the following 126 trading sessions. Interestingly, the mean reaction to geopolitical crises translated into a milder 3.99% decline or 2.25% median market selloff.

Just as initial market responses often prove misguided, proper hindsight is imperative when evaluating capital market reactions. In fairness, we are just approaching the needed perspective for September 11, 2001.



*Sixth Global Fixed Income
Capital Markets/Investment Management Workshop/Retreat
July 20-24, 2002
Aspen, Colorado*

As of June 30, 2002, all major equity markets reported losses vis-à-vis September 11, 2001, with the Dow's 3.77% decline counterbalanced by a 3.98% drop in the French CAC and -1.89% return by the FTSE (only the DAX managed a positive return, 2.55%). Two factors may be at work: a) the underlying geopolitical risk revealed by the WTC attack (i.e., global terrorism) has not been fully contained; b) additional exogenous shocks were introduced, namely a crisis in U.S. corporate governance.

The U.S. dollar's initial appreciation on the major crosses during the fourth quarter of 2001 (in part a manifestation of flight-to-quality maneuvers) withered by the second half of 2002. With respect to the euro, the U.S. dollar has lost 7.90% since September 11, 2001, reversing a 2.65% appreciation during the fourth quarter of 2001. Similarly, the greenback's 10.25% gain vis-à-vis the yen (as of December 2001) morphed into a meager 0.04% cumulative appreciation as of June 30, 2002.

The U.S. curve behaved in classical fashion during the initial weeks following the WTC attack: the 10-year rallied 26 bp from 4.84% on September 11 to 4.58% by September 30 and 2-year yields sank to 2.84% as the Fed's rapid injection of liquidity dominated the first phase of post-9/11. Accordingly, the curve steepened as the 2-30s spread pushed out 66 bp to 258 bp.

Yet the rally in major non-U.S. bellwethers was less pronounced during the second half of September 2001. By December 2001, G-7 (ex-Japan) 10-year government bond yields leapt 7-20 bp from September 11 troughs (of course, JGBs rallied 5 bp). Nine months later, the 10-year rally proved especially ephemeral, with the U.S. 10-year note only 2 bp lower on June 30 (at 4.82%) than on September 11, 2001 (4.84%).

This mild global government rebound is further evident in the Lehman Brothers Global Treasury (ex-U.S.) Index post-9/11, which produced a 3.97% annualized total return from September 11, 2001 through June 2002—a mere half of this index's average 8.27% annual return. Overall, investment-grade bond markets in the U.S. (6.36% total return) outpaced Europe (4.92%) and Asia (1.96%).

Finally, nearly all global spreads edged wider (aside from U.S. agencies and MBS) during the weeks following September 11. In particular, U.S. agencies and securitized sectors managed double-digit spread compression over the ensuing nine months. The Lehman Agency Index OAS tightened 11 bp, to 33 bp. MBS option-adjusted spreads declined 43 bp, to a 48 bp OAS on June 30, 2002 versus 9/11, whereas ABS came in 13 bp, to 76 bp, and CMBS spreads fell 22 bp, to 98 bp OAS. As very familiar to our team at



*Sixth Global Fixed Income
Capital Markets/Investment Management Workshop/Retreat
July 20-24, 2002
Aspen, Colorado*

Diamond, credit has been less constructive, albeit due more to non-geopolitical shocks. U.S. investment-grade credit spreads lofted 14 bp vis-à-vis 9/11 to 170 bp OAS, and high-yield spreads climbed 53 bp, to 768 bp. Though to a lesser extent, European (out 15 bp) and Asian (out 4 bp) investment-grade credit spreads are also wider.

II. CAPITAL MARKET PARAMETERS DURING CRISIS EPISODES AND WARS: THE LONG VIEW

Currency perturbations are always at the forefront of crises. We examined the supposed “safe haven” status of the U.S. dollar following geopolitical crises/military engagements in the post-Bretton Woods world, for which the Arab Oil Embargo of 1973 provided the first test. Our examination suggests that the dollar’s initial performance during crisis events confounds the “flight-to-quality” hypothesis. For instance, during the first month following a geopolitical crisis, the Fed’s trade-weighted dollar index declined 1.21% on average, with a higher median decline (1.61%). The dollar’s immediate reaction to major geopolitical events is ambiguous: the dollar index gained 3.53% during the first month of the Arab Oil Embargo; lost 2.55% in the first month following the Gulf War Ultimatum (December 24, 1990); and appreciated only 0.15% one month after the WTC attack. Similarly, international political/economic incidents, on average, exerted a meager 0.06% downward pressure on the dollar within one month. More importantly, the dollar index consistently gained during the ensuing 6 months only after episodes of high geopolitical risk, appreciating a maximum 4.86% by the fourth month of the crisis. Though simple averages across independent events can belie short-term currency movements, we do not discern a convincing case of dollar appreciation immediately following crisis episodes.

Despite our limited sample of full-scale wars, the dollar’s appreciation within 4 months of the conclusion of each major U.S. military engagement is noteworthy: 4.49% after the Vietnam Conflict; 8.17% following the Gulf War and 5.13% after the U.S. began bombing Afghanistan. In other words, timing the dollar after military conflicts may be crucial.

Next, we looked at the reaction of long government bonds in the U.S., U.K., France, Germany, and Japan during a broad set of geopolitical events from 1901 through June 2002, using daily yields when possible. Briefly, we found that long yields fall (as expected) on economic crises and geopolitical crises, but generalizations across episodes can be misleading.

Beginning with the Gulf War (the military conflict for which we have the best daily data), global bellwether bond yields display mixed responses. For instance, four



*Sixth Global Fixed Income
Capital Markets/Investment Management Workshop/Retreat
July 20-24, 2002
Aspen, Colorado*

months after Iraq invaded Kuwait (and U.S. intervention seemed imminent), U.S. 30-year yields had fallen 1.78%, mirrored by 20-year JGBs (1.71% decline in yield) and 30-year Gilts (-6.30%). In contrast, French and German long treasuries actually sold off, with French yields increasing by 4.36% and German yields climbing 2.73%.

In military terms, the Gulf War was relatively short-lived, but it provides the most recent lesson about how financial markets sort out winners and losers. The decade-long Vietnam Conflict may present better historical parallels for this war on terrorism. In this case, the Gulf of Tonkin incident on August 2, 1964 (and subsequent U.S. air strikes against North Vietnam) provoked little change in the U.S. 30-year (0.48% increase in yields one month after August 2, 1964) and non-dollar bellwether yields increased during the initial reaction month. Though the markets missed the significance of U.S. involvement in Vietnam, a global bond market rally coincided with the conclusion of this conflict. One month after the North Vietnamese capture of Saigon in 1975, 30-year U.S. Treasury yields fell 3.25%, matched by a 1.58% decline in U.K. Gilts and followed by a 3.49% fall in Bund yields and a 2.26% reduction in JGB yields within 2 months. Of course in fairness, the global economy was still gripped in 1975 by the aftermath of severe recession. This underscores the frequent difficulty in sorting out the effects of multiple factors in determining the value of financial assets.

How about credit spreads? Regrettably, non-U.S. spread series are rare, so we'll confine our analysis to Moody's Baa industrial spreads since 1919. Corporate spreads react quite differently to explicit military conflicts from episodic bouts of geopolitical/economic uncertainty. For instance, Baa industrial spreads tightened (at some point) during the first four months of each major U.S. military campaign and fell on average 4.81% by the fourth month. Aside from the uniqueness of U.S. involvement in Vietnam, further spread compression was evident through 6 months (a cumulative 3.74%, on average), 12 months (8.42%), and 24 months (11.89%) after initial military action in each conflict. Wartime economic production suggests one possible explanation, whereby accelerated defense-induced spending benefits industrial credits. Secondly, military success in the Gulf War and Afghanistan bombings seemed imminent almost immediately, such that the actual invasion provided a harbinger of the conflict's resolution.

Fortunately, political/economic events are more frequent than wars, but it is harder to estimate their ultimate magnitude and time-to-resolution. In addition, bouts of political uncertainty rarely accompany the defense spending characteristic of wartime. Accordingly, corporates tightened much less during geopolitical incidents (on average



*Sixth Global Fixed Income
Capital Markets/Investment Management Workshop/Retreat
July 20-24, 2002
Aspen, Colorado*

a mere 0.23% one month later), and two-thirds of political crises precipitated spread expansion. Moody's Baa industrial spreads widened an average 13.34% during the first month following a political/economic crisis (albeit the median widening was only 4.83%). More importantly, spreads continued to widen for four months after the initial market reaction.

Moving into total return space, bonds generally underperformed equities both during military conflicts and in the 12 months following the conclusion of war. We mined our global bond and equity databases for the longest total return series for the U.S., U.K., France, Germany, and Japan back to the first U.S. conflict, the War of 1812. (Yes, we did research the Hundred Years' War, but to little avail). The thesis of government bond outperformance over equities during wartime has debatable traction. In the U.S., government bonds lagged equities two-thirds of the time, on average by 21.48%. In fact, government bonds trailed equities during every major U.S. war in the 20th century, underperforming on average by an annualized 15.58%. U.K., French, and Japanese series display a similar trend, as bonds lagged equities during episodes of military conflict. Interestingly, global government bonds displayed a better record versus local equities one year prior to military engagement than during and after wartime. This suggests that the anticipation of armament may be more powerful for the "flight-to-quality" trade than the actual conflict resolution.

Please let us know if you would like us to dive deeper into the data. A concluding thought: we found this exercise fascinating. As a result, we may be better equipped to deal with future crises. But our reading of history also shows that there's no substitute for independent analysis of each event. Although there are many market similarities across crises, there are also variations. We shouldn't be guided by this data to pursue mindlessly an automatic portfolio response based on these long-term averages of market reactions to past crises.

Dennis



*Sixth Global Fixed Income
Capital Markets/Investment Management Workshop/Retreat
July 20-24, 2002
Aspen, Colorado*

To: Sarah Campbell **July 15, 2002**
From: Alvin Pearle, Head of Diamond Risk Management
Re: Aspen Offsite: Recommended Action Steps
CC: Maureen Patrick, Dennis Toffler, Samuel Weaver

As the chief risk manager for Diamond Asset Management since 1999 and as a credit analyst and debt asset manager since 1973, I've been thinking about geopolitical risks for three decades. Unfortunately, I'm not sure that I have any bulletproof advice to render to you and our senior management colleagues at Aspen.

Below, I've included several more slides for your presentation. First, I'd like to comment on several points raised in the prior e-mails on this topic.

- a) The sclerotic behavior of the global capital markets in 2002 can be attributed to many factors: corporate misbehavior, bogus accounting, the threat of trade protectionism, still lofty P/E ratios, and concern about economic/earnings growth during the second half of 2002. In my view, this high state of geopolitical risk constitutes the single biggest check. Osama bin Laden has not been brought to justice. Al Qaeda remains on the loose. The timetable to conclude the Afghanistan, or should we say Western Pakistan campaign, looks indeterminate. The U.S. seems to be preparing for a war with Iraq. A calming, never mind a resolution, of West Bank tensions looks over the horizon. How can the capital markets possibly regain their jaunty step until some of these uncertainties recede?
- b) We are "market people," not political scientists. We do not and never will have any overwhelming geopolitical expertise. However tempting and with all due respect to our economists and strategists who frequently freelance in the political area, we should refrain from major investment decisions based on our internally derived explicit or implicit assumptions about geopolitical outcomes. For example, we really don't have a very good handle on the denouement of the apparently planned U.S./Iraq conflict in 2003.
- c) We can and must overcome our current geopolitical deficiency. Just as we previously contemplated adding a demographer and a meteorologist to our staff, we should seriously consider adding a full-time geopolitical strategist to our staff. Given the part-time nature of requisite demographic and meteorological input, we concluded that a part-time consulting relationship made more economic sense. For the next several years, the urgency of this rapidly changing geopolitical environment argues though for a full-time specialist at Diamond. Historically, I am not sure that we ever placed great stock in the prognostications of outside experts. Without listening to



*Sixth Global Fixed Income
Capital Markets/Investment Management Workshop/Retreat
July 20-24, 2002
Aspen, Colorado*

- them on a regular basis, it's hard to gauge their independence and to detect their biases, which seem to be an occupational hazard. As previously stated at our 2001 offsite by you, Sarah, "The path to portfolio performance during this decade may well run right through an accurate geopolitical evaluation." Before we hire the next credit analyst and foreign exchange modeler, I think Diamond would be better served by getting some daily help on the geopolitical risk side.
- d) The list of potential crisis events supplied by Samuel Weaver is very thorough. Perhaps both for internal political correctness and given the sheer unpredictability, we didn't attempt to forecast history-altering events such as revolutions, coups, and assassinations. Unfortunately, history teaches that some of these events will materialize and affect the market. And perhaps it's just me, but we seem to take the array of current geopolitical risks as a given. What are the root causes? What are the objectives of the agents of geopolitical risks? Why exactly are Muslim fundamentalists so annoyed with the West and especially the U.S.? Why has the U.S. become such a target of animosity in some cultures?
 - e) Although our teams attempted to be globally comprehensive, the data still have a very large U.S. bias. For example, I wonder what happened to the French equity market after Dien Bien Phu on May 8, 1954? How did the Argentine equity market perform when Juan Peron fell and the military later seized power in 1955? What happened to Chilean and South American equity markets when Allende was assassinated in 1973? I could go on and on. I think that we need to undertake a more detailed study. There may be some additional lessons that we are missing.
 - f) The sketched scenarios lack precision. Perhaps thinking too much of the oil shocks in 1973-1975, 1979, and 1990, we seem to over-emphasize swings in the price of oil. In reality, the realization of each scenario would unleash a slew of forces, some countervailing, acting on the global financial system. I would feel better with more definitive global and regional economic forecasts for each scenario.
 - g) I don't have any confidence in the subjective probabilities assigned to various potential geopolitical events. For example, the Korean peninsula may stay status quo over the next 20 years, suddenly re-unify like Germany in 1989, slowly re-unify over a 5-10 year period-the preferred course by the South Korean government, or wind up in a 1950-1953 conflagration. If we are totally honest, we are literally just making up probabilities of each outcome. As shown so often in the past, like the surprise (at least to the West) at the fall of the Shah of Iran in 1979 and the U.S.S.R. in 1989, big geopolitical turns are regular events.
 - h) Given that we cannot define every geopolitical risk and assign accurate probabilities, should we just throw up our hands and forget about considering these risks



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in our portfolio processes? At one level, a cynic might suggest that our decision-making would just as well be served by regularly attending the annual cosmology conferences in Aspen and pondering the origin and fate of the universe and its implications for our investment policies. I naturally think such a laissez-faire route would be a large mistake. While we cannot predict every twist and turn in history, I believe that an understanding of the broad flows can enhance our decision-making. At present, only a hermit without media access would fail to appreciate the arrival of cloudier geopolitical risk in the early stages of this decade. From my vantage point, these clouds may be overhanging the markets for years. Perhaps befitting my role as our risk manager, this environment naturally reinforces my generic and continuous recommendation that we steer a very conservative portfolio course over the next several years. We'd rather be wrong for missing the big credit rallies than get blasted by a bout of severe spread turbulence. After all, looking back to 1997, how many early warning tremors do we really need?

- i) Naturally, some of our gymnastic portfolio managers, perhaps convinced of their clairvoyance, will insist on fx, curve, and spread timing expeditions launched on the basis of their interpretations of FT headlines and talking heads on the media. For example, in late July 2002, can we seriously doubt the intent of the Bush administration to wage a preemptive strike against Iraq's development of weapons of mass destruction? If so, why do we have any exposure to lower-quality credits, long-dated maturities, and peripheral currencies of oil-importing nations? Can we pretend to such portfolio agility that we can shift our positions around in time to prevent damage from a messy, Gulf War-style campaign? I think not. And more important, I don't think that there's any such thing as "geopolitical risk insurance." How do we economically offload credit exposure once the headlines hit? We can't. As we learned during the last four months of 1990, we are stuck with the exposure.
- j) Our analysis would benefit from the consideration of some basic principles. First, what do our clients, individual investors and plan sponsors, expect from us under these various geopolitical risk scenarios? Will Diamond be expected to outperform an index, preserve capital, or have maximum liquidity to accommodate skittish clients that might prefer cash? We would do well to spend time with our clients to get their views; otherwise, I am not sure how we can possibly plan without a concrete set of portfolio objectives. Second, would our analysis and reaction contingencies be enhanced by classifying and unbundling geopolitical risks into systematic and idiosyncratic risks? Methodologically, such an approach might help us better consider whether we should try to hedge if possible.



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- k) Finally, I am convinced that our organization would benefit from a consultation with an industrial or military psychologist to gain a better grip on the mindset of decision-makers during and immediately after a major crisis. Looking back at our experience as a New York-headquartered firm in the days and weeks after September 11, 2001, several observations stand out. Although our mid-town Manhattan premises were spared direct loss, a low-level depression permeated our firm. Work hours decreased. Many employees sought counseling. Insomnia was common. Some people lost a lot of weight. More often, some people gained weight. Irritability became common. Although everyone professed sympathy for the victims and gratitude to be spared, our annual title and compensation process was especially grueling. For our part, we did little during the first week after September 11. We checked positions, prices, and settlements as well as the TV. A relief rally was likely. But we jumped in about a week late. Our top leadership and division leadership were superb. But some of our local managers wilted, providing little guidance to their teams. Like an aircraft commander, I think that we should develop an organizational checklist of action steps to take immediately after a crisis. This checklist should be amended regularly. There's clearly work to be done. For example, how many of us have all the home telephone numbers and e-mail addresses for our teams and senior leadership nearly a year after September 11?

With these caveats, I believe that you should offer the following advice to our senior management colleagues in Aspen:

EVALUATING GEOPOLITICAL RISKS

Especially with portfolio globalization, formally incorporate into investment decision-making process

How?

- Hire full-time geopolitical analyst and subscribe to political risk consulting service
- Develop contacts with State Department and CIA
- Read publications such as Foreign Affairs and non-local media
- Insist that senior asset managers visit major regions at least annually and spend time with local central bankers
- Never invest in a country without a prior visit by some member of our investment staff
- Like military planners, conduct detailed scenario analyses drills. For example, what would Diamond Asset Management do if North Korea invaded South Korea or India/Pakistan have a nuclear exchange?



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Global Debt Portfolio Responses: No Single Formula

- At first, if possible, implement “risk aversion trades”
- Check clearance and settlements
- Recognize that the ensuing reality usually won't be as bad as some of the initial conjectures
- Cover long futures/options positions in the 10-year maturity sector and beyond; hedge spread risks if possible
- Buy short-duration Treasury paper (2-year neighborhood)
- Buy high-quality (Aa/AA above) credit paper on spread expansion; U.S. agencies and ABS especially attractive
- Regional debt managers should overweight local currency debt
- Depending on the geopolitical event, investigate the following trades after 2-4 weeks
 - Extend duration: buy the long end of yield curves
 - Buy downtrodden peripheral currencies
 - Add lower-quality spread product
 - Buy “war industry” securities

Crisis Management Checklist

Preparation

- Discuss portfolio objectives with clients if crisis occurs
- Rigorous semi-annual disaster recovery drills
- All managers should have employee home telephone numbers, e-mail and fax addresses stored at offsite locations
- Mandatory annual presentation to all employees on action steps to take in the event of a crisis

If a Crisis Hits

- Check employee safety, building and system integrity
- Senior management should strive to over-communicate: hold daily conference calls, put out intra-day e-mail bulletins to all employees as information becomes available
- Division and line management should spend extra time talking to all direct reports
- Try to avoid major portfolio decisions, other than to reduce risk
- Consult with all clients



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The Medium-Term Aftermath

- Sustain high level of communications with employees and clients
- Depending upon the magnitude of the event, be aware that organizational psychology will not return to normal for 6 months to a year. Be alert for team members who would benefit from counseling.
- Gradually restore investment decision-making processes

Recommendations

- Begin each investment policy committee with an overview of geopolitical risk
- Develop a “threat radar system” with rankings
- Using capital market history as a starting point, develop contingency plans and rehearse
- Senior asset managers should broaden their inputs:
 - Even pure U.S. asset managers would benefit from yearly visits to Asia and Europe
 - Extend international political readings
 - Join/attend sessions by international political/economic experts

Sarah, you will undoubtedly want to fine-tune some of these recommendations. I look forward to hearing your views at Aspen. Please let me know if there are any additional ways that I can help your presentation.

Alvin



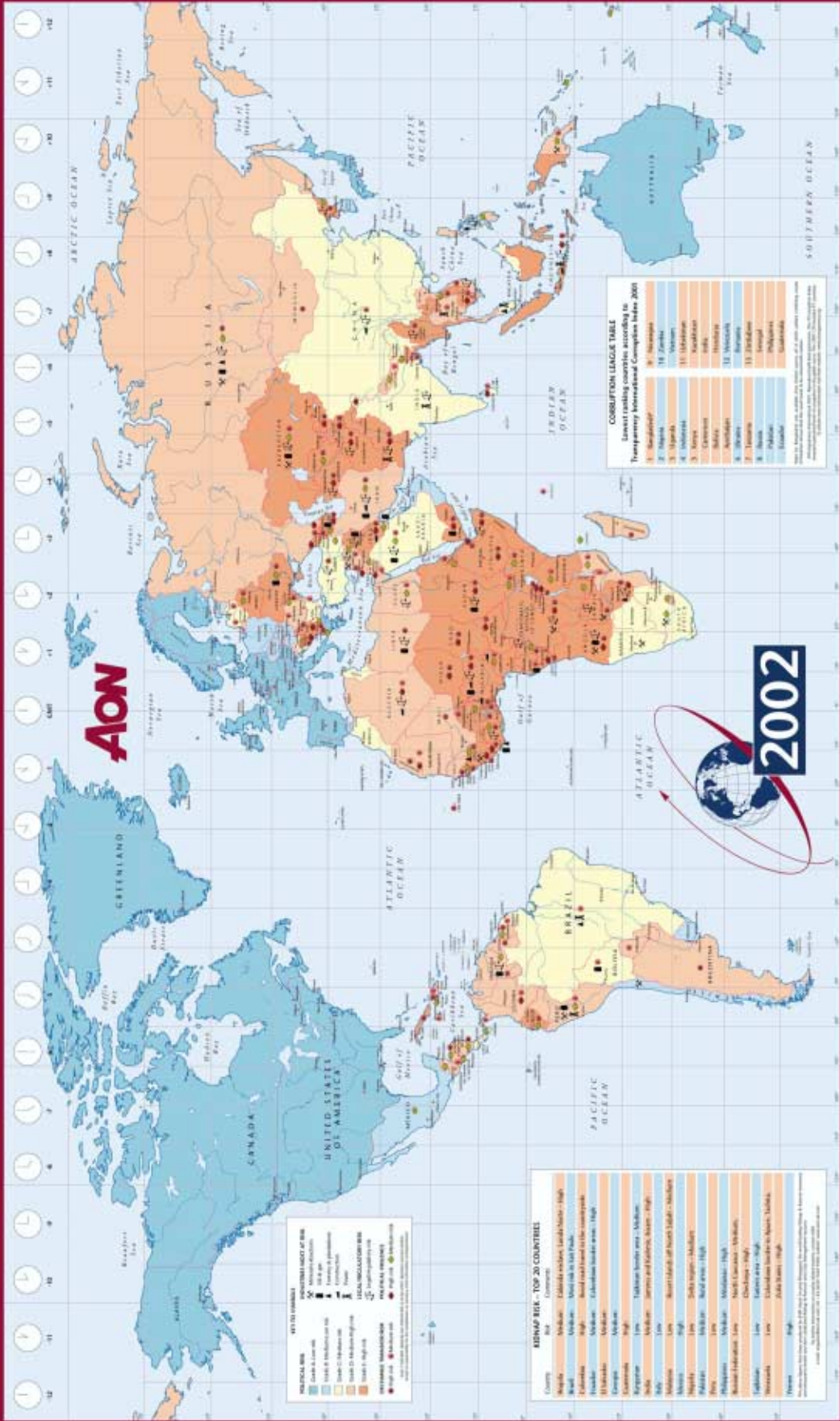
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CASE QUESTIONS

- 1) How will history define the early 21st century: a period of intermittent crisis or, like the early 20th century, a prelude to a vast restructuring of the geopolitical landscape?
- 2) Have the global capital markets become more susceptible to changes in geopolitical risks? If so, should financial institutions devote more resources to considering the implications of geopolitical risks?
- 3) Has Sarah's team defined too many or too few geopolitical risk scenarios in this case? How should institutions identify geopolitical risks? How can institutions do a better job of evaluating geopolitical risks?
- 4) Should asset managers strive to assign subjective probabilities to geopolitical risks? If so, how?
- 5) Especially in the case of awful geopolitical events such as the use of weapons of mass destruction, do ex ante economic and market forecasts have any reliability?
- 6) Do you concur with the likely market effects under the multiple geopolitical risk scenarios presented in this case? What are the potential geopolitical risk surprises?
- 7) Given their unpredictability, should asset managers just ignore geopolitical risks? If not, how can asset managers incorporate geopolitical risks into a coherent portfolio strategy? Do equity markets do a better job than debt markets in dealing with geopolitical risks? Is there any such thing as geopolitical risk insurance?
- 8) Has Sarah's team adequately considered the psychological consequences for the markets and her team of challenging geopolitical risks?
- 9) In a prolonged era of heightened geopolitical risks, will the global financial system be characterized by regular instabilities with attendant major valuation swings? If so, should asset managers generally aim for more conservative performance targets?
- 10) Do you think Sarah's colleagues at the Aspen offsite will be comfortable with her recommendations? If you were Sarah, what additional research would you like to see?

GLOBAL POLITICAL RISK

AON



KEY TO SYMBOLS

- Political Risk:
 - Green: Low risk
 - Yellow: Medium risk
 - Orange: High risk
 - Red: Very high risk
- Other symbols:
 - Star: Capital city
 - Circle: Major city
 - Square: International airport
 - Triangle: Seaport
 - Diamond: Nuclear power
 - Hexagon: Military presence
 - Circle with cross: High corruption
 - Square with cross: High unemployment
 - Circle with dot: High inflation
 - Triangle with dot: High unemployment
 - Diamond with dot: High inflation
 - Hexagon with dot: High unemployment
 - Circle with cross and dot: High corruption and high unemployment
 - Square with cross and dot: High corruption and high unemployment
 - Triangle with cross and dot: High corruption and high unemployment
 - Diamond with cross and dot: High corruption and high unemployment
 - Hexagon with cross and dot: High corruption and high unemployment

BRISQ RISK - TOP 20 COUNTRIES

| Country | Risk | Comments |
|------------------------|--------|-----------------------------|
| Belgium | Medium | Global market leader - High |
| Denmark | Low | Global market leader - High |
| France | High | Global market leader - High |
| Germany | Low | Global market leader - High |
| Italy | High | Global market leader - High |
| Japan | Low | Global market leader - High |
| UK | Low | Global market leader - High |
| USA | Low | Global market leader - High |
| Canada | Low | Global market leader - High |
| China | High | Global market leader - High |
| India | High | Global market leader - High |
| Russia | High | Global market leader - High |
| South Africa | High | Global market leader - High |
| Brazil | High | Global market leader - High |
| Argentina | High | Global market leader - High |
| Mexico | High | Global market leader - High |
| Colombia | High | Global market leader - High |
| Peru | High | Global market leader - High |
| Chile | High | Global market leader - High |
| Venezuela | High | Global market leader - High |
| Iran | High | Global market leader - High |
| Cuba | High | Global market leader - High |
| Nigeria | High | Global market leader - High |
| South Korea | High | Global market leader - High |
| Indonesia | High | Global market leader - High |
| Malaysia | High | Global market leader - High |
| Thailand | High | Global market leader - High |
| Philippines | High | Global market leader - High |
| Singapore | High | Global market leader - High |
| Hong Kong | High | Global market leader - High |
| Taiwan | High | Global market leader - High |
| South Korea | High | Global market leader - High |
| Japan | High | Global market leader - High |
| USA | High | Global market leader - High |
| Canada | High | Global market leader - High |
| UK | High | Global market leader - High |
| France | High | Global market leader - High |
| Germany | High | Global market leader - High |
| Italy | High | Global market leader - High |
| Spain | High | Global market leader - High |
| Portugal | High | Global market leader - High |
| Greece | High | Global market leader - High |
| Turkey | High | Global market leader - High |
| Poland | High | Global market leader - High |
| Czech Republic | High | Global market leader - High |
| Slovakia | High | Global market leader - High |
| Hungary | High | Global market leader - High |
| Slovenia | High | Global market leader - High |
| Croatia | High | Global market leader - High |
| Serbia | High | Global market leader - High |
| Bosnia and Herzegovina | High | Global market leader - High |
| Montenegro | High | Global market leader - High |
| Albania | High | Global market leader - High |
| Moldova | High | Global market leader - High |
| Romania | High | Global market leader - High |
| Bulgaria | High | Global market leader - High |
| Greece | High | Global market leader - High |
| Turkey | High | Global market leader - High |
| Cyprus | High | Global market leader - High |
| Armenia | High | Global market leader - High |
| Georgia | High | Global market leader - High |
| Ukraine | High | Global market leader - High |
| Belarus | High | Global market leader - High |
| Lithuania | High | Global market leader - High |
| Latvia | High | Global market leader - High |
| Estonia | High | Global market leader - High |
| Finland | High | Global market leader - High |
| Sweden | High | Global market leader - High |
| Norway | High | Global market leader - High |
| Denmark | High | Global market leader - High |
| Iceland | High | Global market leader - High |
| Malta | High | Global market leader - High |
| Cyprus | High | Global market leader - High |
| San Marino | High | Global market leader - High |
| Vatican City | High | Global market leader - High |
| Monaco | High | Global market leader - High |
| Liechtenstein | High | Global market leader - High |
| Andorra | High | Global market leader - High |
| San Marino | High | Global market leader - High |
| Vatican City | High | Global market leader - High |
| Monaco | High | Global market leader - High |
| Liechtenstein | High | Global market leader - High |
| Andorra | High | Global market leader - High |

CORRUPTION LEAGUE TABLE
 Worst ranking countries according to Transparency International Corruption Index 2002

| | |
|----|-------------|
| 1 | North Korea |
| 2 | North Korea |
| 3 | North Korea |
| 4 | North Korea |
| 5 | North Korea |
| 6 | North Korea |
| 7 | North Korea |
| 8 | North Korea |
| 9 | North Korea |
| 10 | North Korea |
| 11 | North Korea |
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| 38 | North Korea |
| 39 | North Korea |
| 40 | North Korea |
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| 44 | North Korea |
| 45 | North Korea |
| 46 | North Korea |
| 47 | North Korea |
| 48 | North Korea |
| 49 | North Korea |
| 50 | North Korea |

EUROMONEY
Reactions

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Figure A1. U.S. Equity Reactions to Various Crises, 1916 through June 2002

| Crisis Grade | Event | Market Reaction Dates | Date Range Gain/Loss (%) | Cumulative Dow Jones Industrial Performance After Reaction Dates* (%) | | |
|---|--|-----------------------|--------------------------|---|---------|----------|
| | | | | 22 Days | 63 Days | 126 Days |
| Geopolitical Crisis | | | | | | |
| A | Pearl Harbor | 12/06/1941-12/10/1941 | -5.94 | 1.79 | -2.29 | -10.04 |
| A | Korean War | 6/23/1950-7/13/1950 | -11.99 | 7.70 | 13.68 | 15.96 |
| A | Cuban Missile Crisis | 10/19/1962-10/27/1962 | -0.74 | 10.89 | 14.48 | 15.94 |
| A | Gulf of Tonkin Incident | 8/2/1964-8/7/1964 | -1.42 | 1.20 | 5.90 | 4.24 |
| A | Arab Oil Embargo | 10/18/1973-12/05/1973 | -17.86 | 7.95 | 4.61 | 7.03 |
| A | Gulf War Ultimatum | 12/24/1990-1/16/1991 | -4.29 | 12.03 | 14.47 | 16.00 |
| A | Attack on World Trade Center and Pentagon | 9/11/01-9/30/01 | -7.89 | 5.98 | 11.35 | 11.98 |
| B | Fall of France | 5/09/1940-6/22/1940 | -17.25 | -0.80 | 2.23 | 6.97 |
| B | France Falls at Dien Bien Phu | 3/13/1954-5/8/1954 | 6.51 | 1.86 | 6.05 | 8.21 |
| B | Sputnik | 10/03/1957-10/22/1957 | -9.88 | 2.45 | 2.22 | 4.07 |
| B | Soviet Tanks Invade Prague | 8/20/1968-10/28/1968 | 7.77 | 0.94 | -1.32 | -5.13 |
| B | Iranian Revolution | 1/16/1979-2/11/1979 | -1.58 | 0.60 | 5.85 | 2.54 |
| B | U.S.S.R. Invasion of Afghanistan | 12/24/1979-1/03/1980 | -2.25 | 6.80 | 0.95 | -0.62 |
| B | U.S. Invades Grenada | 10/24/1983-11/07/1983 | -2.73 | 5.96 | 5.88 | -4.90 |
| B | Invasion of Panama | 12/15/1989-12/20/1989 | -1.88 | 2.71 | -3.88 | -0.80 |
| B | Gorbachev Coup | 8/16/1991-8/19/1991 | -2.36 | 2.92 | 5.60 | 4.30 |
| C | Easter Rebellion in Ireland | 4/14/1916-6/30/1916 | -2.24 | -0.47 | 1.80 | 18.64 |
| C | U.S. Bombs Cambodia | 4/29/1970-5/26/1970 | -14.41 | 11.65 | 15.89 | 20.55 |
| C | Falkland Islands War | 4/01/1982-5/07/1982 | 4.32 | -5.71 | -6.34 | 4.33 |
| C | U.S. Bombs Libya | 4/15/1986-4/21/1986 | 2.56 | -3.80 | 0.45 | 0.86 |
| C | U.S. Embassy Bombings in Nairobi and Dar es Salaam | 8/07/1998-8/10/1998 | -0.27 | -8.72 | -6.69 | 1.41 |
| Political/Economic Crisis | | | | | | |
| 1 | U.S. Stock Market Crash of 1907 | 10/28/1929-10/29/1929 | -11.73 | 4.85 | 8.00 | 18.88 |
| 1 | Truman Upset Victory | 11/02/1948-11/10/1948 | -8.34 | -0.19 | 3.89 | 0.90 |
| 1 | Eisenhower Heart Attack | 9/23/1955-9/26/1955 | -6.54 | -1.53 | 5.58 | 2.63 |
| 1 | JFK Assassination | 11/21/1963-11/22/1963 | -2.89 | 6.84 | 10.06 | 14.68 |
| 1 | Kent State Shootings | 5/04/1970-5/14/1970 | -4.17 | 1.50 | 5.64 | 10.64 |
| 1 | Nixon Resigns | 8/9/1974-8/29/1974 | -15.50 | 2.12 | 1.32 | -3.78 |
| 1 | Hunt Silver Crisis | 2/13/1980-3/27/1980 | -15.92 | 0.45 | 11.35 | 23.07 |
| 1 | U.S. Stock Market Crash of 1987 | 10/02/1987-10/19/1987 | -34.16 | 8.02 | 14.47 | 17.34 |
| 1 | World Trade Center Bombing | 2/26/1993-3/1/1993 | -0.46 | 3.17 | 2.71 | 3.83 |
| 1 | Orange County, CA Bankruptcy & Financial Crisis | 12/06/1994-12/31/1994 | 2.36 | 0.91 | 4.05 | 13.27 |
| 1 | Oklahoma City Bombing | 4/19/1995-4/20/1995 | 0.55 | 4.73 | 8.49 | 8.27 |
| 2 | Bloody Sunday (N. Ireland) | 11/21/1920-11/30/1920 | 3.99 | -11.86 | -0.74 | 0.16 |
| 2 | Earthquake in Tokyo | 9/1/1923-9/15/1923 | -4.10 | -0.25 | 0.78 | 7.42 |
| 2 | Riots and Labor Strike in France | 5/6/1968-5/26/1968 | -2.10 | 0.91 | -0.76 | 4.30 |
| 2 | ERM U.K. Currency Crisis | 9/14/1992-10/16/1992 | -5.98 | 2.07 | 4.37 | 4.66 |
| 2 | Poison Gas Attack in Tokyo Subway | 3/20/1995-3/21/1995 | -0.27 | 3.07 | 8.93 | 15.76 |
| 2 | Terrorist Attack in Paris Metro | 7/25/1995-7/26/1995 | -0.16 | -1.62 | 1.17 | 8.47 |
| 2 | Mexico - Tequila Crisis | 12/19/1994-12/31/1995 | 34.99 | 2.00 | 8.20 | 7.05 |
| 2 | Asian Stock Market Crisis | 10/07/1997-10/27/1997 | -12.44 | 6.84 | 8.82 | 19.40 |
| 2 | Russian LTCM Crisis | 8/18/1998-10/08/1998 | -11.28 | 11.13 | 14.35 | 21.10 |
| Overall | | | | | | |
| | Mean | | -4.34 | 2.61 | 5.16 | 7.80 |
| | Median | | -2.73 | 2.07 | 5.58 | 7.03 |
| Geopolitical Risk | | | | | | |
| | Mean | | -3.99 | 3.04 | 4.33 | 5.79 |
| | Median | | -2.25 | 2.45 | 4.61 | 4.30 |
| Political Risk | | | | | | |
| | Mean | | -4.71 | 2.16 | 6.03 | 9.90 |
| | Median | | -4.13 | 2.03 | 5.61 | 8.37 |
| High Geopolitical Risk (A) | | | | | | |
| | Mean | | -7.16 | 6.79 | 8.89 | 8.73 |
| | Median | | -5.94 | 7.70 | 11.35 | 11.98 |
| Medium Geopolitical Risk (B) | | | | | | |
| | Mean | | -2.63 | 2.60 | 2.62 | 1.63 |
| | Median | | -2.25 | 2.45 | 2.23 | 2.54 |
| Low Geopolitical Risk (C) | | | | | | |
| | Mean | | -2.01 | -1.41 | 1.02 | 9.16 |
| | Median | | -0.27 | -3.80 | 0.45 | 4.33 |
| U.S. Political/Economic Crisis (1) | | | | | | |
| | Mean | | -8.80 | 2.81 | 6.87 | 9.98 |
| | Median | | -6.54 | 2.12 | 5.64 | 10.64 |
| Non-U.S. Political/Economic Crisis (2) | | | | | | |
| | Mean | | 0.30 | 1.36 | 5.01 | 9.81 |
| | Median | | -2.10 | 2.00 | 4.37 | 7.42 |

* Days = Market days.

Sources: Ned Davis Research and Lehman Brothers Research.

Crisis Code Key: A = High Geopolitical Risk; B = Medium Geopolitical Risk; C = Low Geopolitical Risk; 1 = U.S. Political Crisis; 2 = Non-U.S. Political Crisis.

Figure A2. **Global Capital Market Parameters**, September 11, 2001, through June 30, 2002

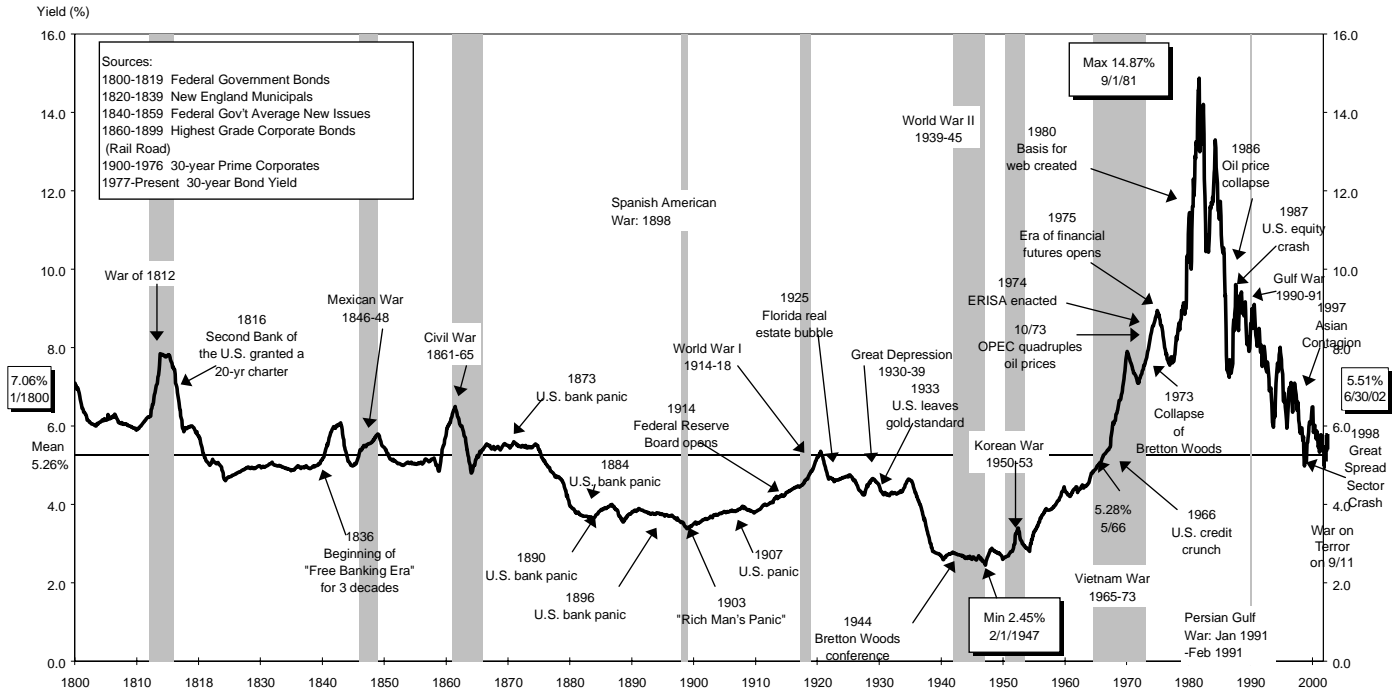
| | 9/11/01 | 9/30/01 | 12/31/01 | 1/31/02 | 2/28/02 | 3/31/02 | 4/30/02 | 5/31/02 | 6/30/02 | Change (bp) | |
|---|---------|---------|----------|---------|---------|---------|---------|---------|---------|--|--------------------|
| | | | | | | | | | | 12/31/01 vs 9/11/01 | 6/30/02 vs 9/11/01 |
| U.S. Treasury Bellwethers (%) | | | | | | | | | | | |
| 2-Year | 3.52 | 2.84 | 3.05 | 3.15 | 3.05 | 3.73 | 3.22 | 3.21 | 2.82 | -47 | -70 |
| 5-Year | 4.33 | 3.79 | 4.34 | 4.37 | 4.18 | 4.83 | 4.41 | 4.36 | 4.05 | 1 | -28 |
| 10-Year | 4.84 | 4.58 | 5.04 | 5.03 | 4.87 | 5.42 | 5.09 | 5.05 | 4.82 | 20 | -2 |
| 30-Year | 5.44 | 5.42 | 5.48 | 5.43 | 5.42 | 5.82 | 5.60 | 5.62 | 5.52 | 4 | 8 |
| 10-Year TIPS | 3.25 | 3.14 | 3.55 | 3.43 | 3.23 | 3.31 | 3.11 | 3.06 | 3.07 | 29 | -18 |
| 30-Year TIPS | 3.37 | 3.45 | 3.45 | 3.46 | 3.30 | 3.40 | 3.26 | 3.18 | 3.08 | 8 | -29 |
| 2s-10s Spread (bp) | 132 | 174 | 199 | 188 | 182 | 169 | 187 | 184 | 200 | 67 | 68 |
| 2s-30s Spread (bp) | 192 | 258 | 243 | 228 | 237 | 209 | 237 | 241 | 270 | 51 | 78 |
| Non-Dollar 10-Year Bellwethers (%) | | | | | | | | | | | |
| Canada | 5.23 | 5.34 | 5.36 | 5.44 | 5.34 | 5.79 | 5.62 | 5.50 | 5.43 | 12 | 20 |
| France | 4.94 | 4.90 | 5.06 | 4.98 | 5.04 | 5.31 | 5.21 | 5.25 | 5.00 | 13 | 7 |
| Germany | 4.85 | 4.79 | 4.99 | 4.90 | 4.96 | 5.24 | 5.12 | 5.16 | 4.94 | 14 | 9 |
| Italy | 5.17 | 5.15 | 5.24 | 5.17 | 5.23 | 5.49 | 5.37 | 5.39 | 5.16 | 7 | -1 |
| Japan | 1.42 | 1.41 | 1.37 | 1.48 | 1.53 | 1.39 | 1.37 | 1.39 | 1.31 | -5 | -11 |
| U.K. | 4.90 | 4.87 | 5.05 | 4.88 | 4.98 | 5.29 | 5.19 | 5.25 | 5.03 | 16 | 13 |
| Australia | 5.63 | 5.53 | 6.01 | 6.01 | 5.95 | 6.32 | 6.08 | 6.26 | 6.06 | 38 | 43 |
| Korea | 6.35 | 6.04 | 7.01 | 7.12 | 6.87 | 7.28 | 7.23 | 6.90 | 6.68 | 67 | 33 |
| World Equity Indices (in local currency terms) | | | | | | | | | | | |
| | | | | | | | | | | Change (%) | |
| Dow Jones Industrial Avg | 9,606 | 8,848 | 10,022 | 9,920 | 10,106 | 10,404 | 9,946 | 9,925 | 9,243 | 4.33 | -3.77 |
| S&P 500 | 1,093 | 1,041 | 1,148 | 1,130 | 1,107 | 1,147 | 1,077 | 1,067 | 990 | 5.08 | -9.40 |
| NASDAQ Composite | 1,695 | 1,499 | 1,950 | 1,934 | 1,731 | 1,845 | 1,688 | 1,616 | 1,463 | 15.04 | -13.69 |
| TOPIX | 1,058 | 1,023 | 1,032 | 972 | 1,014 | 1,060 | 1,082 | 1,120 | 1,025 | -2.46 | -3.14 |
| Korean Composite | 541 | 480 | 694 | 748 | 820 | 896 | 842 | 796 | 743 | 28.33 | 37.40 |
| Hang Seng Stock | 10,417 | 9,951 | 11,397 | 10,725 | 10,483 | 11,033 | 11,498 | 11,302 | 10,599 | 9.41 | 1.74 |
| Kuala Lumpur Composite | 691 | 615 | 696 | 719 | 709 | 756 | 794 | 742 | 725 | 0.80 | 5.05 |
| Nikkei 225 | 10,293 | 9,775 | 10,543 | 9,998 | 10,588 | 11,025 | 11,493 | 11,764 | 10,622 | 2.43 | 3.20 |
| Australian All Ordinaries | 3,183 | 2,988 | 3,360 | 3,404 | 3,359 | 3,363 | 3,300 | 3,325 | 3,163 | 5.55 | -0.63 |
| U.K. FTSE 100 | 4,746 | 4,903 | 5,217 | 5,165 | 5,101 | 5,272 | 5,166 | 5,085 | 4,656 | 9.93 | -1.89 |
| German DAX (Xetra) | 4,274 | 4,308 | 5,160 | 5,108 | 5,039 | 5,397 | 5,041 | 4,818 | 4,383 | 20.75 | 2.55 |
| French CAC 40 | 4,060 | 4,079 | 4,625 | 4,462 | 4,463 | 4,688 | 4,463 | 4,275 | 3,898 | 13.91 | -3.98 |
| Russian RTS | 206 | 180 | 260 | 288 | 291 | 351 | 386 | 391 | 354 | 26.16 | 71.63 |
| Argentine Merval | 272 | 244 | 295 | 439 | 398 | 436 | 388 | 318 | 351 | 8.46 | 28.75 |
| Brazilian Bovespa | 10,828 | 10,636 | 13,578 | 12,721 | 14,033 | 13,255 | 13,085 | 12,861 | 11,139 | 25.39 | 2.87 |
| Mexican Bolsa | 5,531 | 5,404 | 6,372 | 6,928 | 6,734 | 7,362 | 7,481 | 7,032 | 6,461 | 15.21 | 16.81 |
| Selected Currency Rates (per USD) | | | | | | | | | | | |
| | | | | | | | | | | Appreciation of USD Relative to Curr (%) | |
| Japanese Yen | 119.42 | 119.56 | 131.66 | 134.68 | 133.36 | 132.73 | 128.54 | 124.22 | 119.47 | 10.25 | 0.04 |
| Euro* | 0.913 | 0.911 | 0.890 | 0.859 | 0.869 | 0.872 | 0.901 | 0.934 | 0.991 | 2.65 | -7.90 |
| British Pound* | 1.476 | 1.474 | 1.455 | 1.411 | 1.417 | 1.426 | 1.458 | 1.455 | 1.534 | 1.49 | -3.73 |
| Canadian Dollar | 1.565 | 1.579 | 1.593 | 1.589 | 1.602 | 1.595 | 1.568 | 1.528 | 1.517 | 1.80 | -3.04 |
| Australian Dollar* | 0.522 | 0.491 | 0.509 | 0.508 | 0.518 | 0.533 | 0.538 | 0.567 | 0.563 | 2.41 | -7.40 |
| New Zealand Dollar* | 0.433 | 0.407 | 0.417 | 0.416 | 0.422 | 0.440 | 0.447 | 0.481 | 0.487 | 3.94 | -11.13 |
| Danish Krone | 8.135 | 8.161 | 8.348 | 8.650 | 8.550 | 8.533 | 8.257 | 7.957 | 7.492 | 2.62 | -7.90 |
| Swedish Krona | 10.495 | 10.686 | 10.481 | 10.652 | 10.429 | 10.359 | 10.251 | 9.743 | 9.160 | -0.14 | -12.73 |
| Brazilian Real | 2.664 | 2.670 | 2.311 | 2.413 | 2.364 | 2.325 | 2.361 | 2.513 | 2.818 | -13.27 | 5.76 |
| Mexican Peso | 9.515 | 9.514 | 9.158 | 9.148 | 9.119 | 9.035 | 9.395 | 9.645 | 9.947 | -3.76 | 4.53 |
| Thai Baht | 44.40 | 44.51 | 44.21 | 44.06 | 43.67 | 43.50 | 43.24 | 42.34 | 41.51 | -0.43 | -6.51 |
| South Korean Won | 1,283.5 | 1,304.5 | 1,313.5 | 1,311.5 | 1,318.0 | 1,327.0 | 1,294.1 | 1,221.5 | 1,201.3 | 2.34 | -6.40 |
| Indonesian Rupiah | 9,090 | 9,715 | 10,400 | 10,313 | 10,151 | 9,825 | 9,330 | 8,830 | 8,713 | 14.41 | -4.15 |
| Selected Currency Rates (per Euro) | | | | | | | | | | | |
| | | | | | | | | | | Appreciation of EUR Relative to Curr (%) | |
| Japanese Yen | 109.04 | 108.97 | 117.11 | 115.73 | 115.93 | 115.70 | 115.75 | 116.05 | 118.44 | 7.40 | 8.62 |
| Selected Currency Rates (per GBP) | | | | | | | | | | | |
| | | | | | | | | | | Appreciation of GBP Relative to Curr (%) | |
| Euro | 1.617 | 1.618 | 1.635 | 1.642 | 1.631 | 1.636 | 1.619 | 1.558 | 1.547 | 1.14 | -4.33 |
| Japanese Yen | 176.30 | 176.27 | 191.51 | 190.01 | 189.02 | 189.26 | 187.41 | 180.78 | 183.21 | 8.63 | 3.92 |

* U.S. dollar/non-U.S. currency.

Figure A3. **Option-Adjusted Spreads (bp) for Select Lehman Indices**, September 10, 2001, through June 30, 2002

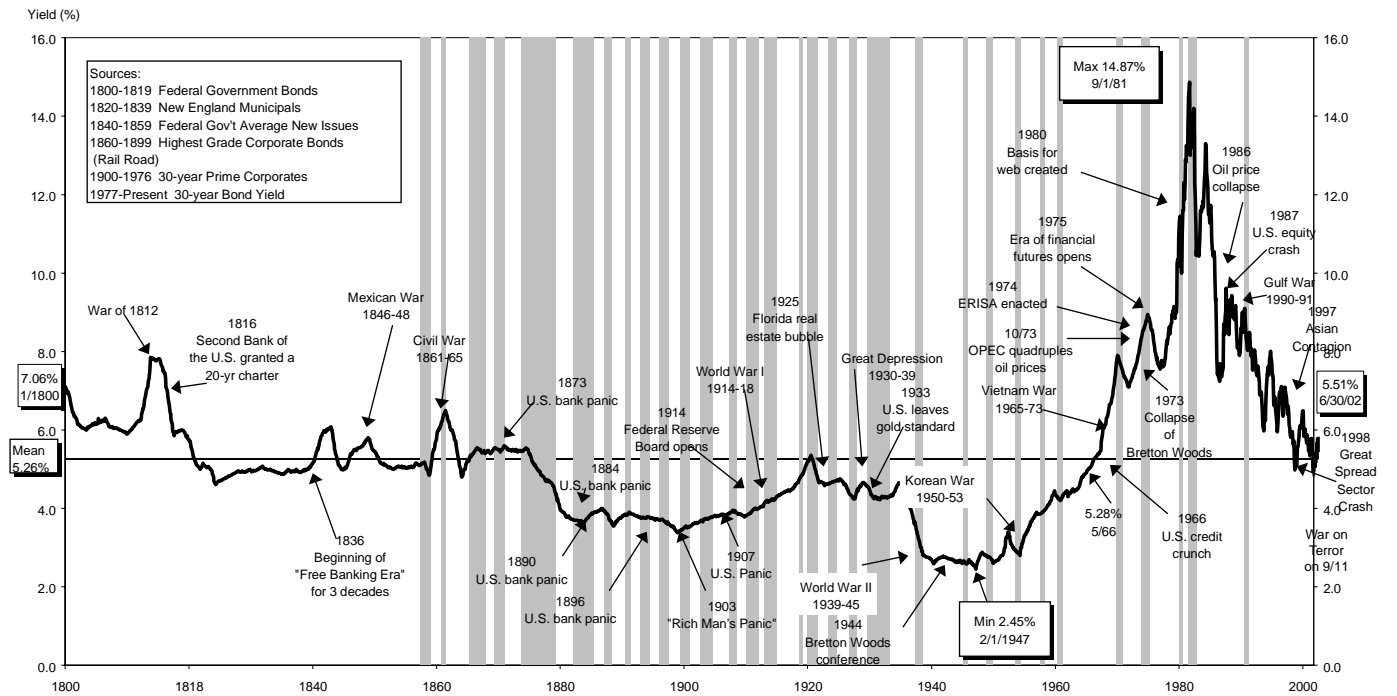
| | 9/10/01 | Sep 01 | Dec 01 | Jan 02 | Feb 02 | Mar 02 | Apr 02 | May 02 | Jun 02 | Change in OAS (bp) | |
|--------------------------------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------------------|---------------|
| | | | | | | | | | | 12/31/01 | 6/30/02 |
| | | | | | | | | | | vs 9/10/01 | vs 9/10/01 |
| Multiverse | 70 | 74 | 69 | 69 | 68 | 62 | 63 | 62 | 68 | -1 | -2 |
| Global Aggregate | 43 | 43 | 42 | 42 | 42 | 39 | 40 | 36 | 39 | -1 | -4 |
| Global Governments (Excl U.S.) | 4 | 4 | 1 | 3 | 2 | 2 | 2 | 2 | 2 | -2 | -2 |
| U.S. Universal | 131 | 138 | 121 | 117 | 114 | 104 | 107 | 106 | 117 | -10 | -14 |
| U.S. Aggregate | 82 | 83 | 78 | 76 | 74 | 68 | 71 | 64 | 70 | -5 | -13 |
| U.S. Agency | 43 | 36 | 40 | 38 | 37 | 35 | 32 | 35 | 33 | -4 | -11 |
| U.S. MBS | 91 | 73 | 71 | 68 | 62 | 51 | 50 | 46 | 48 | -20 | -43 |
| U.S. ABS | 89 | 97 | 95 | 88 | 86 | 80 | 76 | 76 | 76 | 6 | -13 |
| U.S. Investment-Grade CMBS | 119 | 132 | 122 | 114 | 107 | 99 | 95 | 97 | 98 | 3 | -22 |
| U.S. Investment-Grade Credit | 156 | 185 | 164 | 161 | 165 | 157 | 172 | 149 | 170 | 8 | 14 |
| 144-A: Investment Grade | 196 | 233 | 205 | 205 | 200 | 190 | 204 | 200 | 230 | 9 | 34 |
| Eurodollar | 90 | 97 | 93 | 91 | 96 | 92 | 102 | 87 | 99 | 3 | 10 |
| U.S. Corporate High Yield | 715 | 899 | 728 | 701 | 731 | 627 | 626 | 666 | 768 | 13 | 53 |
| Emerging Markets | 773 | 880 | 630 | 603 | 502 | 469 | 480 | 572 | 729 | -143 | -44 |
| Pan-European Aggregate | 25 | 28 | 18 | 21 | 22 | 21 | 22 | 22 | 25 | -6 | 0 |
| Euro-Aggregate | 23 | 26 | 20 | 21 | 21 | 20 | 21 | 21 | 24 | -4 | 1 |
| Pan-European Credit | 76 | 89 | 73 | 74 | 78 | 73 | 78 | 77 | 91 | -3 | 15 |
| Pan-European High Yield | 1113 | 1373 | 1133 | 1125 | 1218 | 1056 | 1017 | 985 | 1054 | 20 | -59 |
| Asian Pacific Aggregate | 6 | 6 | 6 | 5 | 6 | 6 | 5 | 5 | 5 | 1 | 0 |
| Asian-Pacific Credit | 29 | 29 | 33 | 33 | 39 | 39 | 34 | 33 | 33 | 4 | 4 |

Figure A4. A History of Long-Term Monthly U.S. Interest Rates During U.S. and World Military Conflicts
1800 through June 30, 2002



* Shaded areas denote military conflicts since January 1800.

Figure A5. A History of Long-term U.S. Interest Rates and Thirty-Two U.S. Business Cycles
1800 through June 30, 2002



* Shaded areas denote military conflicts since January 1800.

Figure A6. Historical Total Returns of U.S., U.K., French, German and Japanese Bonds and Equities During Periods of War, 1812 to June 2002

| | Start | End | Total Return (%) 1 Year Before | | | | | Annualized Total Return (%) During | | | | | Total Return (%) 1 Year After | | | | |
|--|----------------|---------------|--------------------------------|--------------|---------------|---------------|--------------|------------------------------------|---------------|---------------|---------------|---------------|-------------------------------|---------------|---------------|---------------|---------------|
| | | | U.S. | U.K. | France | Germany | Japan | U.S. | U.K. | France | Germany | Japan | U.S. | U.K. | France | Germany | Japan |
| Bonds | | | | | | | | | | | | | | | | | |
| War of 1812 | June 19, 1812 | Feb 17, 1815 | 4.87 | -0.20 | 16.03 | - | - | 4.88 | 2.39 | 9.32 | - | - | 8.89 | 14.76 | 6.74 | - | - |
| Mexican American War | May 13, 1846 | Feb 2, 1848 | 5.41 | 5.99 | 9.26 | - | - | 3.86 | 6.00 | 11.01 | - | - | 5.73 | -0.50 | 6.59 | - | - |
| Crimean War | March 27, 1854 | Feb 25, 1856 | 5.79 | -5.14 | -14.14 | - | - | 3.05 | 3.06 | 9.77 | - | - | 4.10 | 5.66 | 0.32 | - | - |
| U.S. Civil War | April 12, 1861 | April 9, 1865 | 1.36 | 0.26 | 3.39 | - | - | 7.85 | 3.12 | 4.22 | - | - | 5.30 | -1.53 | 4.21 | - | - |
| Franco Prussian War | July 15, 1870 | Jan 28, 1871 | 3.95 | 3.41 | 7.41 | - | - | 1.65 | 3.07 | -40.42 | - | - | 4.54 | 3.28 | 11.84 | - | - |
| Spanish American War | April 25, 1898 | Dec 10, 1898 | 2.97 | 2.30 | 4.40 | - | 45.95 | 4.95 | 0.84 | 1.10 | - | 7.72 | 4.18 | -6.46 | -0.05 | - | 2.83 |
| Boer War | Oct 11, 1899 | May 31, 1902 | 3.71 | -2.40 | 1.26 | - | 6.37 | 3.60 | -0.56 | 3.41 | - | 6.09 | 2.39 | 9.09 | -1.30 | - | 7.05 |
| Russo Japanese War | Feb 8, 1904 | Sep 6, 1905 | 2.73 | 6.61 | 0.76 | - | -10.05 | 3.12 | 4.24 | 4.31 | - | 18.30 | 2.47 | -0.87 | -0.54 | - | 1.90 |
| World War I | Apr 6, 1917 | Nov 11, 1918 | 2.92 | 4.85 | 2.35 | - | 3.21 | 3.47 | -0.43 | -1.61 | - | 4.69 | -3.45 | -11.81 | 0.20 | - | 1.66 |
| World War II | Dec 7, 1941 | Aug 14, 1945 | 3.44 | 11.99 | 16.80 | 4.93 | 5.18 | 3.16 | 4.61 | 4.47 | 4.66 | 4.80 | 3.16 | 14.61 | -4.54 | 2.05 | 3.75 |
| Korean War | Jun 25, 1950 | Jul 27, 1953 | 4.49 | -10.83 | -1.77 | 6.26 | 6.46 | -1.47 | -0.31 | 5.08 | 5.73 | 5.64 | 12.86 | 16.34 | 5.68 | 3.33 | 1.70 |
| Vietnam | Aug 4, 1964 | Jan 27, 1973 | 2.32 | -4.77 | 5.68 | 4.71 | 1.68 | 2.28 | 2.17 | 3.56 | 5.71 | 10.62 | 5.33 | -14.52 | -3.95 | 3.40 | -10.20 |
| Arab Israeli War | Jun 5, 1967 | Jun 10, 1967 | 3.43 | 10.89 | 2.77 | 16.91 | 18.18 | -31.64 | -21.55 | -15.93 | 1.69 | 7.10 | 1.34 | -3.92 | 5.99 | 9.94 | 6.07 |
| Yom Kippur War | Oct 6, 1973 | Oct 25, 1973 | 4.47 | -8.50 | -2.63 | -0.30 | -0.99 | 10.43 | 51.65 | 2.81 | 16.96 | -0.09 | 4.17 | -18.29 | -0.54 | 3.71 | -3.51 |
| Falkland Islands | Apr 1, 1982 | May 7, 1982 | 11.35 | 10.49 | 8.53 | 12.07 | 10.11 | 11.02 | 10.93 | 28.34 | 6.48 | -3.94 | 24.91 | 41.14 | 27.28 | 14.41 | 11.69 |
| Gulf War | Jan 16, 1991 | Feb 26, 1991 | 8.55 | 9.56 | 6.85 | 2.32 | 1.10 | 10.03 | 40.07 | 40.88 | 24.90 | 15.82 | 12.10 | 14.58 | 11.10 | 10.03 | 11.52 |
| War on Terror | Sep 11, 2001 | | 11.27 | 7.34 | 8.50 | 8.14 | 5.35 | 4.04 | 1.23 | 2.79 | 2.58 | 1.26 | - | - | - | - | - |
| Average | | | 4.88 | 2.46 | 4.44 | 6.88 | 7.71 | 2.60 | 6.50 | 4.30 | 8.59 | 6.50 | 6.13 | 3.85 | 4.31 | 6.70 | 3.13 |
| Equities | | | | | | | | | | | | | | | | | |
| War of 1812 | June 19, 1812 | Feb 17, 1815 | -3.97 | -2.65 | - | - | - | 3.43 | 4.01 | - | - | - | -5.19 | - | - | - | - |
| Mexican American War | May 13, 1846 | Feb 2, 1848 | -19.67 | 3.91 | - | - | - | 28.38 | 12.57 | - | - | - | 4.36 | 1.61 | - | - | - |
| Crimean War | March 27, 1854 | Feb 25, 1856 | -4.66 | -0.37 | - | - | - | -10.31 | 3.24 | - | - | - | 9.72 | 7.58 | - | - | - |
| U.S. Civil War | April 12, 1861 | April 9, 1865 | 30.13 | 6.52 | - | - | - | 18.95 | 5.43 | - | - | - | 9.56 | 5.35 | - | - | - |
| Franco Prussian War | July 15, 1870 | Jan 28, 1871 | 6.41 | 0.45 | - | - | - | -1.59 | 9.97 | - | - | - | 15.43 | 4.13 | - | - | - |
| Spanish American War | April 25, 1898 | Dec 10, 1898 | 15.22 | 9.81 | 10.56 | - | - | 34.36 | 5.79 | 9.83 | - | - | 9.72 | -2.28 | 6.56 | - | - |
| Boer War | Oct 11, 1899 | May 31, 1902 | 25.09 | 0.57 | 8.15 | - | - | 15.31 | 0.79 | -1.60 | - | - | -6.67 | 0.02 | -0.69 | - | - |
| Russo Japanese War | Feb 8, 1904 | Sep 6, 1905 | -17.43 | -0.96 | 2.56 | - | - | 25.95 | -0.86 | 16.40 | - | - | 12.77 | -5.17 | 5.46 | - | - |
| World War I | Apr 6, 1917 | Nov 11, 1918 | 5.47 | 12.86 | -1.36 | - | - | 6.12 | 0.37 | 10.40 | - | - | 21.24 | 6.62 | 18.56 | - | - |
| World War II | Dec 7, 1941 | Aug 14, 1945 | -8.27 | 33.28 | 169.21 | 10.22 | 2.06 | 21.71 | 13.53 | 6.00 | 5.14 | 7.85 | 11.36 | 17.55 | 114.66 | 3.23 | -38.93 |
| Korean War | Jun 25, 1950 | Jul 27, 1953 | 36.81 | -2.03 | -4.96 | 93.54 | -31.99 | 15.87 | 8.24 | 25.47 | 19.21 | 64.20 | 31.77 | 42.84 | 32.61 | 55.84 | -10.11 |
| Vietnam | Aug 4, 1964 | Jan 27, 1973 | 24.05 | 13.08 | -11.98 | 17.25 | 1.42 | 7.37 | 12.20 | 6.42 | 4.73 | 23.52 | -14.02 | -24.26 | 0.48 | -16.26 | -18.45 |
| Arab Israeli War | Jun 5, 1967 | Jun 10, 1967 | 7.09 | -0.99 | -7.65 | -3.77 | 12.15 | 27.16 | 75.06 | -3.39 | -13.58 | -7.72 | 13.36 | 51.20 | 17.95 | 52.01 | 6.70 |
| Yom Kippur War | Oct 6, 1973 | Oct 25, 1973 | 1.04 | -5.51 | 1.51 | -12.07 | 8.10 | 2.00 | 29.29 | 27.24 | -91.76 | 14.35 | -28.79 | -54.88 | -40.57 | -16.36 | -23.64 |
| Falkland Islands | Apr 1, 1982 | May 7, 1982 | -13.07 | 11.78 | -1.55 | 9.14 | 2.48 | -2.22 | 1.20 | -9.39 | -8.51 | 4.61 | 61.18 | 49.81 | 35.45 | 45.33 | 25.28 |
| Gulf War | Jan 16, 1991 | Feb 26, 1991 | -4.13 | -9.81 | -21.96 | -14.67 | -38.62 | 44.28 | 97.55 | 145.27 | 51.50 | 105.33 | 23.26 | 12.32 | 16.51 | 7.30 | -20.25 |
| War on Terror | Sep 11, 2001 | | -14.42 | -17.41 | -27.73 | -29.25 | -22.12 | -12.74 | -4.17 | -9.55 | -6.05 | -4.87 | - | - | - | - | - |
| Average | | | 3.86 | 3.09 | 9.57 | 8.80 | -8.31 | 13.18 | 16.13 | 18.59 | -4.91 | 25.91 | 10.57 | 7.50 | 18.82 | 18.73 | -11.34 |
| Bond Outperformance over Equities | | | | | | | | | | | | | | | | | |
| War of 1812 | June 19, 1812 | Feb 17, 1815 | 8.84 | 2.45 | - | - | - | 1.45 | -1.63 | - | - | - | 14.08 | 14.76 | - | - | - |
| Mexican American War | May 13, 1846 | Feb 2, 1848 | 25.08 | 2.08 | - | - | - | -24.52 | -6.57 | - | - | - | 1.37 | -2.12 | - | - | - |
| Crimean War | March 27, 1854 | Feb 25, 1856 | 10.45 | -4.76 | - | - | - | 13.36 | -0.17 | - | - | - | -5.62 | -1.92 | - | - | - |
| U.S. Civil War | April 12, 1861 | April 9, 1865 | -28.78 | -6.26 | - | - | - | -11.10 | -2.31 | - | - | - | -4.26 | -6.88 | - | - | - |
| Franco Prussian War | July 15, 1870 | Jan 28, 1871 | -2.45 | 2.97 | - | - | - | 3.24 | -6.89 | - | - | - | -10.89 | -0.85 | - | - | - |
| Spanish American War | April 25, 1898 | Dec 10, 1898 | -12.24 | -7.51 | -6.15 | - | - | -29.42 | -4.96 | -8.73 | - | - | -5.54 | -4.18 | -6.61 | - | - |
| Boer War | Oct 11, 1899 | May 31, 1902 | -21.37 | -2.98 | -6.89 | - | - | -11.71 | -1.35 | 5.01 | - | - | 9.06 | 9.07 | -0.60 | - | - |
| Russo Japanese War | Feb 8, 1904 | Sep 6, 1905 | 20.16 | 7.58 | -1.80 | - | - | -22.84 | 5.10 | -12.08 | - | - | -10.30 | 4.30 | -6.00 | - | - |
| World War I | Apr 6, 1917 | Nov 11, 1918 | -2.55 | -8.01 | 3.71 | - | - | -2.66 | -0.80 | -12.01 | - | - | -24.68 | -18.43 | -18.36 | - | - |
| World War II | Dec 7, 1941 | Aug 14, 1945 | 11.71 | -21.29 | -152.41 | -5.28 | 3.11 | -18.55 | -8.92 | -1.54 | -0.48 | -3.06 | -8.20 | -2.94 | -119.20 | -1.18 | 42.69 |
| Korean War | Jun 25, 1950 | Jul 27, 1953 | -32.32 | -8.80 | 3.19 | -87.28 | 38.45 | -17.34 | -8.55 | -20.39 | -13.48 | -58.56 | -18.91 | -26.50 | -26.93 | -52.51 | 11.81 |
| Vietnam | Aug 4, 1964 | Jan 27, 1973 | -21.73 | -17.84 | 17.65 | -12.55 | 0.27 | -5.09 | -10.03 | -2.86 | 0.97 | -12.89 | 19.35 | 9.75 | -4.43 | 19.66 | 8.25 |
| Arab Israeli War | Jun 5, 1967 | Jun 10, 1967 | -3.66 | 11.88 | 10.41 | 20.68 | 6.03 | -58.80 | -96.61 | -12.54 | 15.27 | 14.82 | -12.01 | -55.12 | -11.97 | -42.06 | -0.63 |
| Yom Kippur War | Oct 6, 1973 | Oct 25, 1973 | 3.43 | -3.00 | -4.14 | 11.78 | -9.09 | 8.43 | 22.36 | -24.43 | 108.72 | -14.44 | 32.96 | 36.59 | 40.03 | 20.08 | 20.14 |
| Falkland Islands | Apr 1, 1982 | May 7, 1982 | 24.42 | -1.30 | 10.08 | 2.93 | 7.63 | 13.24 | 9.73 | 37.73 | 14.98 | -8.55 | -36.27 | -8.67 | -8.17 | -30.92 | -13.59 |
| Gulf War | Jan 16, 1991 | Feb 26, 1991 | 12.68 | 19.37 | 28.81 | 17.00 | 39.72 | -34.25 | -57.48 | -104.38 | -26.60 | -89.51 | -11.15 | 2.26 | -5.41 | 2.73 | 31.77 |
| War on Terror | Sep 11, 2001 | | 25.69 | 24.75 | 36.23 | 37.39 | 27.46 | 16.78 | 5.40 | 12.34 | 8.63 | 6.13 | - | - | - | - | - |
| Average | | | 1.02 | -0.63 | -5.11 | -1.92 | 14.20 | -10.57 | -9.63 | -11.99 | 13.50 | -20.76 | -4.44 | -3.18 | -15.24 | -12.03 | 14.35 |
| Avg Bond Outperf. | | | 17.38 | 10.15 | 15.73 | 17.95 | 17.53 | 9.42 | 10.65 | 8.67 | 29.72 | 10.47 | 10.96 | 12.79 | 40.03 | 14.16 | 22.93 |
| Avg Equity Outperf. | | | -15.64 | -8.17 | -34.28 | -35.04 | -9.09 | -21.48 | -15.87 | -22.11 | -13.52 | -31.17 | -13.44 | -12.76 | -20.77 | -31.67 | -7.11 |
| Frequency of Bonds Outperforming Equities | | | | | | | | | | | | | | | | | |
| | | | 53% | 41% | 58% | 63% | 88% | 35% | 12% | 25% | 63% | 25% | 33% | 40% | 10% | 50% | 83% |

Source: Lehman Brothers Fixed-Income Research and Global Financial Data.

Figure A7. **Daily U.S. Trade-Weighted Dollar* Index (Major Currencies) Reactions to Various Crisis Events**
1973 through June 2002

| Crisis Grade | Crisis Events | Date | Cumulative % Change in Trade-Weighted Dollar Index in Number of Months after Reaction | | | | |
|--------------------------------------|--|------------|--|-------|--------|-------|--------|
| | | | 1 | 2 | 3 | 4 | 6 |
| A | Arab Oil Embargo | 10/18/1973 | 3.53 | 4.80 | 9.08 | 6.63 | 3.22 |
| A | Gulf War Ultimatum | 12/24/1990 | -2.55 | -2.32 | 2.54 | 4.79 | 6.52 |
| A | WTC Attack | 9/11/2001 | 0.15 | 0.64 | 1.70 | 3.15 | 2.70 |
| B | Iranian Revolution | 1/16/1979 | 0.48 | 0.93 | 1.71 | 1.91 | 0.37 |
| B | USSR Invasion of Afghanistan | 12/24/1979 | -0.93 | 0.56 | 4.06 | 3.66 | -3.02 |
| B | U.S. Invades Grenada | 10/24/1983 | 1.42 | 2.43 | 3.36 | 2.03 | 1.28 |
| B | Invasion of Panama | 12/15/1989 | -1.09 | -0.39 | 1.52 | 1.57 | 0.74 |
| B | Gorbachev Coup | 8/16/1991 | -2.73 | -3.09 | -4.78 | -5.86 | -4.62 |
| C | Falkland Islands War | 4/1/1982 | -2.12 | -0.42 | 4.40 | 4.05 | 6.44 |
| C | U.S. Bombs Libya | 4/15/1986 | -4.74 | -3.99 | -4.99 | -7.27 | -8.20 |
| C | U.S. Embassy Bombings in Nairobi and Dar es Salaam | 8/7/1998 | -3.06 | -5.08 | -7.86 | -6.66 | -7.69 |
| 1 | Nixon Resigns | 8/9/1974 | 1.37 | 0.67 | 0.02 | -0.50 | -1.97 |
| 1 | Hunt Silver Crisis | 2/13/1980 | 3.54 | 4.66 | 0.07 | -2.81 | -1.26 |
| 1 | U.S. Stock Market Crash of 1987 | 10/2/1987 | -3.68 | -6.85 | -11.45 | -8.11 | -10.25 |
| 1 | WTC Bombing | 2/26/1993 | -1.16 | -3.68 | -3.97 | -1.93 | -1.37 |
| 1 | Orange County, CA Bankruptcy & Financial Crisis | 12/6/1994 | 0.36 | -0.28 | -4.37 | -6.91 | -7.10 |
| 1 | Oklahoma City Bombing | 4/19/1995 | 3.37 | 2.10 | 2.52 | 7.54 | 6.31 |
| 2 | ERM U.K. Currency Crisis | 9/14/1992 | 0.96 | 5.08 | 6.00 | 8.13 | 6.82 |
| 2 | Mexico - Tequila Crisis | 12/19/1994 | -0.38 | -1.95 | -5.49 | -9.60 | -7.82 |
| 2 | Poison Gas Attack in Tokyo Subway | 3/20/1995 | -4.63 | -1.42 | -2.63 | -2.23 | 4.22 |
| 2 | Terrorist Attack in Paris Metro | 7/25/1995 | 4.45 | 3.52 | 3.75 | 3.82 | 7.22 |
| 2 | Asian Stock Market Crisis | 10/7/1997 | -0.10 | 3.25 | 5.17 | 2.99 | 5.73 |
| 2 | Russia, LTCM Crisis | 8/18/1998 | -4.87 | -9.06 | -6.92 | -7.99 | -7.90 |
| Overall | | | | | | | |
| | Mean | | -0.54 | -0.43 | -0.29 | -0.42 | -0.42 |
| | Median | | -0.38 | -0.28 | 1.52 | 1.57 | 0.37 |
| Geopolitical Risk | | | | | | | |
| | Mean | | -1.06 | -0.54 | 0.98 | 0.73 | -0.20 |
| | Median | | -1.09 | -0.39 | 1.71 | 2.03 | 0.74 |
| Political Events | | | | | | | |
| | Mean | | -0.06 | -0.33 | -1.44 | -1.47 | -0.61 |
| | Median | | 0.13 | 0.19 | -1.30 | -2.08 | -1.32 |
| High Geopolitical Risk (A) | | | | | | | |
| | Mean | | 0.38 | 1.04 | 4.44 | 4.86 | 4.15 |
| | Median | | 0.15 | 0.64 | 2.54 | 4.79 | 3.22 |
| Medium Geopolitical Risk (B) | | | | | | | |
| | Mean | | -0.57 | 0.09 | 1.17 | 0.66 | -1.05 |
| | Median | | -0.93 | 0.56 | 1.71 | 1.91 | 0.37 |
| Low Geopolitical Risk (C) | | | | | | | |
| | Mean | | -3.31 | -3.16 | -2.82 | -3.29 | -3.15 |
| | Median | | -3.06 | -3.99 | -4.99 | -6.66 | -7.69 |
| U.S. Political Events (1) | | | | | | | |
| | Mean | | 0.63 | -0.56 | -2.86 | -2.12 | -2.61 |
| | Median | | 0.86 | 0.19 | -1.98 | -2.37 | -1.67 |
| Non-U.S. Political Events (2) | | | | | | | |
| | Mean | | -0.76 | -0.10 | -0.02 | -0.81 | 1.38 |
| | Median | | -0.24 | 0.92 | 0.56 | 0.38 | 4.98 |

* A weighted average of the value of the U.S. dollar against major currencies.

Sources: Lehman Brothers Fixed-Income Research, Global Financial Data, and Federal Reserve Board of Governors.

Crisis Grade Key: A = High Geopolitical Risk, B = Medium Geopolitical Risk, C = Low Geopolitical Risk, 1 = U.S. Political Event, 2 = Non-U.S. Political Event

Figure A8. Performance of Daily U.S. Dollar Trade-Weighted Index Before and After Military Conflicts, 1975 through June 2002

| | Date | U.S. Dollar Index | Cumulative % Appreciation (Depreciation) in U.S. Dollar Index in 24 Months Before/After Military Conflict | | | | | | | | | | | | |
|---------------------------------|------------|-------------------|---|--------------|--------------|--------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|--|
| | | | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 | |
| Vietnam | | | | | | | | | | | | | | | |
| North Vietnam Overtakes Saigon | 4/30/1975 | 100.28 | -0.49 | 0.99 | -2.54 | -0.76 | 2.46 | 0.72 | -0.33 | 0.77 | 4.49 | 4.62 | 6.21 | 6.09 | |
| Gulf War | | | | | | | | | | | | | | | |
| Iraq Invades Kuwait | 8/2/1990 | 87.56 | -4.03 | -5.28 | -3.02 | -5.32 | -3.62 | -1.95 | -1.78 | -3.72 | -5.15 | -6.06 | 1.46 | -5.84 | |
| U.N. Authorizes Force | 11/29/1990 | 82.79 | -3.16 | -9.64 | -8.87 | -4.93 | -2.53 | 0.33 | 0.79 | -0.36 | 6.87 | 5.99 | 1.53 | 6.12 | |
| Desert Storm Begins | 1/17/1991 | 83.06 | -6.67 | -8.87 | -6.22 | -2.06 | 1.63 | 0.39 | -1.53 | 4.41 | 6.72 | 8.11 | 1.08 | 7.51 | |
| Ground Assault Begins | 2/24/1991 | 82.66 | -7.40 | -9.74 | -2.72 | 0.56 | -1.96 | 0.07 | 6.34 | 7.40 | 8.70 | 7.48 | 4.13 | 7.77 | |
| Kuwait Liberated | 2/27/1991 | 83.11 | -7.22 | -9.59 | -3.36 | 0.71 | -0.40 | 0.75 | 6.46 | 7.03 | 8.17 | 6.76 | 3.66 | 6.16 | |
| War on Terrorism | | | | | | | | | | | | | | | |
| Afghanistan-U.S. Bombing Begins | 10/7/2001 | 103.27 | 12.80 | 1.92 | -2.00 | -2.34 | -1.74 | -0.59 | 1.53 | 2.31 | 5.13 | 4.15 | -3.78 | - | |
| Mean | | | -2.31 | -5.74 | -4.10 | -2.02 | -0.88 | -0.04 | 1.64 | 2.55 | 4.99 | 4.44 | 2.04 | 4.64 | |
| Median | | | -4.03 | -8.87 | -3.02 | -2.06 | -1.74 | 0.33 | 0.79 | 2.31 | 6.72 | 5.99 | 1.53 | 6.14 | |

*U.S. Dollar Index 1973 = 100.

Sources: Lehman Brothers Fixed-Income Research and Global Financial Data.

Figure A9. U.S. Treasury Reactions to Various Crisis Events, 1901 through June 2002

| Crisis Grade | Crisis Events | Date | Long Treasury Yield (%) | Long Treasury Yields (%) | | | | | | Cumulative Change (bp) in Yields | | | | | | Cumulative Percent Change in Yields | | | | | |
|--------------------------------------|--|------------|-------------------------|------------------------------------|-------|-------|-------|-------|-----|------------------------------------|------|------|------|--------|--------|-------------------------------------|--------|--------|--|--|--|
| | | | | in Number of Months After Reaction | | | | | | in Number of Months After Reaction | | | | | | in Number of Months After Reaction | | | | | |
| | | | | 1 | 2 | 3 | 4 | 6 | 1 | 2 | 3 | 4 | 6 | 1 | 2 | 3 | 4 | 6 | | | |
| A | Germany Enters World War I | 8/1/1914 | 3.60 | 3.60 | 3.60 | 3.60 | 3.60 | 3.63 | 0 | 0 | 0 | 0 | 3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.96 | | | |
| A | U.S. Declares War on Germany | 4/6/1917 | 3.69 | 3.70 | 3.78 | 3.81 | 3.81 | 3.77 | 1 | 9 | 12 | 11 | 8 | 0.35 | 2.36 | 3.21 | 3.09 | 2.18 | | | |
| A | Pearl Harbor | 12/6/1941 | 2.40 | 2.50 | 2.47 | 2.48 | 2.43 | 2.44 | 10 | 7 | 8 | 3 | 4 | 4.17 | 2.92 | 3.33 | 1.25 | 1.67 | | | |
| A | Korean War | 6/23/1950 | 2.34 | 2.34 | 2.34 | 2.37 | 2.39 | 2.39 | 0 | 0 | 3 | 5 | 5 | 0.00 | 0.00 | 1.28 | 2.14 | 2.14 | | | |
| A | Cuban Missile Crisis | 10/19/1962 | 3.88 | 3.93 | 3.83 | 3.82 | 3.91 | 4.00 | 5 | -5 | -6 | 3 | 12 | 1.29 | -1.29 | -1.55 | 0.77 | 3.09 | | | |
| A | Gulf of Tonkin | 8/2/1964 | 4.19 | 4.21 | 4.18 | 4.16 | 4.20 | 4.19 | 2 | -1 | -3 | 1 | 0 | 0.48 | -0.24 | -0.72 | 0.24 | 0.00 | | | |
| A | Arab Oil Embargo | 10/18/1973 | 6.81 | 6.72 | 6.67 | 6.99 | 6.93 | 7.43 | -9 | -14 | 18 | 12 | 62 | -1.32 | -2.06 | 2.64 | 1.76 | 9.10 | | | |
| A | Gulf War Ultimatum | 12/24/1990 | 8.20 | 8.04 | 7.91 | 8.13 | 8.12 | 8.32 | -16 | -29 | -7 | -8 | 12 | -1.95 | -3.54 | -0.85 | -0.98 | 1.46 | | | |
| A | WTC Attack | 9/11/2001 | 4.84 | 4.69 | 4.34 | 5.17 | 5.10 | 5.33 | -15 | -50 | 33 | 26 | 49 | -3.10 | -10.33 | 6.82 | 5.37 | 10.12 | | | |
| B | Archduke Ferdinand Assassinated | 6/28/1914 | 3.63 | 3.60 | 3.60 | 3.60 | 3.60 | 3.60 | -3 | -3 | -3 | -3 | -3 | -0.73 | -0.73 | -0.73 | -0.73 | -0.73 | | | |
| B | Fall of France | 5/9/1940 | 2.25 | 2.49 | 2.29 | 2.24 | 2.23 | 2.08 | 24 | 4 | -1 | -2 | -17 | 10.67 | 1.78 | -0.44 | -0.89 | -7.56 | | | |
| B | France Falls at Dien Bien Phu | 5/8/1954 | 2.49 | 2.59 | 2.52 | 2.45 | 2.51 | 2.56 | 10 | 3 | -4 | 2 | 7 | 4.02 | 1.20 | -1.61 | 0.80 | 2.81 | | | |
| B | Sputnik | 10/3/1957 | 3.72 | 3.74 | 3.48 | 3.26 | 3.27 | 3.21 | 2 | -24 | -46 | -45 | -51 | 0.54 | -6.45 | -12.37 | -12.10 | -13.71 | | | |
| B | Soviet Tanks Invade Prague | 8/20/1968 | 5.43 | 5.43 | 5.57 | 5.71 | 6.00 | 6.11 | 0 | 14 | 28 | 57 | 68 | 0.00 | 2.58 | 5.16 | 10.50 | 12.52 | | | |
| B | Iranian Revolution | 1/16/1979 | 9.16 | 9.12 | 9.12 | 9.19 | 9.31 | 8.94 | -4 | -4 | 3 | 15 | -22 | -0.44 | -0.44 | 0.33 | 1.64 | -2.40 | | | |
| B | USSR Invasion of Afghanistan | 12/24/1979 | 10.45 | 10.82 | 13.06 | 12.75 | 10.82 | 9.49 | 37 | 261 | 230 | 37 | -96 | 3.54 | 24.98 | 22.01 | 3.54 | -9.19 | | | |
| B | U.S. Invades Grenada | 10/24/1983 | 11.66 | 11.59 | 11.79 | 11.64 | 11.91 | 12.77 | -7 | 13 | -2 | 25 | 111 | -0.60 | 1.11 | -0.17 | 2.14 | 9.52 | | | |
| B | Invasion of Panama | 12/15/1989 | 7.80 | 8.10 | 8.35 | 8.66 | 8.64 | 8.40 | 30 | 55 | 86 | 84 | 60 | 3.85 | 7.05 | 11.03 | 10.77 | 7.69 | | | |
| B | Gorbachev Coup | 8/16/1991 | 7.84 | 7.66 | 7.46 | 7.35 | 7.22 | 7.30 | -18 | -38 | -49 | -62 | -54 | -2.30 | -4.85 | -6.25 | -7.91 | -6.89 | | | |
| C | Easter Rebellion (Ireland) | 4/14/1916 | 3.57 | 3.58 | 3.57 | 3.60 | 3.62 | 3.61 | 1 | 0 | 3 | 5 | 4 | 0.22 | 0.00 | 0.85 | 1.47 | 1.02 | | | |
| C | U.S. Bombs Cambodia | 4/30/1970 | 7.82 | 7.95 | 7.76 | 7.39 | 7.49 | 7.42 | 13 | -6 | -43 | -33 | -40 | 1.66 | -0.77 | -5.50 | -4.22 | -5.12 | | | |
| C | Falkland Islands War | 4/1/1982 | 14.10 | 13.87 | 13.71 | 14.44 | 13.68 | 11.85 | -23 | -39 | 34 | -42 | -225 | -1.63 | -0.77 | 2.41 | -2.98 | -15.96 | | | |
| C | U.S. Bombs Libya | 4/15/1986 | 7.22 | 7.79 | 7.73 | 7.25 | 7.15 | 7.36 | 57 | 51 | 3 | -7 | 14 | 7.89 | 7.06 | 0.42 | -0.97 | 1.94 | | | |
| C | U.S. Embassy Bombings in Nairobi & Dar es Salaam | 8/7/1998 | 5.40 | 5.02 | 4.24 | 4.82 | 4.62 | 4.83 | -38 | -116 | -58 | -78 | -57 | -7.04 | -21.48 | -10.74 | -14.44 | -10.56 | | | |
| 1 | William McKinley Assassinated | 9/6/1901 | 2.92 | 2.90 | 2.87 | 2.87 | 2.86 | 2.87 | -2 | -5 | -4 | -5 | -5 | -0.68 | -1.66 | -1.48 | -1.75 | -1.66 | | | |
| 1 | U.S. Financial Panic of 1907 | 10/21/1907 | 3.19 | 3.21 | 3.29 | 3.38 | 3.30 | 3.27 | 2 | 10 | 19 | 11 | 8 | 0.60 | 3.28 | 5.90 | 3.50 | 2.45 | | | |
| 1 | U.S. Stock Market Crash | 10/29/1929 | 4.25 | 4.22 | 4.22 | 4.24 | 4.25 | 4.12 | -3 | -3 | -1 | 0 | -13 | -0.71 | -0.71 | -0.24 | 0.00 | -3.06 | | | |
| 1 | Truman Upset Victory | 11/2/1948 | 2.45 | 2.44 | 2.43 | 2.41 | 2.38 | 2.38 | -1 | -2 | -4 | -7 | -7 | -0.41 | -0.82 | -1.63 | -2.86 | -2.86 | | | |
| 1 | Eisenhower Heart Attack | 9/23/1955 | 2.92 | 2.86 | 2.89 | 2.91 | 2.87 | 2.92 | -6 | -3 | -1 | -5 | 0 | -2.05 | -1.03 | -0.34 | -1.71 | 0.00 | | | |
| 1 | JFK Assassination | 11/21/1963 | 4.10 | 4.15 | 4.16 | 4.14 | 4.25 | 4.19 | 5 | 6 | 4 | 15 | 9 | 1.22 | 1.46 | 0.98 | 3.66 | 2.20 | | | |
| 1 | Kent State Shootings | 5/4/1970 | 7.94 | 7.76 | 7.55 | 7.38 | 7.47 | 7.33 | -18 | -39 | -56 | -47 | -61 | -2.27 | -4.91 | -7.05 | -5.92 | -7.68 | | | |
| 1 | Nixon Resigns | 8/9/1974 | 8.03 | 8.09 | 7.95 | 7.74 | 7.59 | 7.35 | 6 | -8 | -29 | -44 | -68 | 0.75 | -1.00 | -3.61 | -5.48 | -8.47 | | | |
| 1 | Hunt Silver Crisis | 2/13/1980 | 11.86 | 12.52 | 11.79 | 10.13 | 9.53 | 11.03 | 66 | -7 | -173 | -233 | -83 | 5.56 | -0.59 | -14.59 | -19.65 | -7.00 | | | |
| 1 | U.S. Stock Market Crash of 1987 | 10/2/1987 | 9.60 | 8.88 | 9.01 | 8.83 | 8.26 | 8.57 | -72 | -59 | -77 | -134 | -103 | -7.50 | -6.15 | -8.02 | -13.96 | -10.73 | | | |
| 1 | WTC Bombing | 2/26/1993 | 6.03 | 6.09 | 6.02 | 6.11 | 5.84 | 5.51 | 6 | -1 | 8 | -19 | -52 | 1.00 | -0.17 | 1.33 | -3.15 | -8.62 | | | |
| 1 | Orange County, CA Bankruptcy & Financial Crisis | 12/6/1994 | 7.73 | 7.88 | 7.49 | 7.41 | 7.12 | 6.10 | 15 | -24 | -32 | -61 | -163 | 1.94 | -3.10 | -4.14 | -7.89 | -21.09 | | | |
| 1 | Oklahoma City Bombing | 4/19/1995 | 7.06 | 6.61 | 6.21 | 6.25 | 6.57 | 5.97 | -45 | -85 | -81 | -49 | -109 | -6.37 | -12.04 | -11.47 | -6.94 | -15.44 | | | |
| 2 | Bloody Sunday (N. Ireland) | 11/21/1920 | 5.08 | 5.21 | 5.40 | 5.23 | 5.28 | 5.24 | 13 | 32 | 15 | 20 | 16 | 2.56 | 6.30 | 2.95 | 3.94 | 3.15 | | | |
| 2 | Earthquake in Tokyo | 9/1/1923 | 4.35 | 4.36 | 4.40 | 4.37 | 4.37 | 4.30 | 1 | 5 | 2 | 2 | -5 | 0.23 | 1.15 | 0.46 | 0.46 | -1.15 | | | |
| 2 | Riots and Labor Strikes in France | 5/6/1968 | 5.78 | 5.81 | 5.56 | 5.34 | 5.41 | 5.61 | 3 | -22 | -44 | -37 | -17 | 0.52 | -3.81 | -7.61 | -6.40 | -2.94 | | | |
| 2 | ERM U.K. Currency Crisis | 9/14/1992 | 6.32 | 6.51 | 6.82 | 6.80 | 6.72 | 6.11 | 19 | 50 | 48 | 40 | -21 | 3.01 | 7.91 | 7.59 | 6.33 | -3.32 | | | |
| 2 | Mexico - Tequila Crisis | 12/19/1994 | 7.81 | 7.71 | 7.43 | 7.12 | 7.04 | 6.21 | -10 | -38 | -69 | -77 | -160 | -1.28 | -4.87 | -8.83 | -9.86 | -20.49 | | | |
| 2 | Poison Gas Attack in Tokyo Subway | 3/20/1995 | 7.12 | 7.06 | 6.61 | 6.21 | 6.25 | 6.11 | -6 | -51 | -91 | -87 | -101 | -0.84 | -7.16 | -12.78 | -12.22 | -14.19 | | | |
| 2 | Terrorist Attack in Paris Metro | 7/25/1995 | 6.43 | 6.50 | 6.25 | 6.07 | 5.93 | 5.54 | 7 | -18 | -36 | -50 | -89 | 1.09 | -2.80 | -5.60 | -7.78 | -13.84 | | | |
| 2 | Asian Stock Market Crisis | 10/7/1997 | 5.94 | 5.90 | 5.52 | 5.57 | 5.47 | 5.47 | -4 | -2 | -42 | -37 | -47 | -0.67 | -0.34 | -7.07 | -6.23 | -7.91 | | | |
| 2 | Russia, LTCM Crisis | 8/18/1998 | 5.41 | 4.80 | 4.44 | 4.85 | 4.58 | 5.06 | -61 | -97 | -56 | -83 | -35 | -11.28 | -17.93 | -10.35 | -15.34 | -6.47 | | | |
| Overall | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -1 | -6 | -10 | -19 | -27 | 0.09 | -1.15 | -1.46 | -2.37 | -3.37 | | | |
| Median | | | | | | | | | 0 | -3 | -2 | -4 | -10 | 0.11 | -0.72 | -0.58 | -0.93 | -2.63 | | | |
| Geopolitical Risk | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 2 | 4 | 10 | 0 | -6 | 0.82 | -0.16 | 0.77 | 0.01 | -0.24 | | | |
| Median | | | | | | | | | 0 | -1 | 1 | 2 | 4 | 0.11 | -0.12 | 0.16 | 0.79 | 1.24 | | | |
| Political Events | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -4 | -16 | -32 | -40 | -50 | -0.71 | -2.23 | -3.89 | -4.97 | -6.78 | | | |
| Median | | | | | | | | | 0 | -6 | -31 | -37 | -41 | -0.09 | -1.01 | -3.88 | -5.70 | -6.73 | | | |
| High Geopolitical Risk (A) | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -2 | -9 | 6 | 6 | 17 | -0.01 | -1.35 | 1.57 | 1.52 | 3.41 | | | |
| Median | | | | | | | | | 0 | -1 | 3 | 3 | 8 | 0.00 | -0.24 | 1.28 | 1.25 | 2.14 | | | |
| Medium Geopolitical Risk (B) | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 7 | 28 | 24 | 11 | 0 | 1.85 | 2.62 | 1.70 | 0.78 | -0.79 | | | |
| Median | | | | | | | | | 1 | 3 | -1 | 9 | -10 | 0.27 | 1.16 | -0.31 | 1.22 | -1.57 | | | |
| Low Geopolitical Risk (C) | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 2 | -22 | -12 | -31 | -61 | 0.22 | -3.59 | -2.51 | -4.23 | -5.73 | | | |
| Median | | | | | | | | | 1 | -6 | 3 | -33 | -40 | 0.22 | -0.77 | 0.42 | -2.98 | -5.12 | | | |
| U.S. Political Events (1) | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -4 | -17 | -33 | -44 | -50 | -0.69 | -2.11 | -3.41 | -4.78 | -6.30 | | | |
| Median | | | | | | | | | -1 | -5 | -4 | -19 | -52 | -0.41 | -1.00 | -1.63 | -3.15 | -7.00 | | | |
| Non-U.S. Political Events (2) | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -4 | -16 | -30 | -34 | -51 | -0.74 | -2.39 | -4.58 | -5.23 | -7.46 | | | |
| Median | | | | | | | | | 1 | -18 | -42 | -37 | -35 | 0.23 | -2.80 | -7.07 | -6.40 | -6.47 | | | |

Sources: Lehman Brothers Fixed-Income Research and Global Financial Data.

Crisis Grade Key: A = High Geopolitical Risk, B = Medium Geopolitical Risk, C = Low Geopolitical Risk, 1 = U.S. Political Event, 2 = Non-U.S. Political Event

Figure A10. Performance of Long U.S. Treasuries Before and After Military Conflicts, 1914 through June 2002

| | Date | Long Treasury Yield (%) | Long Treasury Yields (%) in Number of Months Before/After Military Conflict | | | | | | | | | | | Cumulative Percent Change (%) in Treasury Yields in Number of Months Before/After Military Conflict | | | | | | | | | | | | |
|---|------------|-------------------------|--|------|------|------|------|------|------|------|------|------|------|--|--------|--------|--------|-------|-------|-------|-------|-------|--------|--------|--------|-------|
| | | | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| World War I | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Assassination in Sarajevo | 6/28/1914 | 3.63 | 3.50 | 3.51 | 3.61 | 3.54 | 3.55 | 3.56 | 3.60 | 3.60 | 3.60 | 3.60 | 3.60 | 3.57 | 3.34 | 0.40 | 2.49 | 2.16 | 1.93 | -0.73 | -0.73 | -0.73 | -0.73 | -0.84 | -1.51 | |
| Austria Declares War on Serbia | 7/28/1914 | 3.60 | 3.50 | 3.60 | 3.58 | 3.54 | 3.56 | 3.63 | 3.60 | 3.60 | 3.60 | 3.63 | 3.62 | 3.60 | 2.81 | 0.11 | 0.56 | 1.74 | 1.18 | -0.73 | 0.00 | 0.00 | 0.00 | 0.96 | 0.51 | |
| U.S. Declares War on Germany | 4/6/1917 | 3.69 | 3.58 | 3.57 | 3.61 | 3.63 | 3.63 | 3.61 | 3.70 | 3.78 | 3.81 | 3.77 | 3.81 | 4.70 | 3.00 | 3.35 | 2.31 | 1.73 | 1.73 | 2.25 | 0.35 | 2.36 | 3.09 | 2.18 | 3.21 | |
| Austria, Hungary, & Germany Surrender | 11/11/1918 | 3.77 | 3.59 | 3.79 | 3.80 | 3.76 | 3.75 | 3.76 | 3.75 | 3.75 | 4.70 | 4.72 | 4.71 | 5.08 | 4.95 | -0.59 | -0.71 | 0.35 | 0.59 | 0.35 | -0.53 | -0.53 | 24.70 | 25.23 | 24.96 | |
| World War II | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Germany Invades Poland | 9/1/1939 | 2.27 | 2.80 | 2.52 | 2.39 | 2.27 | 2.19 | 2.14 | 2.74 | 2.51 | 2.30 | 2.32 | 2.25 | 2.04 | -18.93 | -9.92 | -5.02 | 0.00 | 3.65 | 6.07 | 20.70 | 10.57 | 1.32 | 2.20 | -0.88 | |
| Germany Invades France | 5/10/1949 | 2.38 | 2.20 | 2.43 | 2.45 | 2.42 | 2.38 | 2.38 | 2.39 | 2.27 | 2.23 | 2.21 | 2.30 | 2.60 | 8.18 | -2.06 | -2.86 | -1.65 | 0.00 | 0.00 | 0.42 | -4.62 | -6.30 | -7.14 | -3.36 | |
| France Surrenders | 6/22/1940 | 2.33 | 2.54 | 2.16 | 2.32 | 2.31 | 2.27 | 2.43 | 2.29 | 2.28 | 2.09 | 1.87 | 2.02 | 2.43 | -8.27 | 7.87 | 0.43 | 0.87 | 2.64 | -4.12 | -1.72 | -2.15 | -10.30 | -19.74 | -13.30 | |
| Pearl Harbor | 12/7/1941 | 2.40 | 2.37 | 1.92 | 2.03 | 2.01 | 2.01 | 2.34 | 2.50 | 2.47 | 2.43 | 2.44 | 2.48 | 2.48 | 1.27 | 25.00 | 18.23 | 19.40 | 19.40 | 2.56 | 4.17 | 2.92 | 1.25 | 1.67 | 3.33 | |
| Germany Surrenders | 5/7/1945 | 2.39 | 2.46 | 2.49 | 2.48 | 2.45 | 2.38 | 2.39 | 2.37 | 2.34 | 2.37 | 2.35 | 2.14 | 2.20 | -2.85 | -4.02 | -3.63 | -2.45 | 0.42 | 0.00 | -0.84 | -2.09 | -0.84 | -1.67 | -10.46 | |
| Hiroshima/Nagasaki and Japanese Surrender | 8/14/1945 | 2.34 | 2.47 | 2.48 | 2.40 | 2.38 | 2.36 | 2.34 | 2.37 | 2.35 | 2.32 | 2.14 | 2.23 | 2.25 | -5.26 | -5.65 | -2.50 | -1.68 | -0.85 | 0.00 | 1.28 | 0.43 | -0.85 | -8.55 | -4.70 | |
| Korea | | | | | | | | | | | | | | | | | | | | | | | | | | |
| North Korea Invades | 6/25/1950 | 2.34 | 2.44 | 2.38 | 2.18 | 2.25 | 2.30 | 2.31 | 2.34 | 2.34 | 2.39 | 2.38 | 2.65 | 2.61 | -4.10 | -1.68 | 7.34 | 4.00 | 1.74 | 1.30 | 0.00 | 0.00 | 2.14 | 1.71 | 13.25 | |
| Cease Fire Signed | 7/27/1953 | 3.01 | 2.59 | 2.63 | 2.80 | 2.94 | 3.11 | 3.09 | 3.01 | 2.93 | 2.86 | 2.67 | 2.46 | 2.88 | 16.22 | 14.45 | 7.50 | 2.38 | -3.22 | -2.59 | 0.00 | -2.66 | -4.98 | -11.30 | -18.27 | |
| Vietnam | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gulf of Tonkin | 8/2/1964 | 4.19 | 3.99 | 4.00 | 4.15 | 4.25 | 4.19 | 4.15 | 4.21 | 4.18 | 4.20 | 4.19 | 4.20 | 5.02 | 5.01 | 4.75 | 0.96 | -1.41 | 0.00 | 0.96 | 0.48 | -0.24 | 0.24 | 0.00 | 0.24 | |
| U.S. Marines Sent | 3/8/1965 | 4.23 | 3.92 | 4.22 | 4.22 | 4.15 | 4.20 | 4.22 | 4.20 | 4.20 | 4.21 | 4.27 | 5.00 | 4.73 | 7.91 | 0.24 | 0.24 | 1.93 | 0.71 | 0.24 | -0.71 | -0.71 | -0.47 | 0.95 | 18.20 | |
| North Vietnam Overtakes Saigon | 4/30/1975 | 8.31 | 6.81 | 7.65 | 7.80 | 7.40 | 7.46 | 8.01 | 8.04 | 7.95 | 8.28 | 8.00 | 7.59 | 7.30 | 22.03 | 8.63 | 6.54 | 12.30 | 11.39 | 3.75 | -3.25 | -4.33 | -0.36 | -3.73 | -8.66 | |
| Gulf War | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Iraq Invades Kuwait | 8/2/1990 | 8.41 | 9.36 | 8.03 | 8.50 | 8.55 | 8.44 | 8.40 | 8.86 | 8.71 | 8.26 | 8.05 | 8.20 | 6.85 | -10.15 | 4.73 | -1.06 | -1.64 | -0.36 | 0.12 | 5.35 | 3.57 | -1.78 | -4.28 | -2.50 | |
| U.N. Authorizes Force | 11/29/1990 | 8.32 | 9.07 | 7.82 | 8.44 | 8.29 | 8.82 | 8.70 | 8.14 | 8.06 | 8.05 | 8.07 | 7.44 | 6.78 | -8.27 | 6.39 | -1.42 | 0.36 | -5.67 | -4.37 | -2.16 | -3.13 | -3.25 | -3.00 | -10.58 | |
| Desert Storm Begins | 1/17/1991 | 8.05 | 8.95 | 8.27 | 8.48 | 8.88 | 8.30 | 7.99 | 7.78 | 8.15 | 8.08 | 8.27 | 6.85 | 6.63 | -10.06 | -2.66 | -5.07 | -9.35 | -3.01 | 0.75 | -3.35 | 1.24 | 0.37 | 2.73 | -14.91 | |
| Ground Assault Begins | 2/24/1991 | 7.91 | 9.26 | 8.59 | 8.94 | 8.63 | 8.15 | 8.06 | 8.13 | 8.07 | 8.33 | 7.88 | 7.42 | 6.35 | -14.58 | -7.92 | -11.52 | -8.34 | -2.94 | -1.86 | 2.78 | 2.02 | 5.31 | -0.38 | -6.19 | |
| Kuwait Liberated | 2/27/1991 | 7.98 | 9.24 | 8.54 | 8.86 | 8.70 | 8.14 | 8.06 | 8.05 | 8.06 | 8.32 | 7.91 | 7.45 | 6.34 | -13.64 | -6.56 | -9.93 | -8.28 | -1.97 | -0.99 | 0.88 | 1.00 | 4.26 | -0.88 | -6.64 | |
| War on Terrorism | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Afghanistan-U.S. Bombing Begins | 10/7/2001 | 4.84 | 5.93 | 5.15 | 4.82 | 5.19 | 4.98 | 4.97 | 4.47 | 4.87 | 4.84 | 5.23 | - | - | -18.33 | -6.12 | 0.30 | -6.73 | -2.88 | -2.67 | -7.62 | 0.67 | 0.04 | 8.02 | - | |
| Overall | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | -1.88 | 1.51 | 0.05 | 0.29 | 1.18 | 0.14 | 0.74 | 0.17 | 0.61 | -0.75 | -1.88 |
| Median | | | | | | | | | | | | | | | | -2.85 | 0.11 | 0.24 | 0.35 | 0.42 | 0.12 | 0.00 | 0.00 | 0.00 | -0.38 | -2.93 |
| World War I | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | 3.58 | 1.55 | 0.64 | 1.58 | 1.41 | 0.95 | -0.23 | 0.28 | 6.76 | 6.91 | 6.96 |
| Median | | | | | | | | | | | | | | | | 3.29 | 1.73 | 0.48 | 1.74 | 1.46 | 1.14 | -0.26 | -0.26 | 1.55 | 1.57 | 1.86 |
| World War II | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | -4.31 | 1.87 | 0.78 | 2.41 | 4.21 | 0.75 | 4.00 | 0.84 | -2.62 | -5.54 | -4.90 |
| Median | | | | | | | | | | | | | | | | -4.05 | -3.04 | -2.68 | -0.83 | 1.53 | 0.00 | 0.85 | -0.83 | -0.85 | -4.41 | -4.03 |
| Vietnam | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | 11.65 | 4.54 | 2.58 | 4.27 | 4.04 | 1.65 | -1.16 | -1.76 | -0.20 | -0.93 | 3.26 |
| Median | | | | | | | | | | | | | | | | 7.91 | 4.75 | 0.96 | 1.93 | 0.71 | 0.96 | -0.71 | -0.71 | -0.36 | 0.00 | 0.24 |
| Gulf War | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | -11.34 | -1.20 | -5.80 | -5.45 | -2.79 | -1.27 | 0.70 | 0.94 | 0.98 | -1.16 | -8.16 |
| Median | | | | | | | | | | | | | | | | -10.15 | -2.66 | -5.07 | -8.28 | -2.94 | -0.99 | 0.88 | 1.24 | 0.37 | -0.88 | -6.64 |

Sources: Lehman Brothers Fixed-Income Research and Global Financial Data.

Figure A11. U.K. Gilt Reactions to Various Crisis Events, 1914 through June 2002

| Crisis Grade | Crisis Events | Date | Long Gilt Yield (%) | Long Gilt Yields (%) | | | | | Change (bp) in Yields | | | | | Cumulative Percent Change in Yields | | | | | |
|--------------------------------------|--|------------|---------------------|------------------------------------|-------|-------|-------|-------|------------------------------------|------|------|------|------|-------------------------------------|--------|--------|--------|--------|------|
| | | | | in Number of Months After Reaction | | | | | in Number of Months After Reaction | | | | | in Number of Months After Reaction | | | | | |
| | | | | 1 | 2 | 3 | 4 | 6 | 1 | 2 | 3 | 4 | 6 | 1 | 2 | 3 | 4 | 6 | |
| A | Germany Enters World War I | 8/11/1914 | 3.62 | 3.62 | 3.65 | 3.65 | 3.65 | 3.65 | 0 | 3 | 3 | 3 | 2 | 0.00 | 0.73 | 0.73 | 0.73 | 0.73 | 0.65 |
| A | U.S. Declares War on Germany | 4/6/1917 | 4.55 | 4.51 | 4.56 | 4.51 | 4.47 | 4.49 | -4 | 1 | -4 | -8 | -6 | -0.79 | 0.11 | -0.79 | -1.79 | -1.40 | |
| A | Pearl Harbor | 12/6/1941 | 3.05 | 3.05 | 3.02 | 3.03 | 3.01 | 3.03 | 0 | -3 | -2 | -4 | -2 | 0.00 | -0.98 | -0.66 | -1.31 | -0.66 | |
| A | Korean War | 6/23/1950 | 3.61 | 3.55 | 3.61 | 3.55 | 3.48 | 3.44 | -6 | 0 | -6 | -13 | -17 | -1.66 | 0.00 | -1.66 | -3.60 | -4.71 | |
| A | Cuban Missile Crisis | 10/19/1962 | 5.28 | 4.87 | 5.13 | 5.04 | 5.05 | 5.36 | -41 | -15 | -24 | -23 | 8 | -7.77 | -2.84 | -4.55 | -4.36 | 1.52 | |
| A | Gulf of Tonkin | 8/2/1964 | 5.63 | 5.68 | 5.69 | 5.77 | 5.86 | 6.26 | 5 | 6 | 14 | 23 | 63 | 0.89 | 1.07 | 2.49 | 4.09 | 11.19 | |
| A | Arab Oil Embargo | 10/18/1973 | 11.30 | 11.25 | 12.44 | 12.23 | 12.85 | 13.29 | -5 | 115 | 94 | 155 | 200 | -0.41 | 10.17 | 8.30 | 13.77 | 17.68 | |
| A | Gulf War Ultimatum | 12/24/1990 | 10.94 | 10.46 | 10.10 | 10.31 | 10.31 | 10.58 | -48 | -83 | -62 | -63 | -36 | -4.35 | -7.62 | -5.71 | -5.77 | -3.26 | |
| A | WTC Attack | 9/11/2001 | 4.93 | 4.91 | 4.43 | 4.97 | 4.99 | 5.23 | -2 | -49 | 4 | 7 | 30 | -0.31 | -10.01 | 0.85 | 1.35 | 6.12 | |
| B | Archduke Ferdinand Assassinated | 6/28/1914 | 3.37 | 3.34 | 3.62 | 3.65 | 3.65 | 3.65 | -3 | 26 | 28 | 28 | 28 | -0.75 | 7.60 | 8.39 | 8.39 | 8.39 | |
| B | Easter Rebellion (Ireland) | 4/14/1916 | 4.37 | 4.36 | 4.21 | 4.16 | 4.23 | 4.33 | -1 | -17 | -21 | -14 | -4 | -0.22 | -3.84 | -4.79 | -3.28 | -0.98 | |
| B | Fall of France | 5/9/1940 | 3.45 | 3.42 | 3.48 | 3.47 | 3.42 | 3.35 | -3 | 3 | 2 | -3 | -10 | -0.87 | 0.87 | 0.58 | -0.87 | -2.90 | |
| B | France Falls at Dien Bien Phu | 5/8/1954 | 3.80 | 3.72 | 3.78 | 3.69 | 3.66 | 3.66 | -8 | -2 | -11 | -14 | -14 | -2.11 | -0.53 | -2.89 | -3.68 | -3.68 | |
| B | Sputnik | 10/3/1957 | 5.32 | 5.44 | 5.48 | 5.41 | 5.50 | 5.46 | 12 | 16 | 9 | 18 | 14 | 2.26 | 3.01 | 1.69 | 3.38 | 2.63 | |
| B | Soviet Tanks Invade Prague | 8/20/1968 | 7.69 | 7.55 | 7.50 | 7.52 | 7.73 | 8.26 | -14 | -19 | -17 | 4 | 57 | -1.82 | -2.47 | -2.21 | 0.52 | 7.41 | |
| B | Iranian Revolution | 1/16/1979 | 13.17 | 14.08 | 12.03 | 11.17 | 11.51 | 12.55 | 91 | -115 | -201 | -166 | -62 | 6.88 | -8.70 | -15.23 | -12.59 | -4.73 | |
| B | USSR Invasion of Afghanistan | 12/24/1979 | 14.54 | 13.91 | 14.41 | 14.51 | 13.89 | 13.14 | -64 | -13 | -3 | -65 | -141 | -4.37 | -0.90 | -0.22 | -4.47 | -9.67 | |
| B | Falkland Islands War | 4/1/1982 | 13.76 | 14.20 | 13.89 | 13.81 | 13.02 | 11.60 | 44 | 13 | 6 | -73 | -216 | 3.22 | 0.95 | 0.43 | -5.34 | -15.70 | |
| B | Gorbachev Coup | 8/16/1991 | 10.06 | 9.62 | 9.80 | 9.65 | 9.58 | 9.34 | -44 | -26 | -41 | -48 | -72 | -4.39 | -2.61 | -4.07 | -4.79 | -7.18 | |
| C | U.S. Bombs Cambodia | 4/30/1970 | 8.16 | 7.76 | 7.76 | 7.45 | 7.69 | 7.63 | -40 | -40 | -71 | -47 | -53 | -4.84 | -4.84 | -8.67 | -5.80 | -6.50 | |
| C | U.S. Invades Grenada | 10/24/1983 | 11.24 | 10.89 | 10.98 | 11.13 | 11.01 | 11.20 | -35 | -26 | -10 | -23 | -4 | -3.11 | -2.29 | -0.92 | -2.05 | -0.35 | |
| C | U.S. Bombs Libya | 4/15/1986 | 8.92 | 9.10 | 9.35 | 9.73 | 9.74 | 10.88 | 18 | 43 | 81 | 82 | 196 | 2.00 | 4.86 | 9.10 | 9.14 | 21.93 | |
| C | Invasion of Panama | 12/15/1989 | 10.56 | 10.79 | 11.21 | 12.30 | 12.50 | 11.69 | 23 | 65 | 173 | 194 | 113 | 2.16 | 6.12 | 16.41 | 18.36 | 10.68 | |
| C | U.S. Embassy Bombings in Nairobi and Dar es Salaam | 8/7/1998 | 5.66 | 5.37 | 4.69 | 5.03 | 4.64 | 4.30 | -29 | -97 | -63 | -102 | -136 | -5.08 | -17.15 | -11.15 | -18.05 | -23.98 | |
| 1 | Bloody Sunday (N. Ireland) | 11/21/1920 | 5.58 | 5.66 | 5.28 | 5.30 | 5.30 | 5.32 | 8 | -30 | -28 | -28 | -26 | 1.49 | -5.41 | -5.03 | -5.03 | -4.66 | |
| 1 | Hunt Silver Crisis | 2/13/1980 | 14.24 | 14.46 | 13.90 | 13.47 | 13.42 | 13.32 | 22 | -35 | -77 | -82 | -93 | 1.53 | -2.45 | -5.41 | -5.76 | -6.53 | |
| 1 | ERM U.K. Currency Crisis | 9/14/1992 | 9.12 | 8.95 | 8.23 | 8.40 | 8.50 | 7.74 | -16 | -88 | -72 | -62 | -138 | -1.81 | -9.70 | -7.93 | -6.81 | -15.08 | |
| 2 | William McKinley Assassinated | 9/6/1901 | 2.94 | 2.96 | 3.00 | 2.96 | 2.93 | 2.93 | 3 | 6 | 2 | -1 | -1 | 0.94 | 2.11 | 0.67 | -0.33 | -0.33 | |
| 2 | U.S. Financial Panic of 1907 | 10/21/1907 | 3.02 | 3.05 | 3.02 | 2.96 | 2.87 | 2.87 | 2 | -1 | -6 | -16 | -15 | 0.80 | -0.22 | -2.00 | -5.16 | -5.02 | |
| 2 | Earthquake in Tokyo | 9/1/1923 | 4.28 | 4.28 | 4.28 | 4.36 | 4.45 | 4.42 | 0 | 0 | 8 | 17 | 14 | -0.05 | -0.05 | 1.85 | 3.89 | 3.32 | |
| 2 | U.S. Stock Market Crash | 10/29/1929 | 4.56 | 4.68 | 4.75 | 4.75 | 4.63 | 4.39 | 12 | 19 | 19 | 7 | -17 | 2.63 | 4.17 | 4.17 | 1.54 | -3.73 | |
| 2 | Truman Upset Victory | 11/2/1948 | 3.18 | 3.16 | 3.14 | 3.12 | 3.09 | 3.10 | -2 | -4 | -6 | -9 | -8 | -0.63 | -1.26 | -1.89 | -2.83 | -2.52 | |
| 2 | Eisenhower Heart Attack | 9/23/1955 | 4.34 | 4.48 | 4.30 | 4.38 | 4.39 | 4.61 | 14 | -4 | 4 | 5 | 27 | 3.23 | -0.92 | 0.92 | 1.15 | 6.22 | |
| 2 | JFK Assassination | 11/21/1963 | 4.77 | 4.98 | 5.08 | 5.23 | 5.31 | 5.42 | 21 | 31 | 46 | 54 | 65 | 4.40 | 6.50 | 9.64 | 11.32 | 13.63 | |
| 2 | Riots and Labor Strikes in France | 5/6/1968 | 7.27 | 7.36 | 7.61 | 7.69 | 7.55 | 7.52 | 9 | 34 | 42 | 28 | 25 | 1.24 | 4.68 | 5.78 | 3.85 | 3.44 | |
| 2 | Kent State Shootings | 5/4/1970 | 8.16 | 7.76 | 7.45 | 7.58 | 7.69 | 7.79 | -40 | -71 | -58 | -47 | -37 | -4.84 | -8.67 | -7.11 | -5.80 | -4.55 | |
| 2 | Nixon Resigns | 8/9/1974 | 13.17 | 14.03 | 13.46 | 14.17 | 14.75 | 12.72 | 87 | 29 | 100 | 158 | -45 | 6.59 | 2.20 | 7.59 | 12.03 | -3.40 | |
| 2 | U.S. Stock Market Crash of 1987 | 10/2/1987 | 10.39 | 9.56 | 9.48 | 9.74 | 9.52 | 9.33 | -83 | -91 | -64 | -87 | -106 | -7.97 | -8.73 | -6.21 | -8.40 | -10.20 | |
| 2 | WTC Bombing | 2/26/1993 | 7.93 | 7.96 | 8.03 | 8.18 | 7.87 | 7.16 | 3 | 10 | 25 | -6 | -77 | 0.33 | 1.24 | 3.16 | -0.78 | -9.75 | |
| 2 | Orange County, CA Bankruptcy & Financial Crisis | 12/6/1994 | 8.64 | 8.77 | 8.63 | 8.71 | 8.44 | 7.75 | 13 | -2 | 7 | -21 | -89 | 1.54 | -0.18 | 0.81 | -2.38 | -10.33 | |
| 2 | Mexico - Tequila Crisis | 12/19/1994 | 8.54 | 8.77 | 8.68 | 8.54 | 8.36 | 8.21 | 23 | 14 | 0 | -17 | -32 | 2.68 | 1.69 | 0.04 | -2.03 | -3.78 | |
| 2 | Poison Gas Attack in Tokyo Subway | 3/20/1995 | 8.50 | 8.48 | 8.13 | 8.21 | 8.26 | 7.84 | -2 | -37 | -29 | -24 | -66 | -0.26 | -4.36 | -3.41 | -2.88 | -7.81 | |
| 2 | Oklahoma City Bombing | 4/19/1995 | 8.48 | 8.13 | 8.21 | 8.26 | 8.18 | 8.14 | -35 | -27 | -22 | -30 | -35 | -4.11 | -3.15 | -2.62 | -3.51 | -4.08 | |
| 2 | Terrorist Attack in Paris Metro | 7/25/1995 | 8.28 | 8.10 | 8.02 | 8.22 | 7.72 | 7.31 | -19 | -26 | -7 | -57 | -97 | -2.28 | -3.16 | -0.83 | -6.82 | -11.73 | |
| 2 | Asian Stock Market Crisis | 10/7/1997 | 6.35 | 6.68 | 6.56 | 6.16 | 6.15 | 5.79 | 33 | 20 | -19 | -20 | -56 | 5.16 | 3.22 | -3.00 | -3.22 | -8.88 | |
| 2 | Russia, LTCM Crisis | 8/18/1998 | 5.60 | 5.01 | 5.10 | 4.93 | 4.49 | 4.54 | -59 | -50 | -67 | -111 | -106 | -10.52 | -8.91 | -11.96 | -19.77 | -18.86 | |
| Overall | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -3 | -11 | -7 | -11 | -21 | -0.55 | -1.32 | -0.81 | -1.43 | -2.22 | |
| Median | | | | | | | | | -1 | -2 | -5 | -14 | -16 | -0.24 | -0.71 | -0.81 | -2.61 | -3.54 | |
| Geopolitical Risk | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -6 | -9 | -5 | -6 | -3 | -1.06 | -1.22 | -0.61 | -0.75 | 0.10 | |
| Median | | | | | | | | | -3 | -2 | -3 | -11 | -4 | -0.77 | -0.71 | -0.72 | -1.92 | -0.82 | |
| Political Events | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 0 | -14 | -9 | -16 | -42 | 0.00 | -1.43 | -1.03 | -2.17 | -4.76 | |
| Median | | | | | | | | | 3 | -3 | -6 | -19 | -36 | 0.87 | -0.57 | -1.36 | -2.85 | -4.60 | |
| High Geopolitical Risk (A) | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -11 | -3 | 2 | 9 | 27 | -1.60 | -1.04 | -0.11 | 0.35 | 3.01 | |
| Median | | | | | | | | | -4 | 0 | -2 | -4 | 2 | -0.41 | 0.00 | -0.66 | -1.31 | 0.65 | |
| Medium Geopolitical Risk (B) | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 1 | -13 | -25 | -33 | -42 | -0.22 | -0.66 | -1.83 | -2.27 | -2.64 | |
| Median | | | | | | | | | -3 | -8 | -7 | -14 | -12 | -0.81 | -0.71 | -1.21 | -3.48 | -3.29 | |
| Low Geopolitical Risk (C) | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -13 | -11 | 22 | 21 | 23 | -1.78 | -2.66 | 0.95 | 0.32 | 0.35 | |
| Median | | | | | | | | | -29 | -26 | -10 | -23 | -4 | -3.11 | -2.29 | -0.92 | -2.05 | -0.35 | |
| U.K. Political Events (1) | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 5 | -51 | -59 | -57 | -85 | 0.40 | -5.85 | -6.13 | -5.87 | -8.75 | |
| Median | | | | | | | | | 8 | -35 | -72 | -62 | -93 | 1.49 | -5.41 | -5.41 | -5.76 | -6.53 | |
| Non-U.K. Political Events (2) | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -1 | -8 | -1 | -9 | -35 | -0.06 | -0.73 | -0.23 | -1.59 | -4.13 | |
| Median | | | | | | | | | 3 | -1 | 0 | -16 | -35 | 0.80 | -0.18 | 0.04 | -2.38 | -4.08 | |

Sources: Lehman Brothers Fixed-Income Research and Global Financial Data.

Crisis Grade Key: A = High Geopolitical Risk, B = Medium Geopolitical Risk, C = Low Geopolitical Risk, 1 = U.K. Political Event, 2 = Non-U.K. Political Event

Figure A12. Performance of Long U.K. Gilts Before and After Military Conflicts, 1914 through June 2002

| | Date | Long Gilt Yield (%) | Long Gilt Yields (%) | | | | | | | | | | | | Cumulative Percent Change (%) in Gilt Yields | | | | | | | | | | | |
|---|------------|---------------------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|--------|--------|--------|-------|-------|-------|-------|-------|--------|--------|--------|
| | | | in Number of Months Before/After Military Conflict | | | | | | | | | | | | in Number of Months Before/After Military Conflict | | | | | | | | | | | |
| | | | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 |
| World War I | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Assassination in Sarajevo | 6/28/1914 | 3.37 | 3.33 | 3.44 | 3.48 | 3.28 | 3.30 | 3.34 | 3.34 | 3.62 | 3.65 | 3.65 | 3.78 | 4.21 | 1.09 | -2.06 | -3.32 | 2.78 | 2.02 | 0.67 | -0.75 | 7.60 | 8.39 | 8.39 | 12.23 | 24.92 |
| Austria Declares War on Serbia | 7/28/1914 | 3.34 | 3.33 | 3.39 | 3.42 | 3.31 | 3.34 | 3.37 | 3.62 | 3.65 | 3.65 | 3.65 | 3.84 | 4.16 | 0.50 | -1.38 | -2.42 | 0.92 | -0.08 | -0.75 | 8.42 | 9.21 | 9.21 | 9.12 | 14.99 | 24.62 |
| U.S. Declares War on Germany | 4/6/1917 | 4.55 | 3.76 | 4.37 | 4.33 | 4.57 | 4.83 | 4.72 | 4.51 | 4.56 | 4.47 | 4.49 | 4.56 | 4.33 | 21.16 | 4.04 | 5.06 | -0.34 | -5.69 | -3.58 | -0.79 | 0.11 | -1.79 | -1.40 | 0.17 | -4.77 |
| Austria, Hungary, & Germany Surrender | 11/11/1918 | 4.13 | 4.47 | 4.48 | 4.46 | 4.46 | 4.29 | 4.13 | 4.20 | 4.22 | 4.33 | 4.49 | 4.90 | 5.50 | -7.63 | -7.89 | -7.48 | -7.43 | -3.82 | -0.21 | 1.74 | 2.32 | 5.04 | 8.87 | 18.67 | 33.27 |
| World War II | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Germany Invades Poland | 9/1/1939 | 3.85 | 3.39 | 3.34 | 3.58 | 3.77 | 3.67 | 3.73 | 4.01 | 3.84 | 3.69 | 3.49 | 3.47 | 3.05 | 13.57 | 15.27 | 7.54 | 2.12 | 4.90 | 3.22 | 4.16 | -0.26 | -4.16 | -9.35 | -9.87 | -20.78 |
| Germany Invades France | 5/10/1949 | 3.10 | 2.63 | 3.28 | 3.18 | 3.14 | 3.09 | 3.11 | 3.08 | 3.21 | 3.48 | 3.56 | 3.62 | 3.73 | 17.87 | -5.49 | -2.52 | -1.27 | 0.32 | -0.32 | -0.65 | 3.55 | 12.26 | 14.84 | 16.77 | 20.32 |
| France Surrenders | 6/22/1940 | 3.42 | 3.39 | 3.71 | 3.69 | 3.49 | 3.41 | 3.45 | 3.48 | 3.47 | 3.39 | 3.31 | 3.20 | 3.03 | 0.88 | -7.82 | -7.32 | -2.01 | 0.29 | -0.87 | 1.75 | 1.46 | -0.88 | -3.22 | -6.43 | -11.40 |
| Pearl Harbor | 12/7/1941 | 3.05 | 3.69 | 3.31 | 3.20 | 3.05 | 3.04 | 3.04 | 3.05 | 3.02 | 3.01 | 3.03 | 3.06 | 3.14 | -17.34 | -7.85 | -4.69 | 0.00 | 0.33 | 0.33 | 0.00 | -0.98 | -1.31 | -0.66 | 0.33 | 2.95 |
| Germany Surrenders | 5/7/1945 | 3.00 | 3.06 | 3.16 | 3.14 | 3.06 | 3.03 | 3.01 | 3.01 | 3.00 | 2.89 | 2.80 | 2.60 | 2.64 | -1.96 | -5.06 | -4.46 | -1.96 | -0.99 | -0.33 | 0.33 | 0.00 | -3.67 | -6.67 | -13.33 | -12.00 |
| Hiroshima/Nagasaki and Japanese Surrender | 8/14/1945 | 3.00 | 3.11 | 3.16 | 3.04 | 3.01 | 3.01 | 3.00 | 2.89 | 2.82 | 2.75 | 2.71 | 2.58 | 2.78 | -3.54 | -5.06 | -1.32 | -0.33 | -0.33 | 0.00 | -3.67 | -6.00 | -8.33 | -9.67 | -14.00 | -7.33 |
| Korea | | | | | | | | | | | | | | | | | | | | | | | | | | |
| North Korea Invades | 6/25/1950 | 3.61 | 3.27 | 3.21 | 3.62 | 3.59 | 3.62 | 3.62 | 3.55 | 3.61 | 3.48 | 3.44 | 3.81 | 4.26 | 10.40 | 12.46 | -0.28 | 0.56 | -0.28 | -0.28 | -1.66 | 0.00 | -3.60 | -4.71 | 5.54 | 18.01 |
| Cease Fire Signed | 7/27/1953 | 4.08 | 3.80 | 4.43 | 4.21 | 4.25 | 4.16 | 4.12 | 4.13 | 4.12 | 3.93 | 3.89 | 3.78 | 4.15 | 7.37 | -7.90 | -3.09 | -4.00 | -1.92 | -0.97 | 1.23 | 0.98 | -3.68 | -4.66 | -7.35 | 1.72 |
| Vietnam | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gulf of Tonkin | 8/2/1964 | 5.63 | 5.88 | 4.98 | 5.23 | 5.42 | 5.44 | 5.51 | 5.68 | 5.69 | 5.86 | 6.26 | 6.69 | 6.96 | -4.25 | 13.05 | 7.65 | 3.87 | 3.49 | 2.18 | 0.89 | 1.07 | 4.09 | 11.19 | 18.83 | 23.62 |
| U.S. Marines Sent | 3/8/1965 | 6.33 | 5.20 | 5.31 | 5.68 | 5.77 | 6.26 | 6.43 | 6.40 | 6.56 | 6.69 | 6.80 | 6.52 | 6.57 | 21.73 | 19.21 | 11.44 | 9.71 | 1.12 | -1.56 | 1.11 | 3.63 | 5.69 | 7.42 | 3.00 | 3.79 |
| North Vietnam Overtakes Saigon | 4/30/1975 | 12.78 | 9.84 | 13.04 | 14.17 | 15.21 | 12.76 | 11.83 | 12.58 | 12.58 | 12.29 | 12.90 | 12.37 | 11.18 | 29.88 | -1.99 | -9.76 | -15.96 | 0.15 | 8.01 | -1.58 | -1.58 | -3.84 | 0.89 | -3.21 | -12.53 |
| Gulf War | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Iraq Invades Kuwait | 8/2/1990 | 11.62 | 9.94 | 10.03 | 11.17 | 12.19 | 11.88 | 11.71 | 11.92 | 11.98 | 10.89 | 10.42 | 10.23 | 9.08 | 16.89 | 15.79 | 3.98 | -4.68 | -2.18 | -0.82 | 2.60 | 3.11 | -6.30 | -10.30 | -11.90 | -21.80 |
| U.N. Authorizes Force | 11/29/1990 | 10.93 | 10.29 | 10.85 | 11.88 | 11.55 | 12.02 | 11.51 | 10.97 | 10.41 | 10.21 | 10.44 | 9.97 | 8.36 | 6.19 | 0.71 | -7.96 | -5.33 | -9.03 | -5.01 | 0.32 | -4.74 | -6.63 | -4.51 | -8.79 | -23.55 |
| Desert Storm Begins | 1/17/1991 | 10.53 | 9.77 | 11.25 | 11.65 | 12.01 | 11.42 | 10.81 | 10.09 | 10.40 | 10.51 | 10.26 | 9.59 | 8.33 | 7.80 | -6.36 | -9.64 | -12.35 | -7.81 | -2.60 | -4.18 | -1.23 | -0.20 | -2.53 | -8.93 | -20.90 |
| Ground Assault Begins | 2/24/1991 | 10.10 | 9.88 | 11.84 | 12.06 | 11.58 | 10.94 | 10.40 | 10.34 | 10.26 | 10.60 | 10.01 | 9.35 | 8.05 | 2.29 | -14.69 | -16.20 | -12.71 | -7.62 | -2.86 | 2.29 | 1.53 | 4.91 | -0.93 | -7.45 | -20.31 |
| Kuwait Liberated | 2/27/1991 | 10.18 | 9.91 | 11.93 | 11.92 | 11.51 | 10.97 | 10.41 | 10.21 | 10.35 | 10.65 | 10.01 | 9.38 | 8.02 | 2.80 | -14.65 | -14.57 | -11.52 | -7.14 | -2.21 | 0.22 | 1.64 | 4.59 | -1.69 | -7.93 | -21.20 |
| War on Terrorism | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Afghanistan-U.S. Bombing Begins | 10/7/2001 | 4.84 | 5.93 | 5.15 | 4.82 | 5.19 | 4.98 | 4.97 | 4.47 | 4.87 | 4.84 | 5.23 | - | - | -18.33 | -6.12 | 0.30 | -6.73 | -2.88 | -2.67 | -7.62 | 0.67 | 0.04 | 8.02 | - | - |
| Overall | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 5.11 | -0.66 | -2.81 | -3.17 | -1.77 | -0.51 | 0.20 | 1.05 | 0.47 | 0.40 | -0.43 | -1.17 |
| Median | | | | | | | | | | | | | | | 2.80 | -5.06 | -3.09 | -1.96 | -0.33 | -0.75 | 0.32 | 0.98 | -0.88 | -1.40 | -4.82 | -6.05 |
| World War I | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 3.78 | -1.82 | -2.04 | -1.02 | -1.89 | -0.97 | 2.15 | 4.81 | 5.21 | 6.25 | 11.51 | 19.51 |
| Median | | | | | | | | | | | | | | | 0.79 | -1.72 | -2.87 | 0.29 | -1.95 | -0.48 | 0.49 | 4.96 | 6.72 | 8.63 | 13.61 | 24.77 |
| World War II | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 1.58 | -2.67 | -2.13 | -0.58 | 0.75 | 0.34 | 0.32 | -0.37 | -1.01 | -2.45 | -4.42 | -4.71 |
| Median | | | | | | | | | | | | | | | -0.54 | -5.28 | -3.49 | -0.80 | 0.31 | -0.16 | 0.17 | -0.13 | -2.49 | -4.94 | -8.15 | -9.37 |
| Vietnam | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 15.79 | 10.09 | 3.11 | -0.79 | 1.59 | 2.88 | 0.14 | 1.04 | 1.98 | 6.50 | 6.21 | 4.96 |
| Median | | | | | | | | | | | | | | | 21.73 | 13.05 | 7.65 | 3.87 | 1.12 | 2.18 | 0.89 | 1.07 | 4.09 | 7.42 | 3.00 | 3.79 |
| Gulf War | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 7.19 | -3.84 | -8.88 | -9.32 | -6.76 | -2.70 | 0.25 | 0.06 | -0.73 | -3.99 | -9.00 | -21.55 |
| Median | | | | | | | | | | | | | | | 6.19 | -6.36 | -9.64 | -11.52 | -7.62 | -2.60 | 0.32 | 1.53 | -0.20 | -2.53 | -8.79 | -21.20 |

Sources: Lehman Brothers Fixed-Income Research and Global Financial Data.

Figure A13. French Treasury Reactions to Various Crisis Events, 1914 through June 2002

| Crisis Grade | Crisis Events | Date | Long Treasury Yield (%) | Long Treasury Yields (%) | | | | | Cumulative Change (bp) in Yields | | | | | Cumulative Percent Change in Yields | | | | |
|--|--|------------|-------------------------|------------------------------------|-------|-------|-------|-------|------------------------------------|-----|------|------|------|-------------------------------------|--------|--------|--------|--------|
| | | | | in Number of Months After Reaction | | | | | in Number of Months After Reaction | | | | | in Number of Months after Reaction | | | | |
| | | | | 1 | 2 | 3 | 4 | 6 | 1 | 2 | 3 | 4 | 6 | 1 | 2 | 3 | 4 | 6 |
| A | Germany Enters World War I | 8/1/1914 | 4.00 | 4.00 | 3.95 | 4.00 | 4.11 | 4.07 | 0 | -5 | 0 | 11 | 7 | 0.00 | -1.32 | 0.00 | 2.74 | 1.63 |
| A | U.S. Declares War on Germany | 4/6/1917 | 4.87 | 4.92 | 4.98 | 4.91 | 4.82 | 4.94 | 5 | 12 | 4 | -5 | 7 | 1.06 | 2.41 | 0.90 | -1.04 | 1.48 |
| A | Pearl Harbor | 12/6/1941 | 3.14 | 3.13 | 3.11 | 3.13 | 3.17 | 3.11 | -1 | -3 | -1 | 3 | -3 | -0.32 | -0.96 | -0.32 | 0.96 | -0.96 |
| A | Korean War | 6/23/1950 | 5.06 | 4.97 | 5.10 | 5.30 | 5.24 | 5.39 | -9 | 4 | 24 | 18 | 33 | -1.78 | 0.79 | 4.74 | 3.56 | 6.52 |
| A | Cuban Missile Crisis | 10/19/1962 | 4.97 | 5.01 | 4.98 | 4.87 | 4.87 | 5.06 | 4 | 1 | -10 | -10 | 9 | 0.80 | 0.20 | -2.01 | -2.01 | 1.81 |
| A | Gulf of Tonkin | 8/2/1964 | 4.97 | 5.06 | 5.10 | 5.08 | 5.11 | 5.07 | 9 | 13 | 11 | 14 | 10 | 1.81 | 2.62 | 2.21 | 2.82 | 2.01 |
| A | Arab Oil Embargo | 10/18/1973 | 9.42 | 9.50 | 9.50 | 9.65 | 10.21 | 10.69 | 8 | 8 | 23 | 79 | 127 | 0.85 | 0.85 | 2.44 | 8.39 | 13.48 |
| A | Gulf War Ultimatum | 12/24/1990 | 9.97 | 9.65 | 9.02 | 9.09 | 8.88 | 9.17 | -32 | -95 | -88 | -109 | -80 | -3.21 | -9.53 | -8.83 | -10.93 | -8.02 |
| A | WTC Attack | 9/11/2001 | 4.93 | 4.91 | 4.43 | 4.97 | 4.99 | 5.23 | -2 | -49 | 4 | 7 | 30 | -0.31 | -10.01 | 0.85 | 1.35 | 6.12 |
| B | Archduke Ferdinand Assassinated | 6/28/1914 | 3.61 | 3.85 | 4.00 | 3.95 | 4.00 | 4.16 | 23 | 39 | 34 | 39 | 55 | 6.48 | 10.73 | 9.28 | 10.73 | 15.19 |
| B | Fall of France | 5/9/1940 | 4.03 | 4.27 | 4.27 | 4.14 | 4.01 | 3.79 | 24 | 24 | 11 | -2 | -24 | 5.96 | 5.96 | 2.73 | -0.50 | -5.96 |
| B | France Falls at Dien Bien Phu | 5/8/1954 | 5.48 | 5.45 | 5.52 | 5.25 | 5.33 | 5.29 | -3 | 4 | -23 | -15 | -19 | -0.55 | 0.73 | -4.20 | -2.74 | -3.47 |
| B | Sputnik | 10/3/1957 | 6.11 | 6.11 | 5.90 | 5.92 | 5.95 | 6.00 | 0 | -21 | -19 | -16 | -11 | 0.00 | -3.44 | -3.11 | -2.62 | -1.80 |
| B | Soviet Tanks Invade Prague | 8/20/1968 | 5.82 | 5.96 | 5.95 | 5.81 | 5.77 | 5.93 | 14 | 13 | -1 | -5 | 11 | 2.41 | 2.23 | -0.17 | -0.86 | 1.89 |
| B | Iranian Revolution | 1/16/1979 | 9.94 | 9.68 | 9.77 | 9.65 | 9.64 | 10.71 | -26 | -17 | -29 | -30 | 77 | -2.62 | -1.71 | -2.92 | -3.02 | 7.75 |
| B | USSR Invasion of Afghanistan | 12/24/1979 | 12.09 | 12.59 | 12.52 | 14.11 | 14.44 | 13.49 | 50 | 43 | 202 | 235 | 140 | 4.14 | 3.56 | 16.71 | 19.44 | 11.58 |
| B | U.S. Invades Grenada | 10/24/1983 | 14.03 | 14.15 | 13.16 | 12.84 | 12.91 | 12.86 | 12 | -87 | -119 | -112 | -117 | 0.86 | -6.20 | -8.48 | -7.98 | -8.34 |
| B | Invasion of Panama | 12/15/1989 | 9.14 | 9.47 | 10.00 | 10.02 | 9.58 | 9.76 | 33 | 86 | 88 | 44 | 62 | 3.60 | 9.40 | 9.62 | 4.80 | 6.77 |
| B | Gorbachev Coup | 8/16/1991 | 9.05 | 8.79 | 8.73 | 8.69 | 8.78 | 8.48 | -26 | -32 | -36 | -27 | -57 | -2.87 | -3.54 | -3.98 | -2.98 | -6.30 |
| C | Easter Rebellion (Ireland) | 4/14/1916 | 4.76 | 4.78 | 4.81 | 4.69 | 4.71 | 4.91 | 2 | 5 | -7 | -6 | 15 | 0.40 | 0.96 | -1.56 | -1.18 | 3.11 |
| C | U.S. Bombs Cambodia | 4/30/1970 | 7.68 | 7.68 | 7.49 | 7.69 | 7.56 | 7.52 | 0 | -19 | 1 | -12 | -16 | 0.00 | -2.47 | 0.13 | -1.56 | -2.08 |
| C | Falkland Islands War | 4/1/1982 | 16.35 | 16.29 | 16.13 | 15.98 | 15.98 | 15.79 | -6 | -22 | -37 | -37 | -56 | -0.37 | -1.35 | -2.26 | -2.26 | -3.43 |
| C | U.S. Bombs Libya | 4/15/1986 | 8.05 | 7.79 | 8.22 | 7.96 | 7.76 | 8.38 | -26 | 17 | -9 | -29 | 33 | -3.23 | 2.11 | -1.12 | -3.60 | 4.10 |
| C | U.S. Embassy Bombings in Nairobi and Dar es Salaam | 8/7/1998 | 4.65 | 4.37 | 3.95 | 4.26 | 3.98 | 3.79 | -28 | -70 | -39 | -67 | -86 | -6.02 | -15.05 | -8.39 | -14.41 | -18.49 |
| 1 | Hunt Silver Crisis | 2/13/1980 | 12.52 | 14.11 | 14.44 | 13.95 | 13.49 | 13.43 | 159 | 192 | 143 | 97 | 91 | 12.70 | 15.34 | 11.42 | 7.75 | 7.27 |
| 1 | Riots and Labor Strikes in France | 5/6/1968 | 5.72 | 5.96 | 5.94 | 5.82 | 5.96 | 5.81 | 24 | 22 | 10 | 24 | 9 | 4.20 | 3.85 | 1.75 | 4.20 | 1.57 |
| 1 | Terrorist Attack in Paris Metro | 7/25/1995 | 7.29 | 7.16 | 7.31 | 7.46 | 6.81 | 6.15 | -13 | 2 | 17 | -48 | -114 | -1.78 | 0.27 | 2.33 | -6.58 | -15.64 |
| 2 | William McKinley Assassinated | 9/6/1901 | 2.98 | 2.98 | 2.96 | 2.97 | 2.98 | 2.98 | 0 | -2 | -1 | 0 | 0 | 0.00 | -0.67 | -0.34 | 0.00 | 0.00 |
| 2 | U.S. Financial Panic of 1907 | 10/21/1907 | 3.19 | 3.14 | 3.14 | 3.11 | 3.08 | 3.11 | -5 | -5 | -8 | -11 | -8 | -1.57 | -1.57 | -2.51 | -3.45 | -2.51 |
| 2 | Bloody Sunday (N. Ireland) | 11/21/1920 | 5.33 | 5.14 | 5.08 | 5.12 | 5.15 | 5.24 | -20 | -25 | -21 | -18 | -9 | -3.68 | -4.66 | -4.01 | -3.43 | -1.75 |
| 2 | Earthquake in Tokyo | 9/1/1923 | 5.27 | 5.39 | 5.39 | 5.50 | 5.63 | 5.30 | 12 | 12 | 23 | 37 | 3 | 2.24 | 2.24 | 4.40 | 6.95 | 0.62 |
| 2 | U.S. Stock Market Crash | 10/29/1929 | 3.87 | 3.72 | 3.61 | 3.61 | 3.34 | 3.41 | -15 | -26 | -26 | -53 | -46 | -3.88 | -6.72 | -6.72 | -13.70 | -11.89 |
| 2 | Truman Upset Victory | 11/2/1948 | 4.57 | 4.66 | 4.69 | 4.01 | 3.95 | 4.82 | 9 | 12 | -56 | -62 | 25 | 1.97 | 2.63 | -12.25 | -13.57 | 5.47 |
| 2 | Eisenhower Heart Attack | 9/23/1955 | 5.22 | 5.26 | 5.29 | 5.28 | 5.22 | 5.12 | 4 | 7 | 6 | 0 | -10 | 0.77 | 1.34 | 1.15 | 0.00 | -1.92 |
| 2 | JFK Assassination | 11/21/1963 | 4.94 | 4.99 | 4.89 | 4.99 | 5.03 | 5.05 | 5 | -5 | 5 | 9 | 11 | 1.01 | -1.01 | 1.01 | 1.82 | 2.23 |
| 2 | Kent State Shootings | 5/4/1970 | 7.68 | 7.49 | 7.69 | 7.56 | 7.56 | 7.77 | -19 | 1 | -12 | -12 | 9 | -2.47 | 0.13 | -1.56 | -1.56 | 1.17 |
| 2 | Nixon Resigns | 8/9/1974 | 11.40 | 11.40 | 11.38 | 11.14 | 11.17 | 10.90 | 0 | -2 | -26 | -23 | -50 | 0.00 | -0.18 | -2.28 | -2.02 | -4.39 |
| 2 | U.S. Stock Market Crash of 1987 | 10/2/1987 | 10.54 | 10.09 | 9.83 | 9.96 | 9.11 | 9.46 | -45 | -71 | -58 | -143 | -108 | -4.27 | -6.74 | -5.50 | -13.57 | -10.25 |
| 2 | ERM U.K. Currency Crisis | 9/14/1992 | 8.81 | 8.46 | 7.99 | 8.14 | 7.90 | 7.32 | -35 | -82 | -67 | -91 | -149 | -3.97 | -9.31 | -7.60 | -10.33 | -16.91 |
| 2 | WTC Bombing | 2/26/1993 | 7.52 | 7.23 | 7.12 | 7.12 | 6.72 | 6.22 | -29 | -40 | -40 | -80 | -130 | -3.86 | -5.32 | -5.32 | -10.64 | -17.29 |
| 2 | Orange County, CA Bankruptcy & Financial Crisis | 12/6/1994 | 7.82 | 8.31 | 7.98 | 8.05 | 7.72 | 7.30 | 49 | 16 | 23 | -10 | -52 | 6.27 | 2.05 | 2.94 | -1.28 | -6.65 |
| 2 | Mexico - Tequila Crisis | 12/19/1994 | 8.05 | 8.11 | 7.94 | 7.91 | 7.77 | 7.51 | 6 | -11 | -14 | -28 | -54 | 0.75 | -1.37 | -1.74 | -3.48 | -6.71 |
| 2 | Poison Gas Attack in Tokyo Subway | 3/20/1995 | 7.92 | 7.81 | 7.39 | 7.51 | 7.33 | 7.07 | -11 | -53 | -41 | -59 | -85 | -1.39 | -6.69 | -5.18 | -7.45 | -10.73 |
| 2 | Oklahoma City Bombing | 4/19/1995 | 7.81 | 7.39 | 7.51 | 7.33 | 7.22 | 7.39 | -42 | -30 | -48 | -59 | -42 | -5.38 | -3.84 | -6.15 | -7.55 | -5.38 |
| 2 | Asian Stock Market Crisis | 10/7/1997 | 5.43 | 5.66 | 5.43 | 5.18 | 5.12 | 4.85 | 23 | 0 | -25 | -31 | -58 | 4.24 | 0.00 | -4.60 | -5.71 | -10.68 |
| 2 | Russia, LTCM Crisis | 8/18/1998 | 4.57 | 4.11 | 4.23 | 4.27 | 3.89 | 3.90 | -46 | -34 | -30 | -68 | -67 | -10.07 | -7.44 | -6.56 | -14.88 | -14.66 |
| Overall | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 1 | -6 | -6 | -14 | -15 | -0.02 | -0.88 | -0.98 | -2.20 | -2.05 |
| Median | | | | | | | | | 0 | -2 | -9 | -12 | -9 | 0.00 | -0.42 | -1.56 | -2.01 | -1.77 |
| Geopolitical Risk | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 1 | -6 | -1 | -1 | 6 | 0.30 | -0.54 | 0.09 | -0.12 | 1.02 |
| Median | | | | | | | | | 0 | 2 | -1 | -5 | 8 | 0.00 | 0.47 | -0.25 | -1.11 | 1.72 |
| Political Events | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 1 | -6 | -11 | -29 | -38 | -0.37 | -1.26 | -2.15 | -4.48 | -5.41 |
| Median | | | | | | | | | -2 | -3 | -18 | -26 | -44 | -0.69 | -0.84 | -2.39 | -3.46 | -4.88 |
| High Geopolitical Risk (A) | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -2 | -13 | -4 | 1 | 16 | -0.12 | -1.66 | 0.00 | 0.65 | 2.67 |
| Median | | | | | | | | | 0 | 1 | 4 | 7 | 9 | 0.00 | 0.20 | 0.85 | 1.35 | 1.81 |
| Medium Geopolitical Risk (B) | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 10 | 5 | 11 | 11 | 12 | 1.74 | 1.77 | 1.55 | 1.43 | 1.73 |
| Median | | | | | | | | | 13 | 8 | -10 | -10 | 0 | 1.63 | 1.48 | -1.54 | -1.74 | 0.04 |
| Low Geopolitical Risk (C) | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -12 | -18 | -18 | -30 | -22 | -1.84 | -3.16 | -2.64 | -4.60 | -3.36 |
| Median | | | | | | | | | -6 | -19 | -9 | -29 | -16 | -0.37 | -1.35 | -1.56 | -2.26 | -2.08 |
| French Political Events (1) | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 57 | 72 | 57 | 24 | -5 | 5.04 | 6.49 | 5.17 | 1.79 | -2.27 |
| Median | | | | | | | | | 24 | 22 | 17 | 24 | 9 | 4.20 | 3.85 | 2.33 | 4.20 | 1.57 |
| Non-French Political Events (2) | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -8 | -18 | -22 | -37 | -43 | -1.23 | -2.48 | -3.31 | -5.47 | -5.91 |
| Median | | | | | | | | | -5 | -5 | -25 | -28 | -46 | -1.39 | -1.37 | -4.01 | -3.48 | -5.38 |

Sources: Lehman Brothers Fixed-Income Research and Global Financial Data.

Crisis Grade Key: A = High Geopolitical Risk, B = Medium Geopolitical Risk, C = Low Geopolitical Risk, 1 = French Political Event, 2 = Non-French Political Event

Figure A14. Performance of Long French Treasuries Before and After Military Conflicts, 1914 through June 2002

| | Date | Long Treasury Yield (%) | Long Treasury Yields (%) in Number of Months Before/After Military Conflict | | | | | | | | | | | | Cumulative Percent Change (%) in Treasury Yields in Number of Months Before/After Military Conflict | | | | | | | | | | | | | |
|---|------------|-------------------------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|--------|--------|--------|-------|-------|-------|-------|-------|--------|--------|--------|-------|--------|
| | | | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| World War I | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Assassination in Sarajevo | 6/28/1914 | 3.61 | 3.26 | 3.49 | 3.51 | 3.44 | 3.46 | 3.50 | 3.85 | 4.00 | 4.00 | 4.16 | 4.26 | 4.81 | 10.84 | 3.55 | 2.83 | 5.00 | 4.28 | 3.07 | 6.48 | 10.73 | 10.73 | 15.19 | 17.88 | 33.09 | | |
| Austria Declares War on Serbia | 7/28/1914 | 3.85 | 3.24 | 3.36 | 3.47 | 3.48 | 3.50 | 3.61 | 4.00 | 3.95 | 4.11 | 4.07 | 4.35 | 4.69 | 18.85 | 14.43 | 10.90 | 10.58 | 9.74 | 6.48 | 4.00 | 2.63 | 6.85 | 5.69 | 13.04 | 21.87 | | |
| U.S. Declares War on Germany | 4/6/1917 | 4.87 | 4.14 | 4.76 | 4.91 | 4.92 | 4.86 | 4.89 | 4.92 | 4.98 | 4.82 | 4.94 | 5.13 | 4.75 | 17.44 | 2.19 | -0.89 | -1.05 | 0.16 | -0.49 | 1.06 | 2.41 | -1.04 | 1.48 | 5.38 | -2.30 | | |
| Austria, Hungary, & Germany Surrender | 11/11/1918 | 4.77 | 4.92 | 5.02 | 5.00 | 4.85 | 4.80 | 4.84 | 4.87 | 4.71 | 4.75 | 4.83 | 5.00 | 5.42 | -3.02 | -5.01 | -4.61 | -1.67 | -0.64 | -1.43 | 2.19 | -1.33 | -0.32 | 1.29 | 4.74 | 13.59 | | |
| World War II | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Germany Invades Poland | 9/1/1939 | 4.09 | 4.01 | 4.03 | 3.60 | 3.69 | 3.98 | 3.94 | 4.45 | 4.35 | 4.18 | 4.04 | 4.14 | 3.30 | 2.00 | 1.49 | 13.61 | 10.84 | 2.76 | 3.81 | 8.80 | 6.36 | 2.20 | -1.22 | 1.22 | -19.32 | | |
| Germany Invades France | 5/10/1949 | 4.82 | 3.66 | 4.65 | 4.57 | 4.69 | 3.95 | 4.74 | 4.79 | 4.91 | 5.06 | 4.92 | 5.15 | 5.58 | 31.69 | 3.66 | 5.47 | 2.77 | 22.03 | 1.69 | -0.62 | 1.87 | 4.98 | 2.07 | 6.85 | 15.77 | | |
| France Surrenders | 6/22/1940 | 4.27 | 4.03 | 3.79 | 4.18 | 4.04 | 4.07 | 4.03 | 4.27 | 4.14 | 4.01 | 3.55 | 3.18 | 3.11 | 5.96 | 12.66 | 2.15 | 5.69 | 4.91 | 5.96 | 0.00 | -3.04 | -6.09 | -16.86 | -25.53 | -27.17 | | |
| Pearl Harbor | 12/7/1941 | 3.14 | 4.18 | 3.55 | 3.18 | 3.30 | 3.13 | 3.18 | 3.13 | 3.11 | 3.17 | 3.11 | 3.09 | 3.10 | -24.88 | -11.55 | -1.26 | -4.85 | 0.32 | -1.26 | -0.32 | -0.96 | 0.96 | -0.96 | -1.59 | -1.27 | | |
| Germany Surrenders | 5/7/1945 | 2.98 | 3.13 | 3.09 | 2.97 | 2.99 | 2.98 | 2.96 | 2.94 | 3.00 | 2.99 | 3.00 | 3.07 | 3.61 | -4.79 | -3.56 | 0.34 | -0.33 | 0.00 | 0.68 | -1.34 | 0.67 | 0.34 | 0.67 | 3.02 | 21.14 | | |
| Hiroshima/Nagasaki and Japanese Surrender | 8/14/1945 | 3.00 | 3.13 | 2.91 | 2.96 | 2.96 | 2.94 | 3.00 | 2.99 | 3.00 | 3.01 | 3.04 | 3.21 | 4.01 | -4.15 | 3.09 | 1.35 | 1.35 | 2.04 | 0.00 | -0.33 | 0.00 | 0.33 | 1.33 | 7.00 | 33.67 | | |
| Korea | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| North Korea Invades | 6/25/1950 | 5.06 | 4.84 | 4.91 | 5.00 | 5.26 | 4.96 | 5.15 | 4.97 | 5.10 | 5.24 | 5.39 | 5.48 | 5.20 | 4.55 | 3.05 | 1.20 | -3.80 | 2.02 | -1.75 | -1.78 | 0.79 | 3.56 | 6.52 | 8.30 | 2.77 | | |
| Cease Fire Signed | 7/27/1953 | 5.43 | 5.39 | 5.32 | 5.31 | 5.54 | 5.39 | 5.38 | 5.27 | 5.32 | 5.36 | 5.43 | 5.52 | 5.21 | 0.74 | 2.07 | 2.26 | -1.99 | 0.74 | 0.93 | -2.95 | -2.03 | -1.29 | 0.00 | 1.66 | -4.05 | | |
| Vietnam | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gulf of Tonkin | 8/2/1964 | 4.97 | 5.10 | 5.04 | 4.99 | 4.97 | 5.15 | 5.36 | 5.06 | 5.10 | 5.11 | 5.07 | 5.25 | 5.40 | -2.55 | -1.39 | -0.40 | 0.00 | -3.50 | -7.28 | 1.81 | 2.62 | 2.82 | 2.01 | 5.63 | 8.65 | | |
| U.S. Marines Sent | 3/8/1965 | 5.39 | 5.03 | 5.03 | 5.06 | 5.08 | 5.07 | 5.08 | 5.30 | 5.31 | 5.25 | 5.22 | 5.30 | 5.44 | 7.16 | 7.16 | 6.52 | 6.10 | 6.31 | 6.10 | -1.67 | -1.48 | -2.60 | -3.15 | -1.67 | 0.93 | | |
| North Vietnam Overtakes Saigon | 4/30/1975 | 10.36 | 8.62 | 10.70 | 11.14 | 11.21 | 10.69 | 10.34 | 10.36 | 10.31 | 10.20 | 10.10 | 10.29 | 10.88 | 20.19 | -3.18 | -7.00 | -7.58 | -3.09 | 0.19 | 0.00 | -0.48 | -1.54 | -2.51 | -0.68 | 5.02 | | |
| Gulf War | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Iraq Invades Kuwait | 8/2/1990 | 9.63 | 9.31 | 8.32 | 9.67 | 9.54 | 9.67 | 9.56 | 10.26 | 10.52 | 10.05 | 9.54 | 9.19 | 8.97 | 3.44 | 15.80 | -0.41 | 0.94 | -0.41 | 0.73 | 6.54 | 9.24 | 4.36 | -0.93 | -4.57 | -6.85 | | |
| U.N. Authorizes Force | 11/29/1990 | 10.07 | 8.71 | 9.00 | 9.67 | 9.50 | 10.60 | 10.31 | 9.98 | 9.58 | 9.09 | 8.99 | 8.92 | 8.06 | 15.61 | 11.85 | 4.14 | 6.00 | -5.00 | -2.33 | -0.89 | -4.87 | -9.73 | -10.72 | -11.42 | -19.96 | | |
| Desert Storm Begins | 1/17/1991 | 9.70 | 8.64 | 9.59 | 9.51 | 10.48 | 10.28 | 9.88 | 9.02 | 9.00 | 8.84 | 9.11 | 8.43 | 7.99 | 12.31 | 1.15 | 2.00 | -7.44 | -5.64 | -1.82 | -7.01 | -7.22 | -8.87 | -6.08 | -13.09 | -17.63 | | |
| Ground Assault Begins | 2/24/1991 | 9.02 | 9.09 | 10.28 | 10.28 | 10.25 | 9.99 | 9.54 | 9.17 | 8.89 | 9.24 | 9.01 | 8.53 | 7.76 | -0.79 | -12.26 | -12.26 | -12.00 | -9.71 | -5.45 | 1.66 | -1.44 | 2.44 | -0.11 | -5.43 | -13.97 | | |
| Kuwait Liberated | 2/27/1991 | 9.09 | 9.15 | 10.33 | 10.26 | 10.31 | 9.98 | 9.58 | 9.09 | 8.91 | 9.15 | 9.03 | 8.52 | 7.76 | -0.68 | -12.00 | -11.40 | -11.83 | -8.92 | -5.11 | 0.00 | -1.98 | 0.66 | -0.66 | -6.27 | -14.63 | | |
| War on Terrorism | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Afghanistan-U.S. Bombing Begins | 10/7/2001 | 4.84 | 5.93 | 5.15 | 4.82 | 5.19 | 4.98 | 4.97 | 4.47 | 4.87 | 4.84 | 5.23 | - | - | -18.33 | -6.12 | 0.30 | -6.73 | -2.88 | -2.67 | -7.62 | 0.67 | 0.04 | 8.02 | - | - | | |
| Overall | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | 4.36 | 1.29 | 0.71 | -0.48 | 0.74 | 0.00 | 0.38 | 0.63 | 0.42 | 0.05 | 0.22 | 1.47 |
| Median | | | | | | | | | | | | | | | | | 3.44 | 2.07 | 1.20 | -0.33 | 0.16 | 0.00 | 0.00 | 0.00 | 0.34 | 0.00 | 1.44 | -0.17 |
| World War I | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | 11.03 | 3.79 | 2.06 | 3.21 | 3.39 | 1.91 | 3.43 | 3.61 | 4.06 | 5.91 | 10.26 | 16.56 |
| Median | | | | | | | | | | | | | | | | | 14.14 | 2.87 | 0.97 | 1.97 | 2.22 | 1.29 | 3.10 | 2.52 | 3.27 | 3.59 | 9.21 | 17.73 |
| World War II | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | 0.97 | 0.97 | 3.61 | 2.58 | 5.34 | 1.81 | 1.03 | 0.82 | 0.45 | -2.49 | -1.51 | 3.80 |
| Median | | | | | | | | | | | | | | | | | -1.08 | 2.29 | 1.75 | 2.06 | 2.40 | 1.18 | -0.33 | 0.34 | 0.65 | -0.14 | 2.12 | 7.25 |
| Vietnam | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | 8.26 | 0.86 | -0.29 | -0.49 | -0.09 | -0.33 | 0.05 | 0.22 | -0.44 | -1.22 | 1.10 | 4.87 |
| Median | | | | | | | | | | | | | | | | | 7.16 | -1.39 | -0.40 | 0.00 | -3.09 | 0.19 | 0.00 | -0.48 | -1.54 | -2.51 | -0.68 | 5.02 |
| Gulf War | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | | 5.98 | 0.91 | -3.59 | -4.87 | -5.94 | -2.80 | 0.06 | -1.25 | -2.23 | -3.70 | -8.16 | -14.61 |
| Median | | | | | | | | | | | | | | | | | 3.44 | 1.15 | -0.41 | -7.44 | -5.64 | -2.33 | 0.00 | -1.98 | 0.66 | -0.93 | -6.27 | -14.63 |

Sources: Lehman Brothers Fixed-Income Research and Global Financial Data.

Figure A15. German Bund Reactions to Various Crisis Events, 1914 through June 2002

| Crisis Grade | Crisis Events | Date | Long Bund Yield (%) | Long Bund Yields (%) | | | | | | Cumulative Change (bp) in Yields | | | | | | Cumulative Percent Change in Yields | | | | | |
|-------------------------------------|--|------------|---------------------|------------------------------------|-------|-------|-------|-------|-----|------------------------------------|-----|------|------|--------|--------|-------------------------------------|--------|----------|----------|--|--|
| | | | | in Number of Months After Reaction | | | | | | in Number of Months After Reaction | | | | | | in Number of Months after Reaction | | | | | |
| | | | | 1 | 2 | 3 | 4 | 6 | 1 | 2 | 3 | 4 | 6 | 1 | 2 | 3 | 4 | 6 | | | |
| A | Germany Enters World War I | 8/1/1914 | 4.06 | 4.17 | 4.17 | 4.17 | 4.17 | 4.17 | 11 | 11 | 11 | 11 | 11 | 2.70 | 2.70 | 2.70 | 2.70 | 2.70 | 2.70 | | |
| A | U.S. Declares War on Germany | 4/6/1917 | 4.71 | 4.71 | 4.71 | 4.71 | 4.71 | 4.71 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| A | Pearl Harbor | 12/6/1941 | 4.35 | 4.35 | 4.35 | 4.35 | 4.35 | 4.35 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| A | Korean War | 6/23/1950 | 5.17 | 5.21 | 5.23 | 5.14 | 5.11 | 5.16 | 4 | 6 | -3 | -6 | -1 | 0.78 | 1.18 | -0.51 | -1.15 | -0.13 | -0.13 | | |
| A | Cuban Missile Crisis | 10/19/1962 | 6.00 | 6.20 | 6.20 | 6.10 | 6.00 | 6.00 | 20 | 20 | 10 | 0 | 0 | 3.33 | 3.33 | 1.67 | 0.00 | 0.00 | 0.00 | | |
| A | Gulf of Tonkin | 8/2/1964 | 6.30 | 6.30 | 6.40 | 6.40 | 6.40 | 6.40 | 0 | 10 | 10 | 10 | 10 | 0.00 | 1.59 | 1.59 | 1.59 | 1.59 | 1.59 | | |
| A | Arab Oil Embargo | 10/18/1973 | 9.60 | 9.70 | 9.50 | 9.60 | 9.60 | 10.40 | 10 | -10 | 0 | 0 | 80 | 1.04 | -1.04 | 0.00 | 0.00 | 0.00 | 8.33 | | |
| A | Gulf War Ultimatum | 12/24/1990 | 9.06 | 9.10 | 8.51 | 8.56 | 8.55 | 8.48 | 4 | -55 | -50 | -51 | -58 | 0.44 | -6.07 | -5.52 | -5.63 | -6.40 | -6.40 | | |
| A | WTC Attack | 9/11/2001 | 4.74 | 4.53 | 4.21 | 4.73 | 4.82 | 5.13 | -21 | -53 | -1 | 8 | 39 | -4.43 | -11.18 | -0.21 | 1.69 | 8.23 | 8.23 | | |
| B | Archduke Ferdinand Assassinated | 6/28/1914 | 4.03 | 4.04 | 4.06 | 4.17 | 4.17 | 4.17 | 1 | 3 | 14 | 14 | 14 | 0.31 | 0.65 | 3.37 | 3.37 | 3.37 | 3.37 | | |
| B | Fall of France | 5/9/1940 | 4.46 | 4.46 | 4.46 | 4.46 | 4.46 | 4.40 | 0 | 0 | 0 | 0 | -6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -1.35 | | |
| B | France Falls at Dien Bien Phu | 5/8/1954 | 5.31 | 5.30 | 5.29 | 5.24 | 5.12 | 5.04 | 0 | -2 | -7 | -19 | -27 | -0.09 | -0.39 | -1.32 | -3.52 | -5.11 | -5.11 | | |
| B | Sputnik | 10/3/1957 | 7.60 | 7.70 | 7.70 | 7.70 | 7.70 | 7.40 | 10 | 10 | 10 | 10 | -20 | 1.32 | 1.32 | 1.32 | 1.32 | 1.32 | -2.63 | | |
| B | Soviet Tanks Invade Prague | 8/20/1968 | 6.40 | 6.30 | 6.30 | 6.30 | 6.30 | 6.30 | -10 | -10 | -10 | -10 | -10 | -1.56 | -1.56 | -1.56 | -1.56 | -1.56 | -1.56 | | |
| B | Iranian Revolution | 1/16/1979 | 6.38 | 6.73 | 6.85 | 6.97 | 7.68 | 7.84 | 35 | 47 | 59 | 130 | 146 | 5.49 | 7.37 | 9.25 | 20.38 | 22.88 | 22.88 | | |
| B | USSR Invasion of Afghanistan | 12/24/1979 | 7.91 | 8.10 | 8.62 | 9.75 | 9.09 | 7.99 | 19 | 71 | 184 | 118 | 8 | 2.40 | 8.98 | 23.26 | 14.92 | 1.01 | 1.01 | | |
| B | U.S. Invades Grenada | 10/24/1983 | 8.08 | 8.08 | 8.24 | 8.15 | 8.00 | 7.87 | 0 | 16 | 7 | -8 | -21 | 0.00 | 1.98 | 0.87 | -0.99 | -2.60 | -2.60 | | |
| B | Invasion of Panama | 12/15/1989 | 7.54 | 7.93 | 8.79 | 8.93 | 8.90 | 9.03 | 39 | 125 | 139 | 136 | 149 | 5.17 | 16.58 | 18.44 | 18.04 | 19.76 | 19.76 | | |
| B | Gorbachev Coup | 8/16/1991 | 8.68 | 8.60 | 8.46 | 8.47 | 8.42 | 7.96 | -8 | -22 | -21 | -26 | -72 | -0.92 | -2.53 | -2.42 | -3.00 | -8.29 | -8.29 | | |
| C | Easter Rebellion (Ireland) | 4/14/1916 | 4.73 | 4.73 | 4.73 | 4.73 | 4.73 | 4.73 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| C | U.S. Bombs Cambodia | 4/30/1970 | 8.10 | 8.10 | 8.40 | 8.70 | 8.70 | 8.50 | 0 | 30 | 60 | 60 | 40 | 0.00 | 3.70 | 7.41 | 7.41 | 4.94 | 4.94 | | |
| C | Falkland Islands War | 4/1/1982 | 9.17 | 8.74 | 8.80 | 9.38 | 9.18 | 8.55 | -43 | -37 | 21 | 1 | -62 | -4.69 | -4.03 | 2.29 | 0.11 | -6.76 | -6.76 | | |
| C | U.S. Bombs Libya | 4/15/1986 | 5.47 | 5.81 | 5.86 | 5.85 | 5.64 | 5.86 | 34 | 39 | 38 | 17 | 39 | 6.22 | 7.13 | 6.95 | 3.11 | 7.13 | 7.13 | | |
| C | U.S. Embassy Bombings in Nairobi and Dar es Salaam | 8/7/1998 | 4.61 | 4.38 | 3.98 | 4.19 | 3.98 | 3.78 | -23 | -63 | -42 | -63 | -83 | -4.99 | -13.67 | -9.11 | -13.67 | -18.00 | -18.00 | | |
| 1 | Hunt Silver Crisis | 2/13/1980 | 8.37 | 9.33 | 9.53 | 8.64 | 8.25 | 7.71 | 96 | 116 | 27 | -12 | -66 | 11.47 | 13.86 | 3.23 | -1.43 | -7.89 | -7.89 | | |
| 2 | William McKinley Assassinated | 9/6/1901 | 3.61 | 3.63 | 3.64 | 3.63 | 3.62 | 3.52 | 2 | 3 | 2 | 1 | -9 | 0.55 | 0.83 | 0.55 | 0.28 | -2.49 | -2.49 | | |
| 2 | U.S. Financial Panic of 1907 | 10/21/1907 | 3.77 | 3.79 | 3.82 | 3.82 | 3.81 | 3.83 | 2 | 5 | 5 | 4 | 6 | 0.53 | 1.33 | 1.33 | 1.06 | 1.59 | 1.59 | | |
| 2 | Bloody Sunday (N. Ireland) | 11/21/1920 | 6.50 | 6.37 | 5.98 | 6.21 | 6.16 | 5.93 | -13 | -53 | -30 | -35 | -58 | -2.05 | -8.09 | -4.54 | -5.34 | -8.85 | -8.85 | | |
| 2 | Earthquake in Tokyo | 9/1/1923 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 8.05 | -1 | -1 | -1 | -1 | 804 | -97.60 | -97.60 | -97.60 | -97.60 | 64300.00 | 64300.00 | | |
| 2 | U.S. Stock Market Crash | 10/29/1929 | 6.48 | 6.49 | 6.48 | 6.48 | 6.45 | 6.28 | 1 | 0 | 0 | -3 | -20 | 0.15 | 0.00 | 0.00 | -0.46 | -3.09 | -3.09 | | |
| 2 | Truman Upset Victory | 11/2/1948 | 5.14 | 5.57 | 5.56 | 5.14 | 4.91 | 5.24 | 43 | 41 | 0 | -23 | 9 | 8.36 | 8.06 | 0.00 | -4.42 | 1.83 | 1.83 | | |
| 2 | Eisenhower Heart Attack | 9/23/1955 | 4.89 | 4.91 | 4.93 | 4.96 | 4.98 | 6.07 | 2 | 4 | 7 | 9 | 118 | 0.38 | 0.75 | 1.34 | 1.74 | 24.19 | 24.19 | | |
| 2 | JFK Assassination | 11/21/1963 | 6.10 | 6.00 | 6.00 | 5.90 | 5.90 | 6.20 | -10 | -10 | -20 | -20 | 10 | -1.64 | -1.64 | -3.28 | -3.28 | 1.64 | 1.64 | | |
| 2 | Riots and Labor Strikes in France | 5/6/1968 | 6.60 | 6.40 | 6.40 | 6.40 | 6.30 | 6.30 | -20 | -20 | -20 | -30 | -30 | -3.03 | -3.03 | -3.03 | -4.55 | -4.55 | -4.55 | | |
| 2 | Kent State Shootings | 5/4/1970 | 8.10 | 8.40 | 8.70 | 8.70 | 8.40 | 8.70 | 30 | 60 | 60 | 30 | 60 | 3.70 | 7.41 | 7.41 | 3.70 | 7.41 | 7.41 | | |
| 2 | Nixon Resigns | 8/9/1974 | 10.70 | 10.70 | 10.70 | 10.70 | 10.40 | 9.30 | 0 | 0 | 0 | -30 | -140 | 0.00 | 0.00 | 0.00 | -2.80 | -13.08 | -13.08 | | |
| 2 | U.S. Stock Market Crash of 1987 | 10/2/1987 | 6.29 | 6.11 | 5.88 | 5.88 | 5.86 | 5.66 | -18 | -41 | -41 | -43 | -63 | -2.86 | -6.52 | -6.52 | -6.84 | -10.02 | -10.02 | | |
| 2 | ERM U.K. Currency Crisis | 9/14/1992 | 7.99 | 7.55 | 7.27 | 7.17 | 6.94 | 6.26 | -44 | -72 | -82 | -105 | -173 | -5.51 | -9.01 | -10.26 | -13.14 | -21.65 | -21.65 | | |
| 2 | WTC Bombing | 2/26/1993 | 6.45 | 6.44 | 6.52 | 6.67 | 6.56 | 6.21 | -1 | 7 | 22 | 11 | -24 | -0.16 | 1.09 | 3.41 | 1.71 | -3.72 | -3.72 | | |
| 2 | Orange County, CA Bankruptcy & Financial Crisis | 12/6/1994 | 7.48 | 7.75 | 7.53 | 7.38 | 7.05 | 6.57 | 27 | 5 | -10 | -43 | -91 | 3.61 | 0.67 | -1.34 | -5.75 | -12.17 | -12.17 | | |
| 2 | Mexico - Tequila Crisis | 12/19/1994 | 7.58 | 7.65 | 7.46 | 7.20 | 7.05 | 6.78 | 7 | -12 | -38 | -53 | -80 | 0.92 | -1.58 | -5.01 | -6.99 | -10.55 | -10.55 | | |
| 2 | Poison Gas Attack in Tokyo Subway | 3/20/1995 | 7.19 | 7.02 | 6.78 | 6.78 | 6.76 | 6.28 | -17 | -41 | -41 | -43 | -91 | -2.36 | -5.70 | -5.70 | -5.98 | -12.66 | -12.66 | | |
| 2 | Oklahoma City Bombing | 4/19/1995 | 7.02 | 6.78 | 6.78 | 6.76 | 6.71 | 6.33 | -24 | -24 | -26 | -31 | -69 | -3.42 | -3.42 | -3.70 | -4.42 | -9.83 | -9.83 | | |
| 2 | Terrorist Attack in Paris Metro | 7/25/1995 | 6.75 | 6.62 | 6.29 | 6.33 | 6.06 | 5.46 | -13 | -46 | -42 | -69 | -129 | -1.93 | -6.81 | -6.22 | -10.22 | -19.11 | -19.11 | | |
| 2 | Asian Stock Market Crisis | 10/7/1997 | 5.22 | 5.51 | 5.32 | 5.15 | 4.94 | 4.82 | 29 | 10 | -7 | -28 | -40 | 5.56 | 1.92 | -1.34 | -5.36 | -7.66 | -7.66 | | |
| 2 | Russia, LTCM Crisis | 8/18/1998 | 4.50 | 4.13 | 4.13 | 4.25 | 3.90 | 3.81 | -37 | -37 | -25 | -60 | -69 | -8.22 | -8.22 | -5.56 | -13.33 | -15.33 | -15.33 | | |
| Overall | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 3 | 1 | 4 | -5 | 1 | -1.76 | -2.17 | -1.70 | -3.01 | 1395.68 | | | |
| Median | | | | | | | | | 0 | 0 | 0 | -2 | -10 | 0.00 | 0.00 | 0.00 | -0.73 | -2.03 | | | |
| Geopolitical Risk | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 3 | 6 | 18 | 14 | 7 | 0.52 | 0.67 | 2.43 | 1.88 | 1.13 | | | |
| Median | | | | | | | | | 0 | 1 | 4 | 0 | 0 | 0.00 | 0.32 | 0.43 | 0.00 | 0.00 | | | |
| Political Events | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 2 | -5 | -12 | -26 | -7 | -4.25 | -5.26 | -6.22 | -8.34 | 2917.00 | | | |
| Median | | | | | | | | | 0 | -1 | -9 | -29 | -49 | -0.08 | -0.79 | -2.19 | -4.48 | -7.77 | | | |
| High Geopolitical Risk (A) | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 3 | -8 | -3 | -3 | 9 | 0.43 | -1.06 | -0.03 | -0.09 | 1.59 | | | |
| Median | | | | | | | | | 4 | 0 | 0 | 0 | 0 | 0.44 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| Medium Geopolitical Risk (B) | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 9 | 24 | 37 | 34 | 16 | 1.21 | 3.24 | 5.12 | 4.89 | 2.55 | | | |
| Median | | | | | | | | | 1 | 6 | 9 | 5 | -8 | 0.16 | 0.98 | 1.09 | 0.66 | -1.45 | | | |
| Low Geopolitical Risk (C) | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -6 | -6 | 15 | 3 | -13 | -0.69 | -1.37 | 1.51 | -0.61 | -2.54 | | | |
| Median | | | | | | | | | 0 | 0 | 21 | 1 | 0 | 0.00 | 0.00 | 2.29 | 0.11 | 0.00 | | | |
| German Political Events (1) | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 96 | 116 | 27 | -12 | -66 | 11.47 | 13.86 | 3.23 | -1.43 | -7.89 | | | |
| Median | | | | | | | | | 96 | 116 | 27 | -12 | -66 | 11.47 | 13.8 | | | | | | |

Figure A16. Performance of Long German Bunds Before and After Military Conflicts, 1914 through June 2002

| | Date | Long Bund Yield (%) | Long Bund Yields (%) | | | | | | | | | | | | Cumulative Percent Change (%) in Bund Yields | | | | | | | | | | | | |
|---|------------|---------------------|--|-------|-------|------|------|------|------|------|------|------|------|------|--|--------|--------|--------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| | | | in Number of Months Before/After Military Conflict | | | | | | | | | | | | in Number of Months Before/After Military Conflict | | | | | | | | | | | | |
| | | | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 | |
| World War I | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Assassination in Sarajevo | 6/28/1914 | 4.03 | 3.90 | 4.12 | 4.11 | 4.01 | 4.06 | 4.02 | 4.04 | 4.06 | 4.17 | 4.17 | 4.17 | 4.17 | 4.73 | 3.36 | -2.16 | -1.92 | 0.63 | -0.63 | 0.16 | 0.31 | 0.65 | 3.37 | 3.37 | 3.37 | 17.32 |
| Austria Declares War on Serbia | 7/28/1914 | 4.04 | 3.91 | 4.15 | 4.10 | 4.01 | 4.02 | 4.03 | 4.06 | 4.17 | 4.17 | 4.17 | 4.17 | 4.73 | 3.41 | -2.57 | -1.38 | 0.95 | 0.47 | 0.31 | 0.34 | 3.05 | 3.05 | 3.05 | 3.05 | 16.96 | |
| U.S. Declares War on Germany | 4/6/1917 | 4.71 | 4.17 | 4.73 | 4.73 | 4.71 | 4.71 | 4.71 | 4.71 | 4.71 | 4.71 | 4.71 | 4.68 | 5.12 | 12.94 | -0.50 | -0.50 | -0.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.58 | 8.90 |
| Austria, Hungary, & Germany Surrender | 11/11/1918 | 4.68 | 4.73 | 4.71 | 4.68 | 4.68 | 4.68 | 4.68 | 4.68 | 4.68 | 5.12 | 5.26 | 5.44 | 6.50 | -1.07 | -0.58 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 9.53 | 12.41 | 16.18 | 39.02 |
| World War II | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Germany Invades Poland | 9/1/1939 | 4.54 | 4.52 | 4.50 | 4.54 | 4.54 | 4.54 | 4.54 | 4.54 | 4.54 | 4.50 | 4.46 | 4.35 | 0.44 | 0.89 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.88 | -1.76 | -4.19 | |
| Germany Invades France | 5/10/1949 | 5.24 | 4.51 | 4.46 | 5.14 | 5.56 | 4.91 | 5.12 | 5.32 | 5.28 | 5.09 | 5.08 | 5.16 | 5.64 | 16.16 | 17.52 | 1.83 | -5.76 | 6.54 | 2.23 | 1.59 | 0.92 | -2.80 | -2.92 | -1.42 | 7.67 | |
| France Surrenders | 6/22/1940 | 4.46 | 4.50 | 4.54 | 4.54 | 4.50 | 4.49 | 4.46 | 4.46 | 4.46 | 4.41 | 4.44 | 4.35 | 4.35 | -0.89 | -1.76 | -1.76 | -0.89 | -0.67 | 0.00 | 0.00 | 0.00 | -1.12 | -0.45 | -2.47 | -2.47 | |
| Pearl Harbor | 12/7/1941 | 4.35 | 4.54 | 4.44 | 4.35 | 4.35 | 4.35 | 4.35 | 4.35 | 4.35 | 4.35 | 4.35 | 4.35 | 4.25 | -4.19 | -2.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -2.30 | |
| Germany Surrenders | 5/7/1945 | 4.21 | 4.35 | 4.21 | 4.21 | 4.21 | 4.21 | 4.21 | 4.21 | 4.21 | 4.21 | 4.21 | 4.53 | 4.51 | -3.22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 7.53 | 7.06 |
| Hiroshima/Nagasaki and Japanese Surrender | 8/14/1945 | 4.21 | 4.24 | 4.21 | 4.21 | 4.21 | 4.21 | 4.21 | 4.21 | 4.21 | 4.21 | 4.53 | 4.53 | 4.46 | -0.71 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 7.58 | 7.56 | 5.82 |
| Korea | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| North Korea Invades | 6/25/1950 | 5.17 | 4.46 | 5.28 | 5.08 | 5.10 | 5.13 | 5.16 | 5.21 | 5.23 | 5.11 | 5.16 | 5.67 | 4.87 | 16.00 | -2.20 | 1.68 | 1.42 | 0.65 | 0.13 | 0.78 | 1.18 | -1.15 | -0.13 | 9.77 | -5.71 | |
| Cease Fire Signed | 7/27/1953 | 4.94 | 5.83 | 4.91 | 4.75 | 4.73 | 4.80 | 4.88 | 4.98 | 5.09 | 5.14 | 5.25 | 5.29 | 4.92 | -15.23 | 0.65 | 3.99 | 4.40 | 2.83 | 1.28 | 0.86 | 3.11 | 4.05 | 6.33 | 7.07 | -0.40 | |
| Vietnam | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gulf of Tonkin | 8/2/1964 | 6.30 | 5.90 | 6.10 | 5.90 | 6.00 | 6.30 | 6.30 | 6.40 | 6.40 | 6.40 | 7.10 | 8.40 | 6.78 | 3.28 | 6.78 | 5.00 | 0.00 | 0.00 | 0.00 | 1.59 | 1.59 | 1.59 | 12.70 | 33.33 | | |
| U.S. Marines Sent | 3/8/1965 | 6.50 | 6.00 | 5.90 | 6.30 | 6.40 | 6.40 | 6.40 | 6.50 | 6.60 | 7.10 | 7.30 | 7.60 | 7.50 | 8.33 | 10.17 | 3.17 | 1.56 | 1.56 | 1.56 | 0.00 | 1.54 | 9.23 | 12.31 | 16.92 | 15.38 | |
| North Vietnam Overtakes Saigon | 4/30/1975 | 8.60 | 8.80 | 10.40 | 10.70 | 9.80 | 8.80 | 8.70 | 8.60 | 8.30 | 8.20 | 8.30 | 7.50 | 6.18 | -2.27 | -17.31 | -19.63 | -12.24 | -2.27 | -1.15 | 0.00 | -3.49 | -4.65 | -3.49 | -12.79 | -28.14 | |
| Gulf War | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Iraq Invades Kuwait | 8/2/1990 | 8.79 | 6.52 | 6.77 | 8.12 | 8.74 | 8.98 | 8.84 | 9.08 | 9.22 | 9.03 | 8.98 | 8.87 | 8.33 | 34.82 | 29.84 | 8.25 | 0.57 | -2.12 | -0.57 | 3.30 | 4.89 | 2.73 | 2.16 | 0.91 | -5.23 | |
| U.N. Authorizes Force | 11/29/1990 | 9.03 | 6.30 | 7.62 | 8.98 | 8.73 | 9.24 | 9.09 | 9.10 | 9.01 | 8.62 | 8.43 | 8.47 | 7.30 | 43.33 | 18.50 | 0.56 | 3.44 | -2.27 | -0.66 | 0.78 | -0.22 | -4.54 | -6.64 | -6.20 | -19.16 | |
| Desert Storm Begins | 1/17/1991 | 9.15 | 6.56 | 8.04 | 8.69 | 9.14 | 9.11 | 8.95 | 8.46 | 8.50 | 8.52 | 8.73 | 8.12 | 6.96 | 39.48 | 13.81 | 5.29 | 0.11 | 0.44 | 2.23 | -7.54 | -7.10 | -6.89 | -4.59 | -11.26 | -23.93 | |
| Ground Assault Begins | 2/24/1991 | 8.51 | 6.86 | 9.04 | 9.08 | 9.09 | 9.06 | 9.00 | 8.61 | 8.53 | 8.50 | 8.69 | 8.01 | 6.79 | 24.05 | -5.86 | -6.28 | -6.38 | -6.07 | -5.44 | 1.18 | 0.24 | -0.12 | 2.12 | -5.88 | -20.21 | |
| Kuwait Liberated | 2/27/1991 | 8.56 | 6.93 | 9.08 | 9.08 | 9.09 | 9.10 | 9.01 | 8.62 | 8.54 | 8.55 | 8.69 | 8.01 | 6.76 | 23.52 | -5.73 | -5.73 | -5.83 | -5.93 | -4.99 | 0.70 | -0.23 | -0.12 | 1.52 | -6.43 | -21.03 | |
| War on Terrorism | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Afghanistan-U.S. Bombing Begins | 10/7/2001 | 4.54 | 5.38 | 5.47 | 4.70 | 4.98 | 4.87 | 4.74 | 4.23 | 4.68 | 4.84 | 5.10 | - | - | -15.61 | -17.00 | -3.40 | -8.84 | -6.78 | -4.22 | -6.83 | 3.08 | 6.61 | 12.33 | - | - | |
| Overall | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | 9.02 | 1.76 | -0.43 | -1.06 | -0.68 | -0.43 | -0.22 | 0.44 | 0.89 | 2.17 | 1.81 | 0.93 |
| Median | | | | | | | | | | | | | | | | 3.41 | -0.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.52 | 0.46 | -1.35 |
| World War I | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | 4.66 | -1.45 | -0.95 | 0.27 | -0.04 | 0.12 | 0.16 | 0.92 | 3.99 | 4.71 | 5.51 | 20.55 |
| Median | | | | | | | | | | | | | | | | 3.38 | -1.37 | -0.94 | 0.32 | 0.00 | 0.08 | 0.16 | 0.32 | 3.21 | 3.21 | 3.21 | 17.14 |
| World War II | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | 1.27 | 2.44 | 0.01 | -1.11 | 0.98 | 0.37 | 0.27 | 0.15 | -0.65 | 0.55 | 1.57 | 1.93 |
| Median | | | | | | | | | | | | | | | | -0.80 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.22 | -0.71 | 1.76 |
| Vietnam | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | 4.28 | -1.29 | -3.22 | -1.89 | -0.24 | 0.14 | 0.00 | -0.12 | 2.06 | 3.47 | 5.61 | 6.86 |
| Median | | | | | | | | | | | | | | | | 6.78 | 3.28 | 3.17 | 1.56 | 0.00 | 0.00 | 0.00 | 1.54 | 1.59 | 1.59 | 12.70 | 15.38 |
| Gulf War | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | 33.04 | 10.11 | 0.42 | -1.62 | -3.19 | -1.89 | -0.32 | -0.49 | -1.79 | -1.09 | -5.77 | -17.91 |
| Median | | | | | | | | | | | | | | | | 34.82 | 13.81 | 0.56 | 0.11 | -2.27 | -0.66 | 0.78 | -0.22 | -0.12 | 1.52 | -6.20 | -20.21 |

Sources: Lehman Brothers Fixed-Income Research and Global Financial Data.

Figure A17. JGB Reactions to Various Crisis Events, 1914 through June 2002

| Crisis Grade | Crisis Events | Date | Long JGB Yield (%) | Long JGB Yields (%) | | | | | | Cumulative Change (bp) in Yields | | | | | | Cumulative Percent Change in Yields | | | | | |
|--|--|------------|--------------------|------------------------------------|-------|-------|-------|------|------|------------------------------------|------|------|------|--------|--------|-------------------------------------|--------|--------|--|--|--|
| | | | | in Number of Months After Reaction | | | | | | in Number of Months After Reaction | | | | | | in Number of Months after Reaction | | | | | |
| | | | | 1 | 2 | 3 | 4 | 6 | 1 | 2 | 3 | 4 | 6 | 1 | 2 | 3 | 4 | 6 | | | |
| A | Germany Enters World War I | 8/1/1914 | 5.88 | 5.88 | 5.88 | 5.88 | 5.88 | 5.68 | 0 | 0 | 0 | 0 | -20 | 0.00 | 0.00 | 0.00 | 0.00 | -3.41 | | | |
| A | U.S. Declares War on Germany | 4/6/1917 | 5.12 | 5.12 | 5.25 | 5.18 | 5.18 | 5.19 | -1 | 13 | 6 | 5 | 7 | -0.10 | 2.52 | 1.14 | 1.03 | 1.35 | | | |
| A | Pearl Harbor | 12/6/1941 | 3.82 | 3.82 | 3.81 | 3.80 | 3.80 | 3.79 | 0 | -1 | -2 | -2 | -3 | 0.08 | -0.31 | -0.45 | -0.58 | -0.71 | | | |
| A | Korean War | 6/23/1950 | 5.50 | 5.50 | 5.50 | 5.50 | 5.50 | 5.50 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| A | Cuban Missile Crisis | 10/19/1962 | 10.65 | 10.58 | 10.31 | 9.79 | 9.04 | 8.76 | -7 | -34 | -86 | -161 | -189 | -0.66 | -3.19 | -8.08 | -15.12 | -17.75 | | | |
| A | Gulf of Tonkin | 8/2/1964 | 9.74 | 9.66 | 9.65 | 9.94 | 9.91 | 9.83 | -8 | -9 | 20 | 17 | 9 | -0.82 | -0.92 | 2.05 | 1.75 | 0.92 | | | |
| A | Arab Oil Embargo | 10/18/1973 | 7.52 | 7.61 | 7.71 | 8.78 | 9.00 | 9.20 | 9 | 19 | 126 | 148 | 168 | 1.20 | 2.53 | 16.76 | 19.68 | 22.34 | | | |
| A | Gulf War Ultimatum | 12/24/1990 | 6.73 | 6.84 | 6.33 | 6.55 | 6.70 | 6.80 | 11 | -40 | -18 | -3 | 7 | 1.66 | -5.92 | -2.65 | -0.42 | 1.07 | | | |
| A | WTC Attack | 9/11/2001 | 1.42 | 1.36 | 1.32 | 1.35 | 1.38 | 1.47 | -6 | -10 | -7 | -4 | 5 | -4.23 | -7.04 | -4.93 | -2.82 | 3.52 | | | |
| B | Archduke Ferdinand Assassinated | 6/28/1914 | 5.19 | 5.33 | 5.88 | 5.88 | 5.88 | 5.92 | 14 | 69 | 69 | 69 | 73 | 2.67 | 13.24 | 13.24 | 13.24 | 14.04 | | | |
| B | Fall of France | 5/9/1940 | 3.79 | 3.79 | 3.79 | 3.79 | 3.79 | 3.88 | 0 | 0 | 0 | 0 | 9 | -0.05 | -0.11 | 0.05 | -0.03 | 2.29 | | | |
| B | France Falls at Dien Bien Phu | 5/8/1954 | 6.32 | 6.32 | 6.32 | 6.32 | 6.32 | 6.32 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | |
| B | Sputnik | 10/3/1957 | 10.80 | 10.80 | 10.70 | 11.20 | 10.60 | 9.30 | 0 | -10 | 40 | -20 | -150 | 0.00 | -0.93 | 3.70 | -1.85 | -13.89 | | | |
| B | Soviet Tanks Invade Prague | 8/20/1968 | 7.04 | 7.04 | 7.05 | 7.05 | 7.05 | 7.05 | 0 | 1 | 1 | 1 | 1 | 0.00 | 0.14 | 0.14 | 0.14 | 0.14 | | | |
| B | Iranian Revolution | 1/16/1979 | 6.10 | 6.11 | 6.37 | 6.95 | 7.66 | 8.07 | 1 | 27 | 85 | 156 | 197 | 0.16 | 4.43 | 13.93 | 25.57 | 32.30 | | | |
| B | USSR Invasion of Afghanistan | 12/24/1979 | 8.76 | 8.64 | 8.52 | 9.32 | 9.97 | 8.40 | -12 | -24 | 56 | 121 | -36 | -1.37 | -2.80 | 6.43 | 13.85 | -4.11 | | | |
| B | U.S. Invades Grenada | 10/24/1983 | 7.72 | 7.57 | 7.40 | 7.43 | 7.41 | 7.18 | -15 | -32 | -29 | -31 | -54 | -1.94 | -4.15 | -3.76 | -4.02 | -6.99 | | | |
| B | Invasion of Panama | 12/15/1989 | 5.47 | 6.18 | 6.36 | 6.82 | 6.89 | 6.66 | 71 | 88 | 135 | 141 | 119 | 12.93 | 16.13 | 24.59 | 25.83 | 21.68 | | | |
| B | Gorbachev Coup | 8/16/1991 | 6.54 | 6.07 | 5.94 | 5.85 | 5.61 | 5.51 | -47 | -60 | -69 | -93 | -103 | -7.19 | -9.17 | -10.55 | -14.22 | -15.75 | | | |
| C | Easter Rebellion (Ireland) | 4/14/1916 | 5.26 | 5.15 | 5.25 | 5.05 | 5.12 | 5.03 | -11 | -1 | -21 | -14 | -24 | -2.01 | -0.10 | -3.99 | -2.71 | -4.47 | | | |
| C | U.S. Bombs Cambodia | 4/30/1970 | 7.16 | 7.16 | 7.17 | 7.19 | 7.19 | 7.21 | 0 | 1 | 3 | 3 | 5 | 0.00 | 0.14 | 0.42 | 0.42 | 0.70 | | | |
| C | Falkland Islands War | 4/1/1982 | 7.73 | 7.70 | 8.10 | 8.52 | 8.52 | 8.44 | -3 | 37 | 79 | 79 | 71 | -0.39 | 4.79 | 10.22 | 10.22 | 9.18 | | | |
| C | U.S. Bombs Libya | 4/15/1986 | 4.95 | 5.04 | 5.18 | 5.13 | 5.11 | 5.71 | 9 | 23 | 18 | 16 | 76 | 1.82 | 4.65 | 3.63 | 3.19 | 15.36 | | | |
| C | U.S. Embassy Bombings in Nairobi and Dar es Salaam | 8/17/1998 | 1.48 | 1.33 | 0.73 | 0.86 | 1.09 | 2.34 | -15 | -75 | -62 | -39 | 86 | -10.14 | -50.68 | -41.89 | -26.35 | 58.11 | | | |
| 1 | Hunt Silver Crisis | 2/13/1980 | 8.52 | 9.32 | 9.97 | 9.94 | 8.40 | 8.47 | 81 | 146 | 142 | -12 | -4 | 9.49 | 17.12 | 16.72 | -1.35 | -0.53 | | | |
| 1 | Earthquake in Tokyo | 9/1/1923 | 5.70 | 5.85 | 5.85 | 5.84 | 5.70 | 5.75 | 15 | 15 | 14 | 0 | 6 | 2.69 | 2.69 | 2.51 | 0.06 | 0.98 | | | |
| 1 | Poison Gas Attack in Tokyo Subway | 3/20/1995 | 3.96 | 3.32 | 3.18 | 2.95 | 2.92 | 3.01 | -64 | -78 | -101 | -104 | -95 | -16.16 | -19.70 | -25.51 | -26.26 | -23.99 | | | |
| 1 | Asian Stock Market Crisis | 10/7/1997 | 1.86 | 1.72 | 1.73 | 1.89 | 1.99 | 1.91 | -14 | -13 | 3 | 13 | 5 | -7.53 | -6.99 | 1.61 | 6.99 | 2.69 | | | |
| 2 | William McKinley Assassinated | 9/6/1901 | 5.23 | 5.23 | 5.19 | 5.19 | 4.94 | 4.82 | 0 | -3 | -3 | -29 | -41 | 0.00 | -0.65 | -0.65 | -5.56 | -7.83 | | | |
| 2 | U.S. Financial Panic of 1907 | 10/21/1907 | 4.79 | 4.76 | 4.78 | 4.73 | 4.88 | 4.91 | -3 | -1 | -6 | 9 | 12 | -0.59 | -0.30 | -1.18 | 1.83 | 2.45 | | | |
| 2 | Bloody Sunday (N. Ireland) | 11/21/1920 | 6.12 | 6.01 | 5.79 | 5.88 | 5.94 | 5.91 | -11 | -33 | -24 | -18 | -21 | -1.86 | -5.44 | -4.00 | -2.97 | -3.49 | | | |
| 2 | U.S. Stock Market Crash | 10/29/1929 | 5.05 | 5.05 | 5.05 | 5.05 | 5.21 | 5.25 | 0 | 0 | 0 | 16 | 20 | 0.00 | 0.00 | 0.00 | 3.15 | 3.90 | | | |
| 2 | Truman Upset Victory | 11/2/1948 | 3.69 | 3.69 | 5.54 | 5.55 | 5.56 | 5.52 | 0 | 185 | 186 | 187 | 183 | 0.00 | 50.15 | 50.37 | 50.58 | 49.55 | | | |
| 2 | Eisenhower Heart Attack | 9/23/1955 | 11.00 | 10.10 | 9.50 | 8.70 | 8.60 | 8.50 | -90 | -150 | -230 | -240 | -250 | -8.18 | -13.64 | -20.91 | -21.82 | -22.73 | | | |
| 2 | JFK Assassination | 11/21/1963 | 8.85 | 9.01 | 9.56 | 9.50 | 9.47 | 9.40 | 16 | 71 | 65 | 62 | 55 | 1.81 | 8.02 | 7.34 | 7.01 | 6.21 | | | |
| 2 | Riots and Labor Strikes in France | 5/6/1968 | 7.02 | 7.03 | 7.03 | 7.04 | 7.04 | 7.05 | 1 | 1 | 2 | 2 | 3 | 0.14 | 0.14 | 0.28 | 0.28 | 0.43 | | | |
| 2 | Kent State Shootings | 5/4/1970 | 7.16 | 7.17 | 7.19 | 7.19 | 7.20 | 7.22 | 1 | 3 | 3 | 4 | 6 | 0.14 | 0.42 | 0.42 | 0.56 | 0.84 | | | |
| 2 | Nixon Resigns | 8/9/1974 | 9.07 | 9.33 | 9.53 | 9.41 | 9.59 | 9.70 | 26 | 46 | 34 | 52 | 63 | 2.87 | 5.07 | 3.75 | 5.73 | 6.95 | | | |
| 2 | U.S. Stock Market Crash of 1987 | 10/2/1987 | 6.10 | 4.81 | 5.02 | 4.96 | 4.30 | 4.55 | -129 | -108 | -114 | -180 | -155 | -21.15 | -17.70 | -18.69 | -29.51 | -25.41 | | | |
| 2 | ERM U.K. Currency Crisis | 9/14/1992 | 4.82 | 4.86 | 4.62 | 4.62 | 4.43 | 3.95 | 4 | -20 | -20 | -39 | -87 | 0.83 | -4.15 | -4.15 | -8.09 | -18.05 | | | |
| 2 | WTC Bombing | 2/26/1993 | 3.87 | 4.19 | 4.43 | 4.60 | 4.41 | 4.14 | 32 | 56 | 73 | 54 | 27 | 8.27 | 14.47 | 18.86 | 13.95 | 6.98 | | | |
| 2 | Orange County, CA Bankruptcy & Financial Crisis | 12/6/1994 | 4.63 | 4.72 | 4.68 | 4.21 | 3.52 | 2.90 | 9 | 5 | -42 | -111 | -173 | 1.94 | 1.08 | -9.07 | -23.97 | -37.37 | | | |
| 2 | Mexico - Tequila Crisis | 12/19/1994 | 4.62 | 4.67 | 4.58 | 3.91 | 3.19 | 2.95 | 5 | -4 | -71 | -143 | -167 | 1.08 | -0.87 | -15.37 | -30.95 | -36.15 | | | |
| 2 | Oklahoma City Bombing | 4/19/1995 | 3.32 | 3.18 | 2.95 | 2.92 | 3.25 | 2.66 | -14 | -37 | -40 | -7 | -66 | -4.22 | -11.14 | -12.05 | -2.11 | -19.88 | | | |
| 2 | Terrorist Attack in Paris Metro | 7/25/1995 | 2.86 | 3.21 | 2.65 | 2.81 | 2.69 | 2.96 | 35 | -21 | -5 | -17 | 10 | 12.24 | -7.34 | -1.75 | -5.94 | 3.50 | | | |
| 2 | Russia, LTCM Crisis | 8/18/1998 | 1.44 | 0.84 | 0.87 | 0.85 | 1.36 | 2.08 | -60 | -57 | -59 | -8 | 64 | -41.67 | -39.58 | -40.97 | -5.56 | 44.44 | | | |
| Overall | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -4 | 0 | 3 | -3 | -8 | -1.48 | -1.42 | -0.70 | -0.59 | 1.07 | | | |
| Median | | | | | | | | | 0 | 0 | 0 | 0 | 5 | 0.00 | -0.11 | 0.00 | 0.00 | 0.77 | | | |
| Geopolitical Risk | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 0 | -1 | 14 | 16 | 11 | -0.35 | -1.53 | 0.83 | 1.95 | 4.83 | | | |
| Median | | | | | | | | | 0 | 0 | 1 | 0 | 5 | 0.00 | -0.05 | 0.10 | 0.00 | 0.81 | | | |
| Political Events | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -7 | 0 | -9 | -23 | -28 | -2.72 | -1.29 | -2.38 | -3.36 | -3.02 | | | |
| Median | | | | | | | | | 0 | -2 | -4 | -7 | 4 | 0.07 | -0.47 | -0.92 | -1.73 | 0.63 | | | |
| High Geopolitical Risk (A) | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 0 | -7 | 4 | 0 | -2 | -0.32 | -1.37 | 0.43 | 0.39 | 0.82 | | | |
| Median | | | | | | | | | 0 | -1 | 0 | 0 | 5 | 0.00 | -0.31 | 0.00 | 0.00 | 0.92 | | | |
| Medium Geopolitical Risk (B) | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 1 | 6 | 29 | 34 | 6 | 0.52 | 1.68 | 4.78 | 5.85 | 2.97 | | | |
| Median | | | | | | | | | 0 | 0 | 20 | 0 | 0 | 0.00 | -0.05 | 1.92 | 0.07 | 0.07 | | | |
| Low Geopolitical Risk (C) | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -4 | -3 | 3 | 9 | 43 | -2.14 | -8.24 | -6.32 | -3.05 | 15.77 | | | |
| Median | | | | | | | | | -3 | 1 | 3 | 3 | 71 | -0.39 | 0.14 | 0.42 | 0.42 | 9.18 | | | |
| Japanese Political Events (1) | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 5 | 18 | 15 | -26 | -22 | -2.88 | -1.72 | -1.16 | -5.14 | -5.21 | | | |
| Median | | | | | | | | | 1 | 1 | 9 | -6 | 0 | -2.42 | -2.15 | 2.06 | -0.65 | 0.22 | | | |
| Non-Japanese Political Events (2) | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -10 | -4 | -14 | -23 | -29 | -2.69 | -1.19 | -2.65 | -2.97 | -2.54 | | | |
| Median | | | | | | | | | 0 | -2 | -5 | -7 | 4 | 0.07 | -0.47 | -1.47 | -2.54 | 0.63 | | | |

Sources: Lehman Brothers Fixed-Income Research and Global Financial Data.

Crisis Grade Key: A = High Geopolitical Risk, B = Medium Geopolitical Risk, C = Low Geopolitical Risk, 1 = Japanese Political Event, 2 = Non-Japanese Political Event

Figure A18. Performance of Long JGBs Before and After Military Conflicts, 1914 through June 2002

| | Date | Long JGB Yield (%) | Long JGB Yields (%) | | | | | | | | | | | | Cumulative Percent Change (%) in JGB Yields | | | | | | | | | | | | |
|---|------------|--------------------|--|------|------|------|------|------|------|------|------|-------|------|------|--|--------|--------|--------|--------|-------|-------|-------|-------|--------|--------|--------|--------|
| | | | in Number of Months Before/After Military Conflict | | | | | | | | | | | | in Number of Months Before/After Military Conflict | | | | | | | | | | | | |
| | | | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 | |
| World War I | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Assassination in Sarajevo | 6/28/1914 | 5.19 | 4.72 | 5.10 | 5.10 | 5.13 | 5.16 | 5.10 | 5.33 | 5.88 | 5.88 | 5.92 | 5.36 | 5.25 | 10.06 | 1.95 | 1.95 | 1.30 | 0.65 | 1.95 | 2.67 | 13.24 | 13.24 | 14.04 | 3.16 | 1.16 | |
| Austria Declares War on Serbia | 7/28/1914 | 5.33 | 4.71 | 5.03 | 5.13 | 5.19 | 5.10 | 5.19 | 5.88 | 5.88 | 5.88 | 5.68 | 5.40 | 5.05 | 13.33 | 6.00 | 4.00 | 2.67 | 4.67 | 2.67 | 10.30 | 10.30 | 10.30 | 6.53 | 1.30 | -5.30 | |
| U.S. Declares War on Germany | 4/6/1917 | 5.12 | 5.52 | 5.26 | 5.03 | 5.31 | 5.24 | 5.19 | 5.12 | 5.25 | 5.18 | 5.19 | 5.21 | 5.42 | -7.22 | -2.61 | 1.95 | -3.48 | -2.25 | -1.33 | -0.10 | 2.52 | 1.03 | 1.35 | 1.67 | 5.86 | |
| Austria, Hungary, & Germany Surrender | 11/11/1918 | 5.36 | 5.02 | 5.16 | 5.17 | 5.32 | 5.35 | 5.37 | 5.44 | 5.39 | 5.42 | 5.38 | 5.57 | 6.11 | 6.87 | 3.97 | 3.76 | 0.75 | 0.32 | -0.11 | 1.41 | 0.43 | 1.08 | 0.32 | 3.90 | 13.94 | |
| World War II | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Germany Invades Poland | 9/1/1939 | 3.80 | 3.95 | 3.85 | 3.82 | 3.82 | 3.82 | 3.81 | 3.80 | 3.79 | 3.80 | 3.79 | 3.79 | 3.82 | -3.82 | -1.14 | -0.50 | -0.60 | -0.39 | -0.11 | -0.13 | -0.29 | -0.03 | -0.21 | -0.18 | 0.58 | |
| Germany Invades France | 5/10/1949 | 5.52 | 3.69 | 3.69 | 3.69 | 5.54 | 5.56 | 5.52 | 5.52 | 5.52 | 5.51 | 5.51 | 5.50 | 5.50 | 49.55 | 49.55 | 49.55 | -0.40 | -0.68 | 0.00 | 0.00 | 0.00 | -0.13 | -0.13 | -0.31 | -0.31 | |
| France Surrenders | 6/22/1940 | 3.79 | 3.86 | 3.82 | 3.80 | 3.79 | 3.79 | 3.79 | 3.79 | 3.79 | 3.82 | 3.87 | 3.82 | 3.79 | -1.69 | -0.89 | -0.26 | -0.08 | 0.00 | -0.05 | -0.05 | 0.11 | 0.74 | 2.03 | 0.82 | 0.08 | |
| Pearl Harbor | 12/7/1941 | 3.82 | 3.80 | 3.87 | 3.82 | 3.82 | 3.81 | 3.82 | 3.82 | 3.81 | 3.80 | 3.79 | 3.76 | 3.77 | 0.53 | -1.22 | -0.03 | -0.08 | 0.18 | 0.10 | 0.08 | -0.31 | -0.58 | -0.71 | -1.49 | -1.39 | |
| Germany Surrenders | 5/7/1945 | 3.69 | 3.77 | 3.77 | 3.77 | 3.76 | 3.76 | 3.69 | 3.69 | 3.69 | 3.69 | 3.69 | 3.69 | 3.69 | -2.15 | -2.12 | -2.02 | -1.97 | -1.97 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Hiroshima/Nagasaki and Japanese Surrender | 8/14/1945 | 3.69 | 3.77 | 3.76 | 3.76 | 3.69 | 3.69 | 3.69 | 3.69 | 3.69 | 3.69 | 3.69 | 3.69 | 3.69 | -2.12 | -1.91 | -1.97 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Korea | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| North Korea Invades | 6/25/1950 | 5.50 | 3.69 | 5.52 | 5.51 | 5.50 | 5.50 | 5.50 | 5.50 | 5.50 | 5.50 | 5.50 | 5.50 | 5.50 | 49.09 | -0.31 | -0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Cease Fire Signed | 7/27/1953 | 5.50 | 5.50 | 5.50 | 5.50 | 5.50 | 5.50 | 5.50 | 5.50 | 5.50 | 6.50 | 10.18 | 6.32 | 6.43 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 18.18 | 85.11 | 14.98 | 16.95 | |
| Vietnam | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gulf of Tonkin | 8/2/1964 | 9.74 | 12.39 | 8.64 | 9.50 | 9.39 | 9.76 | 9.77 | 9.66 | 9.65 | 9.91 | 9.83 | 8.35 | 7.91 | -21.39 | 12.73 | 2.53 | 3.73 | -0.20 | -0.31 | -0.82 | -0.92 | 1.75 | 0.92 | -14.27 | -18.79 | |
| U.S. Marines Sent | 3/8/1965 | 8.99 | 9.14 | 9.47 | 9.66 | 9.94 | 9.83 | 9.30 | 8.61 | 8.81 | 8.35 | 7.59 | 7.99 | 6.85 | -1.64 | -5.07 | -6.94 | -9.56 | -8.55 | -3.33 | -4.23 | -2.00 | -7.12 | -15.57 | -11.12 | -23.80 | |
| North Vietnam Overtakes Saigon | 4/30/1975 | 9.29 | 7.04 | 9.16 | 9.41 | 9.60 | 9.15 | 9.35 | 9.29 | 9.08 | 9.10 | 9.12 | 8.70 | 8.41 | 31.96 | 1.42 | -1.28 | -3.23 | 1.53 | -0.64 | 0.00 | -2.26 | -2.05 | -1.83 | -6.35 | -9.47 | |
| Gulf War | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Iraq Invades Kuwait | 8/2/1990 | 7.06 | 5.28 | 5.00 | 6.27 | 6.84 | 6.57 | 6.84 | 7.49 | 7.79 | 6.94 | 6.73 | 6.64 | 5.06 | 33.73 | 41.30 | 12.54 | 3.22 | 7.46 | 3.29 | 6.00 | 10.38 | -1.71 | -4.69 | -5.96 | -28.34 | |
| U.N. Authorizes Force | 11/29/1990 | 7.00 | 4.60 | 5.36 | 6.57 | 7.02 | 7.90 | 7.16 | 6.71 | 6.79 | 6.65 | 6.65 | 5.90 | 4.61 | 52.11 | 30.64 | 6.48 | -0.33 | -11.44 | -2.30 | -4.12 | -2.96 | -4.96 | -4.96 | -15.68 | -34.11 | |
| Desert Storm Begins | 1/17/1991 | 6.83 | 4.82 | 6.36 | 6.90 | 7.80 | 7.21 | 6.63 | 6.29 | 6.56 | 6.62 | 6.72 | 5.35 | 4.45 | 41.79 | 7.46 | -1.07 | -12.47 | -5.23 | 3.00 | -7.91 | -3.95 | -3.07 | -1.61 | -21.67 | -34.85 | |
| Ground Assault Begins | 2/24/1991 | 6.33 | 5.12 | 6.66 | 7.51 | 7.28 | 6.71 | 6.81 | 6.62 | 6.74 | 6.86 | 6.45 | 5.37 | 4.22 | 23.71 | -4.95 | -15.75 | -13.06 | -5.62 | -7.05 | 4.58 | 6.48 | 8.37 | 1.90 | -15.17 | -33.33 | |
| Kuwait Liberated | 2/27/1991 | 6.42 | 5.03 | 6.73 | 7.49 | 7.16 | 6.71 | 6.79 | 6.65 | 6.74 | 6.83 | 6.43 | 5.39 | 4.14 | 27.63 | -4.61 | -14.23 | -10.36 | -4.31 | -5.45 | 3.58 | 4.98 | 6.39 | 0.16 | -16.04 | -35.51 | |
| War on Terrorism | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Afghanistan-U.S. Bombing Begins | 10/7/2001 | 1.39 | 1.77 | 1.84 | 1.33 | 1.25 | 1.36 | 1.41 | 1.31 | 1.40 | 1.50 | 1.38 | - | - | -21.47 | -24.46 | 4.51 | 11.20 | 2.21 | -1.42 | -5.76 | 0.72 | 7.91 | -0.72 | - | - | |
| Overall | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | 13.28 | 5.03 | 2.05 | -1.56 | -1.13 | -0.53 | 0.26 | 1.74 | 2.35 | 3.90 | -4.12 | -9.33 |
| Median | | | | | | | | | | | | | | | | 6.87 | -0.31 | -0.03 | -0.08 | 0.00 | -0.05 | 0.00 | 0.00 | 0.00 | 0.00 | -0.25 | -0.85 |
| World War I | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | 5.76 | 2.33 | 2.91 | 0.31 | 0.85 | 0.79 | 3.57 | 6.62 | 6.41 | 5.56 | 2.51 | 3.91 |
| Median | | | | | | | | | | | | | | | | 8.47 | 2.96 | 2.85 | 1.02 | 0.49 | 0.92 | 2.04 | 6.41 | 5.69 | 3.94 | 2.41 | 3.51 |
| World War II | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | 6.72 | 7.04 | 7.46 | -0.52 | -0.48 | -0.01 | -0.02 | -0.08 | 0.00 | 0.16 | -0.19 | -0.17 |
| Median | | | | | | | | | | | | | | | | -1.90 | -1.18 | -0.38 | -0.24 | -0.20 | 0.00 | 0.00 | 0.00 | -0.01 | -0.06 | -0.09 | 0.00 |
| Vietnam | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | 2.98 | 3.03 | -1.89 | -3.02 | -2.41 | -1.43 | -1.68 | -1.73 | -2.47 | -5.49 | -10.58 | -17.36 |
| Median | | | | | | | | | | | | | | | | -1.64 | 1.42 | -1.28 | -3.23 | -0.20 | -0.64 | -0.82 | -2.00 | -2.05 | -1.83 | -11.12 | -18.79 |
| Gulf War | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | 35.79 | 13.97 | -2.40 | -6.60 | -3.83 | -1.70 | 0.43 | 2.99 | 1.00 | -1.84 | -14.90 | -33.23 |
| Median | | | | | | | | | | | | | | | | 33.73 | 7.46 | -1.07 | -10.36 | -5.23 | -2.30 | 3.58 | 4.98 | -1.71 | -1.61 | -15.68 | -34.11 |

Sources: Lehman Brothers Fixed-Income Research and Global Financial Data.

Figure A19. Performance of Moody's Long U.S. Industrial Spreads After Crisis Events, 1920 through June 2002

| Crisis Grade | Crisis Events | Date | Baa Industrial Spread | Baa Spread (bp) | | | | | | Cumulative Change (bp) in Spread | | | | | | Cumulative Percent Change in Spread | | | | | |
|--------------------------------------|--|------------|-----------------------|------------------------------------|--------|--------|--------|--------|-------|------------------------------------|-------|-------|--------|--------|--------|-------------------------------------|--------|--------|--|--|--|
| | | | | in Number of Months After Reaction | | | | | | in Number of Months After Reaction | | | | | | in Number of Months after Reaction | | | | | |
| | | | | 1 | 2 | 3 | 4 | 6 | 1 | 2 | 3 | 4 | 6 | 1 | 2 | 3 | 4 | 6 | | | |
| A | Pearl Harbor | 12/6/1941 | 113.00 | 114.00 | 115.00 | 116.00 | 110.00 | 106.00 | 100 | 200 | 300 | -300 | -700 | 0.88 | 1.77 | 2.65 | -2.65 | -6.19 | | | |
| A | Korean War | 6/23/1950 | 53.00 | 54.00 | 53.00 | 49.00 | 48.00 | 46.00 | 100 | 0 | -400 | -500 | -700 | 1.89 | 0.00 | -7.55 | -9.43 | -13.21 | | | |
| A | Cuban Missile Crisis | 10/19/1962 | 102.00 | 104.00 | 103.00 | 102.00 | 97.00 | 94.00 | 200 | 100 | 0 | -500 | -800 | 1.96 | 0.98 | 0.00 | -4.90 | -7.84 | | | |
| A | Gulf of Tonkin | 8/2/1964 | 71.00 | 68.00 | 68.00 | 68.00 | 72.00 | 71.00 | -300 | -300 | -300 | 100 | 0 | -4.23 | -4.23 | -4.23 | 1.41 | 0.00 | | | |
| A | Arab Oil Embargo | 10/18/1973 | 94.00 | 87.00 | 100.00 | 90.00 | 91.00 | 68.00 | -700 | 600 | -400 | -300 | -2600 | -7.45 | 6.38 | -4.26 | -3.19 | -27.66 | | | |
| A | Gulf War Ultimatum | 12/24/1990 | 266.00 | 267.00 | 242.00 | 214.00 | 203.00 | 166.00 | 100 | -2400 | -5200 | -6300 | -10000 | 0.38 | -9.02 | -19.55 | -23.68 | -37.59 | | | |
| A | WTC Attack | 9/11/2001 | 265.00 | 291.00 | 255.00 | 233.95 | 215.95 | 207.40 | 2600 | -1000 | -3105 | -4905 | -5760 | 9.81 | -3.77 | -11.72 | -18.51 | -21.74 | | | |
| B | Fall of France | 5/9/1940 | 184.00 | 199.00 | 192.00 | 190.00 | 188.00 | 191.00 | 1500 | 800 | 600 | 400 | 700 | 8.15 | 4.35 | 3.26 | 2.17 | 3.80 | | | |
| B | France Falls at Dien Bien Phu | 5/8/1954 | 80.00 | 84.00 | 96.00 | 92.00 | 86.00 | 79.00 | 400 | 1600 | 1200 | 600 | -100 | 5.00 | 20.00 | 15.00 | 7.50 | -1.25 | | | |
| B | Sputnik | 10/3/1957 | 130.00 | 147.00 | 167.00 | 151.00 | 151.00 | 144.00 | 1700 | 3700 | 2100 | 2100 | 1400 | 13.08 | 28.46 | 16.15 | 16.15 | 10.77 | | | |
| B | Soviet Tanks Invade Prague | 8/20/1968 | 171.00 | 167.00 | 158.00 | 165.00 | 160.00 | 140.00 | -400 | -1300 | -600 | -1100 | -3100 | -2.34 | -7.60 | -3.51 | -6.43 | -18.13 | | | |
| B | Iranian Revolution | 1/16/1979 | 102.00 | 89.00 | 95.00 | 103.00 | 105.00 | 118.00 | -1300 | -700 | 100 | 300 | 1600 | -12.75 | -6.86 | 0.98 | 2.94 | 15.69 | | | |
| B | USSR Invasion of Afghanistan | 12/24/1979 | 149.00 | 132.00 | 60.00 | 130.00 | 263.00 | 297.00 | -1700 | -8900 | -1900 | 11400 | 14800 | -11.41 | -59.73 | -12.75 | 76.51 | 99.33 | | | |
| B | U.S. Invades Grenada | 10/24/1983 | 137.00 | 135.00 | 139.00 | 149.00 | 118.00 | 113.00 | -200 | 200 | 1200 | -1900 | -2400 | -1.46 | 1.46 | 8.76 | -13.87 | -17.52 | | | |
| B | Invasion of Panama | 12/15/1989 | 213.00 | 188.00 | 182.00 | 179.00 | 171.00 | 201.00 | -2500 | -3100 | -3400 | -4200 | -1200 | -11.74 | -14.55 | -15.96 | -19.72 | -5.63 | | | |
| B | Gorbachev Coup | 8/16/1991 | 168.00 | 173.00 | 172.00 | 171.00 | 176.00 | 151.00 | 500 | 400 | 300 | 800 | -1700 | 2.98 | 2.38 | 1.79 | 4.76 | -10.12 | | | |
| C | U.S. Bombs Cambodia | 4/30/1970 | 180.00 | 158.00 | 171.00 | 230.00 | 225.00 | 234.00 | -2200 | -900 | 5000 | 4500 | 5400 | -12.22 | -5.00 | 27.78 | 25.00 | 30.00 | | | |
| C | Falkland Islands War | 4/1/1982 | 318.00 | 336.00 | 336.00 | 271.00 | 295.00 | 350.00 | 1800 | 1800 | -4700 | -2300 | 3200 | 5.66 | 5.66 | -14.78 | -7.23 | 10.06 | | | |
| C | U.S. Bombs Libya | 4/15/1986 | 335.00 | 303.00 | 308.00 | 337.00 | 333.00 | 225.00 | -3200 | -2700 | 200 | -200 | -11000 | -9.55 | -8.06 | 0.60 | -0.60 | -32.84 | | | |
| C | U.S. Embassy Bombings in Nairobi and Dar es Salaam | 8/7/1998 | 155.00 | 184.00 | 222.00 | 212.00 | 216.00 | 200.00 | 2900 | 6700 | 5700 | 6100 | 4500 | 18.71 | 43.23 | 36.77 | 39.35 | 29.03 | | | |
| 1 | U.S. Stock Market Crash | 10/29/1929 | 258.00 | 300.00 | 289.00 | 278.00 | 270.00 | 245.00 | 4200 | 3100 | 2000 | 1200 | -1300 | 16.28 | 12.02 | 7.75 | 4.65 | -5.04 | | | |
| 1 | Truman Upset Victory | 11/2/1948 | 72.00 | 71.00 | 68.00 | 68.00 | 69.00 | 67.00 | -100 | -400 | -400 | -300 | -500 | -1.39 | -5.56 | -5.56 | -4.17 | -6.94 | | | |
| 1 | Eisenhower Heart Attack | 9/23/1955 | 62.00 | 66.00 | 64.00 | 65.00 | 67.00 | 62.00 | 400 | 200 | 300 | 500 | 0 | 6.45 | 3.23 | 4.84 | 8.06 | 0.00 | | | |
| 1 | JFK Assassination | 11/21/1963 | 79.00 | 76.00 | 75.00 | 74.00 | 70.00 | 75.00 | -300 | -400 | -500 | -900 | -400 | -3.80 | -5.06 | -6.33 | -11.39 | -5.06 | | | |
| 1 | Kent State Shootings | 5/4/1970 | 158.00 | 171.00 | 230.00 | 225.00 | 241.00 | 234.00 | 1300 | 7200 | 6700 | 8300 | 7600 | 8.23 | 45.57 | 42.41 | 52.53 | 48.10 | | | |
| 1 | Nixon Resigns | 8/9/1974 | 79.00 | 118.00 | 155.00 | 182.00 | 194.00 | 227.00 | 3900 | 7600 | 10300 | 11500 | 14800 | 49.37 | 96.20 | 130.38 | 145.57 | 187.34 | | | |
| 1 | Hunt Silver Crisis | 2/13/1980 | 60.00 | 130.00 | 263.00 | 305.00 | 297.00 | 179.00 | 7000 | 20300 | 24500 | 23700 | 11900 | 116.67 | 338.33 | 408.33 | 395.00 | 198.33 | | | |
| 1 | U.S. Stock Market Crash of 1987 | 10/2/1987 | 172.00 | 210.00 | 190.00 | 190.00 | 196.00 | 182.00 | 3800 | 1800 | 1800 | 2400 | 1000 | 22.09 | 10.47 | 10.47 | 13.95 | 5.81 | | | |
| 1 | WTC Bombing | 2/26/1993 | 139.00 | 137.00 | 132.00 | 132.00 | 128.00 | 128.00 | -200 | -700 | -700 | -1100 | -1100 | -1.44 | -5.04 | -5.04 | -7.91 | -7.91 | | | |
| 1 | Orange County, CA Bankruptcy & Financial Crisis | 12/6/1994 | 118.00 | 116.00 | 116.00 | 117.00 | 117.00 | 122.00 | -200 | -200 | -100 | -100 | 400 | -1.69 | -1.69 | -0.85 | -0.85 | 3.39 | | | |
| 1 | Oklahoma City Bombing | 4/19/1995 | 117.00 | 115.00 | 122.00 | 125.00 | 129.00 | 131.00 | -200 | 500 | 800 | 1200 | 1400 | -1.71 | 4.27 | 6.84 | 10.26 | 11.97 | | | |
| 2 | Bloody Sunday (N. Ireland) | 11/21/1920 | 285.00 | 314.00 | 327.00 | 295.00 | 315.00 | 291.00 | 2900 | 4200 | 1000 | 3000 | 600 | 10.18 | 14.74 | 3.51 | 10.53 | 2.11 | | | |
| 2 | Earthquake in Tokyo | 9/1/1923 | 279.00 | 281.00 | 281.00 | 287.00 | 286.00 | 283.00 | 200 | 200 | 800 | 700 | 400 | 0.72 | 0.72 | 2.87 | 2.51 | 1.43 | | | |
| 2 | Riots and Labor Strikes in France | 5/6/1968 | 155.00 | 182.00 | 189.00 | 171.00 | 167.00 | 165.00 | 2700 | 3400 | 1000 | 1200 | 1000 | 17.42 | 21.94 | 10.32 | 7.74 | 6.45 | | | |
| 2 | ERM U.K. Currency Crisis | 9/14/1992 | 136.00 | 138.00 | 145.00 | 150.00 | 143.00 | 137.00 | 200 | 900 | 1400 | 700 | 100 | 1.47 | 6.62 | 10.29 | 5.15 | 0.74 | | | |
| 2 | Mexico - Tequila Crisis | 12/19/1994 | 118.00 | 116.00 | 116.00 | 117.00 | 117.00 | 122.00 | -200 | -200 | -100 | -100 | 400 | -1.69 | -1.69 | -0.85 | -0.85 | 3.39 | | | |
| 2 | Poison Gas Attack in Tokyo Subway | 3/20/1995 | 117.00 | 117.00 | 115.00 | 122.00 | 125.00 | 133.00 | 0 | -200 | 500 | 800 | 1600 | 0.00 | -1.71 | 4.27 | 6.84 | 13.68 | | | |
| 2 | Terrorist Attack in Paris Metro | 7/25/1995 | 125.00 | 129.00 | 133.00 | 131.00 | 129.00 | 124.00 | 400 | 800 | 600 | 400 | -100 | 3.20 | 6.40 | 4.80 | 3.20 | -0.80 | | | |
| 2 | Asian Stock Market Crisis | 10/7/1997 | 115.00 | 124.00 | 125.00 | 130.00 | 126.00 | 137.00 | 900 | 1000 | 1500 | 1100 | 2200 | 7.83 | 8.70 | 13.04 | 9.57 | 19.13 | | | |
| 2 | Russia, LTCM Crisis | 8/18/1998 | 155.00 | 184.00 | 222.00 | 212.00 | 216.00 | 200.00 | 2900 | 6700 | 5700 | 6100 | 4500 | 18.71 | 43.23 | 36.77 | 39.35 | 29.03 | | | |
| Overall | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 725 | 1265 | 1360 | 1602 | 901 | 6.56 | 14.69 | 17.44 | 18.88 | 12.60 | | | |
| Median | | | | | | | | | 200 | 200 | 400 | 450 | 250 | 1.68 | 2.08 | 3.06 | 3.07 | 1.08 | | | |
| Geopolitical Risk | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -30 | -260 | -165 | 190 | -423 | -0.23 | -0.21 | 0.97 | 3.28 | -0.05 | | | |
| Median | | | | | | | | | 100 | 50 | 50 | -250 | -700 | 0.63 | 0.49 | 0.30 | -1.63 | -5.91 | | | |
| Political Events | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 1480 | 2790 | 2885 | 3015 | 2225 | 13.34 | 29.58 | 33.91 | 34.49 | 25.26 | | | |
| Median | | | | | | | | | 400 | 850 | 900 | 950 | 500 | 4.83 | 6.51 | 5.84 | 7.29 | 3.39 | | | |
| High Geopolitical Risk (A) | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 300 | -400 | -1301 | -1815 | -2937 | 0.46 | -1.13 | -6.38 | -8.71 | -16.32 | | | |
| Median | | | | | | | | | 100 | 0 | -400 | -500 | -800 | 0.88 | 0.00 | -4.26 | -4.90 | -13.21 | | | |
| Medium Geopolitical Risk (B) | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -222 | -811 | -44 | 933 | 1111 | -1.17 | -3.57 | 1.52 | 7.78 | 8.55 | | | |
| Median | | | | | | | | | -200 | 200 | 300 | 400 | -100 | -1.46 | 1.46 | 1.79 | 2.94 | -1.25 | | | |
| Low Geopolitical Risk (C) | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -175 | 1225 | 1550 | 2025 | 525 | 0.65 | 8.96 | 12.59 | 14.13 | 9.06 | | | |
| Median | | | | | | | | | -200 | 450 | 2600 | 2150 | 3850 | -1.95 | 0.33 | 14.19 | 12.20 | 19.55 | | | |
| U.S. Political Events (1) | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 1782 | 3545 | 4064 | 4218 | 3073 | 19.01 | 44.79 | 53.93 | 55.06 | 39.09 | | | |
| Median | | | | | | | | | 400 | 500 | 800 | 1200 | 400 | 6.45 | 4.27 | 6.84 | 8.06 | 3.39 | | | |
| Non-U.S. Political Events (2) | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 1111 | 1867 | 1444 | 1544 | 1189 | 6.42 | 10.99 | 9.45 | 9.34 | 8.35 | | | |
| Median | | | | | | | | | 400 | 900 | 1000 | 800 | 600 | 3.20 | 6.62 | 4.80 | 6.84 | 3.39 | | | |

Sources: Lehman Brothers Fixed-Income Research and Global Financial Data.

Crisis Grade Key: A = High Geopolitical Risk, B = Medium Geopolitical Risk, C = Low Geopolitical Risk, 1 = U.S. Political Event, 2 = Non-U.S. Political Event

Figure A20. Performance of Moody's U.S. Industrial Spreads Before and After Military Conflicts, 1939 through June 2002

| | Date | Baa Industrial Spread | Baa Industrial Spread (bp) | | | | | | | | | | | | Cumulative Percent Change (%) in Baa Industrial Spread | | | | | | | | | | | |
|---|------------|-----------------------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | | in Number of Months Before/After Military Conflict | | | | | | | | | | | | in Number of Months Before/After Military Conflict | | | | | | | | | | | |
| | | | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 |
| World War II | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Germany Invades Poland | 9/1/1939 | 172 | 145 | 191 | 191 | 216 | 204 | 198 | 167 | 167 | 180 | 179 | 190 | 157 | 18.62 | -9.95 | -9.95 | -20.37 | -15.69 | -13.13 | -2.91 | -2.91 | 4.65 | 4.07 | 10.47 | -8.72 |
| Germany Invades France | 5/10/1949 | 67 | 64 | 68 | 72 | 68 | 69 | 68 | 68 | 76 | 74 | 73 | 54 | 42 | 4.69 | -1.47 | -6.94 | -1.47 | -2.90 | -1.47 | 1.49 | 13.43 | 10.45 | 8.96 | -19.40 | -37.31 |
| France Surrenders | 6/22/1940 | 199 | 192 | 209 | 180 | 179 | 177 | 184 | 192 | 190 | 186 | 193 | 166 | 106 | 3.65 | -4.78 | 10.56 | 11.17 | 12.43 | 8.15 | -3.52 | -4.52 | -6.53 | -3.02 | -16.58 | -46.73 |
| Pearl Harbor | 12/7/1941 | 113 | 180 | 193 | 166 | 157 | 150 | 116 | 114 | 115 | 110 | 106 | 107 | 85 | -37.22 | -41.45 | -31.93 | -28.03 | -24.67 | -2.59 | 0.88 | 1.77 | -2.65 | -6.19 | -5.31 | -24.78 |
| Germany Surrenders | 5/7/1945 | 57 | 96 | 68 | 60 | 58 | 59 | 59 | 62 | 63 | 58 | 56 | 65 | 66 | -40.63 | -16.18 | -5.00 | -1.72 | -3.39 | -3.39 | 8.77 | 10.53 | 1.75 | -1.75 | 14.04 | 15.79 |
| Hiroshima/Nagasaki and Japanese Surrender | 8/14/1945 | 62 | 83 | 63 | 61 | 59 | 62 | 63 | 58 | 58 | 55 | 68 | 57 | 66 | -25.30 | -1.59 | 1.64 | 5.08 | 0.00 | -1.59 | -6.45 | -6.45 | -11.29 | 9.68 | -8.06 | 6.45 |
| Korea | | | | | | | | | | | | | | | | | | | | | | | | | | |
| North Korea Invades | 6/25/1950 | 53 | 63 | 68 | 71 | 61 | 55 | 54 | 54 | 53 | 48 | 46 | 45 | 55 | -15.87 | -22.06 | -25.35 | -13.11 | -3.64 | -1.85 | 1.89 | 0.00 | -9.43 | -13.21 | -15.09 | 3.77 |
| Cease Fire Signed | 7/27/1953 | 65 | 54 | 48 | 47 | 45 | 42 | 52 | 65 | 71 | 77 | 90 | 96 | 56 | 20.37 | 35.42 | 38.30 | 44.44 | 54.76 | 25.00 | 0.00 | 9.23 | 18.46 | 38.46 | 47.69 | -13.85 |
| Vietnam | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gulf of Tonkin | 8/2/1964 | 71 | 107 | 91 | 74 | 69 | 78 | 75 | 68 | 68 | 72 | 71 | 78 | 100 | -33.64 | -21.98 | -4.05 | 2.90 | -8.97 | -5.33 | -4.23 | -4.23 | 1.41 | 0.00 | 9.86 | 40.85 |
| U.S. Marines Sent | 3/8/1965 | 68 | 97 | 70 | 68 | 72 | 71 | 68 | 73 | 74 | 78 | 71 | 66 | 143 | -29.90 | -2.86 | 0.00 | -5.56 | -4.23 | 0.00 | 7.35 | 8.82 | 14.71 | 4.41 | -2.94 | 110.29 |
| North Vietnam Overtakes Saigon | 4/30/1975 | 194 | 90 | 71 | 182 | 194 | 202 | 202 | 220 | 235 | 181 | 199 | 206 | 124 | 115.56 | 173.24 | 6.59 | 0.00 | -3.96 | -3.96 | 13.40 | 21.13 | -6.70 | 2.58 | 6.19 | -36.08 |
| Gulf War | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Iraq Invades Kuwait | 8/2/1990 | 183 | 141 | 199 | 182 | 171 | 201 | 197 | 192 | 233 | 258 | 267 | 164 | 138 | 29.79 | -8.04 | 0.55 | 7.02 | -8.96 | -7.11 | 4.92 | 27.32 | 40.98 | 45.90 | -10.38 | -24.59 |
| U.N. Authorizes Force | 11/29/1990 | 258 | 184 | 213 | 201 | 183 | 192 | 233 | 266 | 267 | 214 | 181 | 171 | 145 | 40.22 | 21.13 | 28.36 | 40.98 | 34.38 | 10.73 | 3.10 | 3.49 | -17.05 | -29.84 | -33.72 | -43.80 |
| Desert Storm Begins | 1/17/1991 | 267 | 200 | 188 | 197 | 192 | 258 | 266 | 242 | 214 | 181 | 164 | 170 | 143 | 33.50 | 42.02 | 35.53 | 39.06 | 3.49 | 0.38 | -9.36 | -19.85 | -32.21 | -38.58 | -36.33 | -46.44 |
| Ground Assault Begins | 2/24/1991 | 242 | 181 | 179 | 183 | 233 | 266 | 267 | 214 | 203 | 166 | 168 | 151 | 139 | 33.70 | 35.20 | 32.24 | 3.86 | -9.02 | -9.36 | -11.57 | -16.12 | -31.40 | -30.58 | -37.60 | -42.56 |
| Kuwait Liberated | 2/27/1991 | 242 | 181 | 179 | 183 | 233 | 266 | 267 | 214 | 203 | 166 | 168 | 151 | 139 | 33.70 | 35.20 | 32.24 | 3.86 | -9.02 | -9.36 | -11.57 | -16.12 | -31.40 | -30.58 | -37.60 | -42.56 |
| War on Terrorism | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Afghanistan-U.S. Bombing Begins | 10/7/2001 | 291 | 217 | 259 | 227 | 229 | 227 | 265 | 255 | 234 | 217 | 222 | - | - | 34.10 | 12.36 | 28.19 | 27.07 | 28.19 | 9.81 | -12.37 | -19.61 | -25.43 | -23.88 | - | - |
| Overall | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 10.90 | 13.19 | 7.70 | 6.78 | 2.28 | -0.30 | -1.19 | 0.35 | -4.81 | -3.74 | -8.42 | -11.89 |
| Median | | | | | | | | | | | | | | | 18.62 | -1.59 | 1.64 | 3.86 | -3.64 | -1.85 | 0.00 | 0.00 | -6.53 | -1.75 | -9.22 | -24.68 |
| World War II | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | -12.70 | -12.57 | -6.94 | -5.89 | -5.70 | -2.34 | -0.29 | 1.97 | -0.60 | 1.96 | -4.14 | -15.88 |
| Median | | | | | | | | | | | | | | | -10.83 | -7.37 | -5.97 | -1.60 | -3.14 | -2.09 | -1.01 | -0.57 | -0.45 | 1.16 | -6.69 | -16.75 |
| Vietnam | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 17.34 | 49.47 | 0.85 | -0.89 | -5.72 | -3.10 | 5.51 | 8.58 | 3.14 | 2.33 | 4.37 | 38.35 |
| Median | | | | | | | | | | | | | | | -29.90 | -2.86 | 0.00 | 0.00 | -4.23 | -3.96 | 7.35 | 8.82 | 1.41 | 2.58 | 6.19 | 40.85 |
| Gulf War | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 34.18 | 25.10 | 25.78 | 18.96 | 2.17 | -2.95 | -4.90 | -4.25 | -14.22 | -16.74 | -31.13 | -39.99 |

Sources: Lehman Brothers Fixed-Income Research and Global Financial Data.

Figure A21. U.S. Three-Month Treasury Bill Reactions to Various Crisis Events, 1916 through June 2002

| Crisis Grade | Crisis Events | Date | 3-Month Treasury Yield (%) | 3-Month Treasury Yields (%) | | | | | Cumulative Change (bp) in Yields | | | | | Cumulative Percent Change in Yields | | | | |
|--------------------------------------|--|------------|----------------------------|------------------------------------|-------|-------|-------|------|------------------------------------|------|------|------|------|-------------------------------------|--------|--------|--------|--------|
| | | | | in Number of Months After Reaction | | | | | in Number of Months After Reaction | | | | | in Number of Months after Reaction | | | | |
| | | | | 1 | 2 | 3 | 4 | 6 | 1 | 2 | 3 | 4 | 6 | 1 | 2 | 3 | 4 | 6 |
| A | Pearl Harbor | 12/6/1941 | 0.30 | 0.35 | 0.25 | 0.25 | 0.25 | 0.38 | 5 | -5 | -5 | -5 | 8 | 16.67 | -16.67 | -16.67 | -16.67 | 26.67 |
| A | Korean War | 6/23/1950 | 1.14 | 1.16 | 1.16 | 1.30 | 1.30 | 1.31 | 2 | 2 | 16 | 16 | 17 | 1.75 | 1.75 | 14.04 | 14.04 | 14.91 |
| A | Cuban Missile Crisis | 10/19/1962 | 2.72 | 2.83 | 2.87 | 2.91 | 2.92 | 2.90 | 11 | 15 | 19 | 20 | 18 | 4.04 | 5.51 | 6.99 | 7.35 | 6.62 |
| A | Gulf of Tonkin | 8/2/1964 | 3.47 | 3.50 | 3.55 | 3.55 | 3.84 | 3.87 | 3 | 8 | 8 | 37 | 40 | 0.86 | 2.31 | 2.31 | 10.66 | 11.53 |
| A | Arab Oil Embargo | 10/18/1973 | 7.13 | 7.61 | 7.47 | 7.90 | 7.06 | 8.18 | 48 | 34 | 77 | -7 | 105 | 6.73 | 4.77 | 10.80 | -0.98 | 14.73 |
| A | Gulf War Ultimatum | 12/24/1990 | 6.53 | 6.14 | 5.95 | 5.87 | 5.71 | 5.57 | -39 | -58 | -66 | -82 | -96 | -5.97 | -8.88 | -10.11 | -12.56 | -14.70 |
| A | WTC Attack | 9/11/2001 | 3.19 | 2.23 | 1.80 | 1.68 | 1.65 | 1.77 | -96 | -139 | -151 | -154 | -142 | -30.09 | -43.57 | -47.34 | -48.28 | -44.51 |
| B | Fall of France | 5/9/1940 | 0.02 | 0.11 | 0.08 | 0.04 | 0.05 | 0.02 | 9 | 6 | 2 | 3 | 0 | 450.00 | 300.00 | 100.00 | 150.00 | 0.00 |
| B | France Falls at Dien Bien Phu | 5/8/1954 | 0.79 | 0.61 | 0.65 | 0.83 | 1.02 | 1.01 | -18 | -14 | 4 | 23 | 22 | -22.78 | -17.72 | 5.06 | 29.11 | 27.85 |
| B | Sputnik | 10/3/1957 | 3.53 | 3.59 | 3.09 | 2.75 | 1.55 | 1.10 | 6 | -44 | -78 | -198 | -243 | 1.70 | -12.46 | -22.10 | -56.09 | -68.84 |
| B | Soviet Tanks Invade Prague | 8/20/1968 | 5.14 | 5.16 | 5.33 | 5.44 | 6.00 | 6.05 | 2 | 19 | 30 | 86 | 91 | 0.39 | 3.70 | 5.84 | 16.73 | 17.70 |
| B | Iranian Revolution | 1/16/1979 | 9.44 | 9.26 | 9.52 | 9.66 | 9.57 | 9.30 | -18 | 8 | 22 | 13 | -14 | -1.91 | 0.85 | 2.33 | 1.38 | -1.48 |
| B | USSR Invasion of Afghanistan | 12/24/1979 | 12.05 | 12.02 | 13.38 | 15.15 | 12.25 | 6.74 | -3 | 133 | 310 | 20 | -531 | -0.25 | 11.04 | 25.73 | 1.66 | -44.07 |
| B | U.S. Invades Grenada | 10/24/1983 | 8.68 | 8.81 | 8.96 | 8.97 | 9.13 | 9.73 | 13 | 28 | 29 | 45 | 105 | 1.50 | 3.23 | 3.34 | 5.18 | 12.10 |
| B | Invasion of Panama | 12/15/1989 | 7.62 | 7.50 | 7.58 | 7.94 | 7.76 | 7.67 | -12 | -4 | 32 | 14 | 5 | -1.57 | -0.52 | 4.20 | 1.84 | 0.66 |
| B | Gorbachev Coup | 8/16/1991 | 5.26 | 5.16 | 4.96 | 4.63 | 4.15 | 3.75 | -10 | -30 | -63 | -111 | -151 | -1.90 | -5.70 | -11.98 | -21.10 | -28.71 |
| C | Easter Rebellion (Ireland) | 4/14/1916 | | | | | | | | | | | | | | | | |
| C | U.S. Bombs Cambodia | 4/30/1970 | 6.93 | 6.93 | 6.37 | 6.38 | 6.28 | 5.85 | 0 | -56 | -55 | -65 | -108 | 0.00 | -8.08 | -7.94 | -9.38 | -15.58 |
| C | Falkland Islands War | 4/1/1982 | 13.24 | 12.34 | 11.50 | 12.76 | 10.17 | 7.48 | -90 | -174 | -48 | -307 | -576 | -6.80 | -13.14 | -3.63 | -23.19 | -43.50 |
| C | U.S. Bombs Libya | 4/15/1986 | 5.81 | 6.17 | 6.17 | 5.77 | 5.57 | 5.06 | 36 | 36 | -4 | -24 | -75 | 6.20 | 6.20 | -0.69 | -4.13 | -12.91 |
| C | U.S. Embassy Bombings in Nairobi and Dar es Salaam | 8/7/1998 | 4.86 | 4.74 | 4.08 | 4.47 | 4.37 | 4.37 | -12 | -78 | -39 | -49 | -49 | -2.47 | -16.05 | -8.02 | -10.08 | -10.08 |
| 1 | Truman Upset Victory | 11/2/1948 | 1.15 | 1.16 | 1.16 | 1.17 | 1.17 | 1.17 | 1 | 1 | 2 | 2 | 2 | 0.87 | 0.87 | 1.74 | 1.74 | 1.74 |
| 1 | Eisenhower Heart Attack | 9/23/1955 | 2.04 | 2.21 | 2.38 | 2.66 | 2.30 | 2.25 | 17 | 34 | 62 | 26 | 21 | 8.33 | 16.67 | 30.39 | 12.75 | 10.29 |
| 1 | JFK Assassination | 11/21/1963 | 3.50 | 3.50 | 3.52 | 3.54 | 3.55 | 3.47 | 2 | 2 | 4 | 5 | -3 | 0.57 | 0.57 | 1.14 | 1.43 | -0.86 |
| 1 | Kent State Shootings | 5/4/1970 | 6.91 | 6.81 | 6.48 | 6.38 | 6.39 | 5.84 | -10 | -43 | -53 | -52 | -107 | -1.45 | -6.22 | -7.67 | -7.53 | -15.48 |
| 1 | Nixon Resigns | 8/9/1974 | 8.93 | 9.26 | 6.91 | 7.62 | 7.42 | 5.45 | 33 | -202 | -131 | -151 | -348 | 3.70 | -22.62 | -14.67 | -16.91 | -38.97 |
| 1 | Hunt Silver Crisis | 2/13/1980 | 12.18 | 15.25 | 13.99 | 8.28 | 6.20 | 8.83 | 307 | 181 | -390 | -598 | -335 | 25.21 | 14.86 | -32.02 | -49.10 | -27.50 |
| 1 | U.S. Stock Market Crash of 1987 | 10/2/1987 | 6.66 | 5.27 | 5.55 | 5.68 | 5.64 | 5.75 | -139 | -111 | -98 | -102 | -91 | -20.87 | -16.67 | -14.71 | -15.32 | -13.66 |
| 1 | WTC Bombing | 2/26/1993 | 2.95 | 2.93 | 2.91 | 3.06 | 3.08 | 2.98 | -2 | -4 | 11 | 13 | 3 | -0.68 | -1.36 | 3.73 | 4.41 | 1.02 |
| 1 | Orange County, CA Bankruptcy & Financial Crisis | 12/6/1994 | 5.77 | 5.72 | 5.80 | 5.74 | 5.70 | 5.42 | -5 | 3 | -3 | -7 | -35 | -0.87 | 0.52 | -0.52 | -1.21 | -6.07 |
| 2 | Oklahoma City Bombing | 4/19/1995 | 5.62 | 5.69 | 5.49 | 5.44 | 5.44 | 5.32 | 7 | -13 | -18 | -18 | -30 | 1.25 | -2.31 | -3.20 | -3.20 | -5.34 |
| 2 | Riots and Labor Strikes in France | 5/16/1968 | 5.48 | 5.65 | 5.36 | 4.90 | 5.18 | 5.46 | 17 | -12 | -58 | -30 | -2 | 3.10 | -2.19 | -10.58 | -5.47 | -0.36 |
| 2 | ERM U.K. Currency Crisis | 9/14/1992 | 2.89 | 2.93 | 3.08 | 3.25 | 3.02 | 2.97 | 4 | 19 | 36 | 13 | 8 | 1.38 | 6.57 | 12.46 | 4.50 | 2.77 |
| 2 | Mexico - Tequila Crisis | 12/19/1994 | 5.56 | 5.71 | 5.70 | 5.74 | 5.61 | 5.49 | 15 | 14 | 18 | 5 | -7 | 2.70 | 2.52 | 3.24 | 0.90 | -1.26 |
| 2 | Poison Gas Attack in Tokyo Subway | 3/20/1995 | 5.73 | 5.62 | 5.69 | 5.49 | 5.44 | 5.30 | -11 | -4 | -24 | -29 | -43 | -1.92 | -0.70 | -4.19 | -5.06 | -7.50 |
| 2 | Terrorist Attack in Paris Metro | 7/25/1995 | 5.45 | 5.36 | 5.19 | 5.27 | 5.36 | 4.96 | -9 | -26 | -18 | -9 | -49 | -1.65 | -4.77 | -3.30 | -1.65 | -8.99 |
| 2 | Asian Stock Market Crisis | 10/7/1997 | 4.93 | 5.17 | 5.16 | 5.09 | 4.98 | 4.95 | 24 | 23 | 16 | 5 | 2 | 4.87 | 4.67 | 3.25 | 1.01 | 0.41 |
| 2 | Russia, LTCM Crisis | 8/18/1998 | 4.93 | 4.58 | 3.56 | 4.41 | 4.35 | 4.43 | -35 | -137 | -52 | -58 | -50 | -7.10 | -27.79 | -10.55 | -11.76 | -10.14 |
| Overall | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 1 | -16 | -18 | -46 | -71 | 11.72 | 4.30 | 0.18 | -1.49 | -7.34 |
| Median | | | | | | | | | 2 | -4 | -3 | -7 | -14 | 0.57 | -0.52 | -0.52 | -1.21 | -1.48 |
| Geopolitical Risk | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -8 | -16 | 2 | -36 | -79 | 20.80 | 9.83 | 2.61 | 1.77 | -7.58 |
| Median | | | | | | | | | 1 | -1 | 3 | -1 | -7 | 0.19 | 0.16 | 2.32 | 0.20 | -0.74 |
| Political Events | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 13 | -16 | -41 | -58 | -63 | 1.03 | -2.20 | -2.68 | -5.32 | -7.05 |
| Median | | | | | | | | | 2 | -4 | -18 | -9 | -30 | 0.87 | -0.70 | -3.20 | -1.65 | -5.34 |
| High Geopolitical Risk (A) | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -9 | -20 | -15 | -25 | -7 | -0.86 | -7.83 | -5.71 | -6.63 | 2.18 |
| Median | | | | | | | | | 3 | 2 | 8 | -5 | 17 | 1.75 | 1.75 | 2.31 | -0.98 | 11.53 |
| Medium Geopolitical Risk (B) | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -3 | 11 | 32 | -12 | -80 | 47.24 | 31.38 | 12.49 | 14.30 | -9.42 |
| Median | | | | | | | | | -3 | 6 | 22 | 14 | 0 | -0.25 | 0.85 | 4.20 | 1.84 | 0.00 |
| Low Geopolitical Risk (C) | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -17 | -68 | -37 | -111 | -202 | -0.77 | -7.77 | -5.07 | -11.69 | -20.52 |
| Median | | | | | | | | | -6 | -67 | -44 | -57 | -92 | -1.23 | -10.61 | -5.78 | -9.73 | -14.25 |
| U.S. Political Events (1) | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 21 | -15 | -61 | -88 | -92 | 1.61 | -1.57 | -3.58 | -7.29 | -9.48 |
| Median | | | | | | | | | 2 | -2 | -11 | -13 | -33 | 0.72 | -0.42 | -1.86 | -2.21 | -5.70 |
| Non-U.S. Political Events (2) | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 1 | -18 | -12 | -15 | -20 | 0.20 | -3.10 | -1.38 | -2.51 | -3.58 |
| Median | | | | | | | | | 4 | -4 | -18 | -9 | -7 | 1.38 | -0.70 | -3.30 | -1.65 | -1.26 |

Sources: Lehman Brothers Fixed-Income Research and Global Financial Data.
 Crisis Grade Key: A = High Geopolitical Risk, B = Medium Geopolitical Risk, C = Low Geopolitical Risk, 1 = U.S. Political Event, 2 = Non-U.S. Political Event

Figure A22. Performance of U.S. 3-Month Treasury Bills Before and After Military Conflicts, 1939 through June 2002

| | Date | 3-Month Treasury Yield (%) | 3-Month Treasury Yields (%) | | | | | | | | | | | | Cumulative Percent Change (%) in 3-Month Treasury Yields | | | | | | | | | | | |
|---|------------|----------------------------|--|------|------|------|------|------|------|------|------|------|------|--------|--|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | | in Number of Months Before/After Military Conflict | | | | | | | | | | | | in Number of Months Before/After Military Conflict | | | | | | | | | | | |
| | | | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 |
| World War II | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Germany Invades Poland | 9/1/1939 | 0.09 | 0.45 | 0.06 | 0.03 | 0.03 | 0.04 | 0.08 | 0.05 | 0.04 | 0.02 | 0.05 | 0.13 | -80.00 | 50.00 | 200.00 | 200.00 | 200.00 | 125.00 | -11.11 | -44.44 | -55.56 | -77.78 | -44.44 | 44.44 | |
| Germany Invades France | 5/10/1949 | 1.16 | 0.38 | 1.00 | 1.14 | 1.16 | 1.17 | 1.16 | 1.17 | 1.01 | 1.06 | 1.08 | 1.16 | 1.44 | 205.26 | 16.00 | 1.75 | 0.00 | -0.85 | 0.00 | 0.86 | -12.93 | -8.62 | -6.90 | 0.00 | 24.14 |
| France Surrenders | 6/22/1940 | 0.09 | 0.04 | 0.03 | 0.04 | 0.02 | 0.02 | 0.03 | 0.04 | 0.04 | 0.02 | 0.02 | 0.13 | 0.38 | 125.00 | 200.00 | 125.00 | 350.00 | 350.00 | 200.00 | -55.56 | -55.56 | -77.78 | -77.78 | 44.44 | 322.22 |
| Pearl Harbor | 12/7/1941 | 0.30 | 0.04 | 0.02 | 0.13 | 0.12 | 0.11 | 0.25 | 0.35 | 0.25 | 0.25 | 0.38 | 0.38 | 0.38 | 650.00 | 1400.00 | 130.77 | 150.00 | 172.73 | 20.00 | 16.67 | -16.67 | -16.67 | 26.67 | 26.67 | 26.67 |
| Germany Surrenders | 5/7/1945 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hiroshima/Nagasaki and Japanese Surrender | 8/14/1945 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.75 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 97.37 |
| Korea | | | | | | | | | | | | | | | | | | | | | | | | | | |
| North Korea Invades | 6/25/1950 | 1.14 | 1.00 | 1.17 | 1.09 | 1.12 | 1.14 | 1.16 | 1.16 | 1.16 | 1.30 | 1.35 | 1.36 | 1.71 | 14.00 | -2.56 | 4.59 | 1.79 | 0.00 | -1.72 | 1.75 | 1.75 | 14.04 | 18.42 | 19.30 | 50.00 |
| Cease Fire Signed | 7/27/1953 | 2.10 | 1.60 | 1.86 | 1.91 | 1.97 | 2.03 | 1.89 | 2.06 | 1.63 | 1.42 | 1.00 | 0.75 | 1.57 | 31.25 | 12.90 | 9.95 | 6.60 | 3.45 | 11.11 | -1.90 | -22.38 | -32.38 | -52.38 | -64.29 | -25.24 |
| Vietnam | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gulf of Tonkin | 8/2/1964 | 3.47 | 2.82 | 3.29 | 3.51 | 3.52 | 3.48 | 3.48 | 3.50 | 3.55 | 3.84 | 3.87 | 3.81 | 4.84 | 23.05 | 5.47 | -1.14 | -1.42 | -0.29 | -0.29 | 0.86 | 2.31 | 10.66 | 11.53 | 9.80 | 39.48 |
| U.S. Marines Sent | 3/8/1965 | 3.94 | 2.89 | 3.54 | 3.53 | 3.57 | 3.80 | 3.91 | 3.94 | 3.89 | 3.87 | 3.87 | 4.61 | 4.59 | 36.33 | 11.30 | 11.61 | 10.36 | 3.68 | 0.77 | 0.00 | -1.27 | -1.78 | -1.78 | 17.01 | 16.50 |
| North Vietnam Overtakes Saigon | 4/30/1975 | 5.50 | 6.00 | 8.82 | 7.78 | 7.06 | 5.40 | 5.53 | 5.20 | 5.78 | 6.42 | 5.72 | 4.92 | 4.52 | -8.33 | -37.64 | -29.31 | -22.10 | 1.85 | -0.54 | -5.45 | 5.09 | 16.73 | 4.00 | -10.55 | -17.82 |
| Gulf War | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Iraq Invades Kuwait | 8/2/1990 | 7.43 | 7.01 | 7.95 | 7.81 | 7.75 | 7.68 | 7.70 | 7.39 | 7.13 | 7.02 | 6.22 | 5.58 | 3.17 | 5.99 | -6.54 | -4.87 | -4.13 | -3.26 | -3.51 | -0.54 | -4.04 | -5.52 | -16.29 | -24.90 | -57.34 |
| U.N. Authorizes Force | 11/29/1990 | 7.03 | 7.88 | 7.55 | 7.68 | 7.42 | 7.14 | 7.14 | 6.45 | 6.25 | 5.74 | 5.40 | 4.42 | 3.15 | -10.79 | -6.89 | -8.46 | -5.26 | -1.54 | -1.54 | -8.25 | -11.10 | -18.35 | -23.19 | -37.13 | -55.19 |
| Desert Storm Begins | 1/17/1991 | 6.12 | 8.33 | 7.73 | 7.54 | 7.39 | 7.08 | 6.73 | 5.91 | 5.84 | 5.40 | 5.59 | 3.82 | 3.10 | -26.53 | -20.83 | -18.83 | -17.19 | -13.56 | -9.06 | -3.43 | -4.58 | -11.76 | -8.66 | -37.58 | -49.35 |
| Ground Assault Begins | 2/24/1991 | 5.95 | 8.57 | 7.81 | 7.48 | 7.13 | 6.48 | 6.17 | 5.86 | 5.61 | 5.56 | 5.39 | 3.85 | 2.93 | -30.57 | -23.82 | -20.45 | -16.55 | -8.18 | -3.57 | -1.51 | -5.71 | -6.55 | -9.41 | -35.29 | -50.76 |
| Kuwait Liberated | 2/27/1991 | 6.03 | 8.66 | 7.76 | 7.39 | 7.14 | 6.45 | 6.25 | 5.74 | 5.62 | 5.55 | 5.41 | 3.93 | 2.93 | -30.37 | -22.29 | -18.40 | -15.55 | -6.51 | -3.52 | -4.81 | -6.80 | -7.96 | -10.28 | -34.83 | -51.41 |
| War on Terrorism | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Afghanistan-U.S. Bombing Begins | 10/7/2001 | 2.15 | 4.94 | 6.01 | 3.85 | 3.56 | 3.41 | 3.20 | 1.82 | 1.72 | 1.74 | 1.73 | - | - | -56.48 | -64.23 | -44.16 | -39.61 | -36.95 | -32.81 | -15.35 | -20.00 | -19.07 | -19.53 | - | - |
| Overall | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 49.87 | 88.88 | 19.89 | 35.12 | 38.86 | 17.67 | -5.16 | -11.55 | -12.97 | -14.31 | -10.74 | 19.61 |
| Median | | | | | | | | | | | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.29 | -1.51 | -5.71 | -7.96 | -8.66 | -5.27 | 8.25 |
| World War II | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 150.04 | 277.67 | 76.25 | 116.67 | 120.31 | 57.50 | -8.19 | -21.60 | -26.44 | -22.63 | 4.44 | 85.81 |
| Median | | | | | | | | | | | | | | | 62.50 | 33.00 | 63.38 | 75.00 | 86.36 | 10.00 | 0.00 | -14.80 | -12.64 | -3.45 | 0.00 | 35.56 |
| Vietnam | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 17.02 | -6.96 | -6.28 | -4.38 | 1.75 | -0.02 | -1.53 | 2.04 | 8.54 | 4.58 | 5.42 | 12.72 |
| Median | | | | | | | | | | | | | | | 23.05 | 5.47 | -1.14 | -1.42 | 1.85 | -0.29 | 0.00 | 2.31 | 10.66 | 4.00 | 9.80 | 16.50 |
| Gulf War | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | -18.45 | -16.07 | -14.20 | -11.73 | -6.61 | -4.24 | -3.71 | -6.44 | -10.03 | -13.57 | -33.95 | -52.81 |
| Median | | | | | | | | | | | | | | | -26.53 | 20.83 | -18.40 | -15.55 | -6.51 | -3.52 | -3.43 | -5.71 | -7.96 | -10.28 | -35.29 | -51.41 |

Sources: Lehman Brothers Fixed-Income Research and Global Financial Data.

Figure A23. U.K. Three-Month Treasury Bill Reactions to Various Crisis Events, 1901 through June 2002

| Crisis Grade | Crisis Events | Date | 3-Month Treasury Yield (%) | 3-Month Treasury Yields (%) | | | | | Cumulative Change (bp) in Yields | | | | | Cumulative Percent Change in Yields | | | | |
|-------------------------------------|--|------------|----------------------------|------------------------------------|-------|-------|-------|-------|------------------------------------|------|------|------|------|-------------------------------------|--------|--------|--------|--------|
| | | | | in Number of Months After Reaction | | | | | in Number of Months After Reaction | | | | | in Number of Months after Reaction | | | | |
| | | | | 1 | 2 | 3 | 4 | 6 | 1 | 2 | 3 | 4 | 6 | 1 | 2 | 3 | 4 | 6 |
| A | Germany Enters World War I | 8/1/1914 | 3.01 | 3.39 | 3.39 | 3.39 | 3.39 | 3.39 | 38 | 38 | 38 | 38 | 38 | 12.62 | 12.62 | 12.62 | 12.62 | 12.62 |
| A | U.S. Declares War on Germany | 4/6/1917 | 5.58 | 4.73 | 4.81 | 4.75 | 4.81 | 4.81 | -85 | -77 | -83 | -77 | -77 | -15.23 | -13.80 | -14.87 | -13.80 | -13.80 |
| A | Pearl Harbor | 12/6/1941 | 1.00 | 1.01 | 1.01 | 1.02 | 1.01 | 1.00 | 1 | 1 | 2 | 1 | 0 | 1.00 | 1.00 | 2.00 | 1.00 | 0.00 |
| A | Korean War | 6/23/1950 | 0.51 | 0.51 | 0.51 | 0.51 | 0.52 | 0.51 | 0 | 0 | 0 | 1 | 0 | 0.00 | 0.00 | 0.00 | 1.96 | 0.00 |
| A | Cuban Missile Crisis | 10/19/1962 | 3.64 | 3.86 | 3.69 | 3.72 | 3.49 | 3.76 | 22 | 5 | 8 | -15 | 12 | 6.04 | 1.37 | 2.20 | -4.12 | 3.30 |
| A | Gulf of Tonkin | 8/2/1964 | 4.57 | 4.65 | 4.65 | 4.69 | 5.11 | 6.62 | 8 | 8 | 12 | 54 | 205 | 1.75 | 1.75 | 2.63 | 11.82 | 44.86 |
| A | Arab Oil Embargo | 10/18/1973 | 10.96 | 10.77 | 11.73 | 12.46 | 12.09 | 11.95 | -19 | 77 | 150 | 113 | 99 | -1.73 | 7.03 | 13.69 | 10.31 | 9.03 |
| A | Gulf War Ultimatum | 12/24/1990 | 13.41 | 13.30 | 12.19 | 11.59 | 11.25 | 10.69 | -11 | -122 | -181 | -216 | -272 | -0.82 | -9.09 | -13.52 | -16.08 | -20.28 |
| A | WTC Attack | 9/11/2001 | 4.84 | 4.34 | 3.82 | 3.93 | 3.98 | 4.01 | -50 | -102 | -91 | -86 | -83 | -10.33 | -21.07 | -18.80 | -17.77 | -17.16 |
| B | Archduke Ferdinand Assassinated | 6/28/1914 | 3.01 | 3.01 | 3.01 | 3.39 | 3.39 | 3.39 | 0 | 0 | 38 | 38 | 38 | 0.00 | 0.00 | 12.62 | 12.62 | 12.62 |
| B | Easter Rebellion (Ireland) | 4/14/1916 | 4.92 | 4.55 | 4.55 | 4.80 | 5.36 | 5.58 | -37 | -37 | -12 | 44 | 66 | -7.52 | -7.52 | -2.44 | 8.94 | 13.41 |
| B | Fall of France | 5/9/1940 | 1.03 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | -1 | -1 | -1 | -1 | -1 | -0.97 | -0.97 | -0.97 | -0.97 | -0.97 |
| B | France Falls at Dien Bien Phu | 5/8/1954 | 2.09 | 1.84 | 1.61 | 1.57 | 1.60 | 1.59 | -25 | -48 | -52 | -49 | -50 | -11.96 | -22.97 | -24.88 | -23.44 | -23.92 |
| B | Sputnik | 10/3/1957 | 5.44 | 6.60 | 6.54 | 6.43 | 6.28 | 5.77 | 116 | 110 | 99 | 84 | 33 | 21.32 | 20.22 | 18.20 | 15.44 | 6.07 |
| B | Soviet Tanks Invade Prague | 8/20/1968 | 7.15 | 6.95 | 6.76 | 6.51 | 6.68 | 6.77 | -20 | -39 | -64 | -47 | -38 | -2.80 | -5.45 | -8.95 | -6.57 | -5.31 |
| B | Iranian Revolution | 1/16/1979 | 11.80 | 12.89 | 11.30 | 11.38 | 11.41 | 13.38 | 109 | -50 | -42 | -39 | 158 | 9.27 | -4.24 | -3.58 | -3.31 | 13.38 |
| B | USSR Invasion of Afghanistan | 12/24/1979 | 15.81 | 15.75 | 16.13 | 16.17 | 16.06 | 15.73 | -6 | 31 | 36 | 25 | -8 | -0.40 | 1.98 | 2.27 | 1.58 | -0.49 |
| B | Falkland Islands War | 4/1/1982 | 12.58 | 13.03 | 13.03 | 12.34 | 11.23 | 9.81 | 45 | 45 | -23 | -134 | -277 | 3.60 | 3.60 | -1.86 | -10.68 | -21.99 |
| B | Gorbachev Coup | 8/16/1991 | 10.25 | 9.63 | 9.84 | 9.75 | 10.03 | 9.78 | -63 | -41 | -50 | -22 | -47 | -6.10 | -3.96 | -4.88 | -2.13 | -4.57 |
| C | U.S. Bombs Cambodia | 4/30/1970 | 6.97 | 6.97 | 6.83 | 6.87 | 6.85 | 6.82 | 0 | -14 | -10 | -12 | -15 | 0.00 | -2.01 | -1.43 | -1.72 | -2.15 |
| C | U.S. Invades Grenada | 10/24/1983 | 8.88 | 8.84 | 8.88 | 8.75 | 8.88 | 8.41 | -3 | 0 | -13 | 0 | -47 | -0.35 | 0.00 | -1.41 | 0.00 | -5.28 |
| C | U.S. Bombs Libya | 4/15/1986 | 9.81 | 9.81 | 9.50 | 9.38 | 9.56 | 9.94 | 0 | -31 | -44 | -25 | 13 | 0.01 | -3.18 | -4.46 | -2.55 | 1.27 |
| C | Invasion of Panama | 12/15/1989 | 14.47 | 14.52 | 14.50 | 14.64 | 14.59 | 14.34 | 5 | 3 | 17 | 13 | -13 | 0.32 | 0.22 | 1.19 | 0.86 | -0.86 |
| C | U.S. Embassy Bombings in Nairobi and Dar es Salaam | 8/7/1998 | 7.60 | 7.56 | 7.23 | 6.49 | 6.38 | 5.55 | -3 | -37 | -111 | -122 | -205 | -0.41 | -4.88 | -14.58 | -16.00 | -26.93 |
| 1 | Bloody Sunday (N. Ireland) | 11/21/1920 | 6.61 | 6.61 | 6.61 | 6.61 | 6.09 | 6.09 | 0 | 0 | 0 | 0 | -52 | 0.00 | 0.00 | 0.00 | 0.00 | -7.87 |
| 1 | Hunt Silver Crisis | 2/13/1980 | 16.14 | 16.13 | 16.17 | 16.11 | 15.97 | 14.91 | -2 | 3 | -3 | -17 | -123 | -0.10 | 0.19 | -0.19 | -1.06 | -7.65 |
| 1 | ERM U.K. Currency Crisis | 9/14/1992 | 9.69 | 8.31 | 6.50 | 6.66 | 6.53 | 5.53 | -138 | -319 | -303 | -316 | -416 | -14.19 | -32.90 | -31.29 | -32.58 | -42.90 |
| 2 | William McKinley Assassinated | 9/6/1901 | 3.48 | 3.48 | 3.48 | 3.48 | 2.96 | 2.96 | 0 | 0 | 0 | 0 | -52 | 0.00 | 0.00 | 0.00 | 0.00 | -14.94 |
| 2 | U.S. Financial Panic of 1907 | 10/21/1907 | 3.76 | 3.76 | 3.76 | 3.76 | 2.25 | 2.25 | 0 | 0 | 0 | -151 | -151 | 0.00 | 0.00 | 0.00 | -40.16 | -40.16 |
| 2 | Earthquake in Tokyo | 9/1/1923 | 3.13 | 3.16 | 3.12 | 3.19 | 3.19 | 3.26 | 3 | -1 | 6 | 6 | 13 | 0.96 | -0.32 | 1.92 | 1.92 | 4.15 |
| 2 | U.S. Stock Market Crash | 10/29/1929 | 5.63 | 6.19 | 5.30 | 4.75 | 4.04 | 2.55 | 56 | -33 | -88 | -159 | -308 | 9.95 | -5.86 | -15.63 | -28.24 | -54.71 |
| 2 | Truman Upset Victory | 11/2/1948 | 0.51 | 0.51 | 0.52 | 0.52 | 0.52 | 0.51 | 0 | 1 | 1 | 1 | 0 | 0.00 | 1.96 | 1.96 | 1.96 | 0.00 |
| 2 | Eisenhower Heart Attack | 9/23/1955 | 4.00 | 4.07 | 4.07 | 4.10 | 4.09 | 4.67 | 7 | 7 | 10 | 9 | 67 | 1.75 | 1.75 | 2.50 | 2.25 | 16.75 |
| 2 | JFK Assassination | 11/21/1963 | 3.74 | 3.74 | 3.72 | 3.72 | 3.92 | 4.30 | 0 | -2 | -2 | 18 | 56 | 0.00 | -0.53 | -0.53 | 4.81 | 14.97 |
| 2 | Riots and Labor Strikes in France | 5/6/1968 | 7.08 | 7.15 | 7.21 | 7.15 | 6.95 | 6.51 | 7 | 13 | 7 | -13 | -57 | 0.99 | 1.84 | 0.99 | -1.84 | -8.05 |
| 2 | Kent State Shootings | 5/4/1970 | 6.97 | 6.83 | 6.87 | 6.85 | 6.82 | 6.81 | -14 | -10 | -12 | -15 | -16 | -2.01 | -1.43 | -1.72 | -2.15 | -2.30 |
| 2 | Nixon Resigns | 8/9/1974 | 11.20 | 11.24 | 11.06 | 10.93 | 10.98 | 10.34 | 4 | -14 | -27 | -22 | -86 | 0.36 | -1.25 | -2.41 | -1.96 | -7.64 |
| 2 | U.S. Stock Market Crash of 1987 | 10/2/1987 | 9.75 | 9.45 | 8.53 | 8.31 | 8.34 | 8.28 | -30 | -122 | -144 | -141 | -147 | -3.08 | -12.50 | -14.74 | -14.42 | -15.06 |
| 2 | WTC Bombing | 2/26/1993 | 5.59 | 5.44 | 5.59 | 5.44 | 5.47 | 5.16 | -16 | 0 | -16 | -13 | -44 | -2.79 | 0.00 | -2.79 | -2.23 | -7.82 |
| 2 | Orange County, CA Bankruptcy & Financial Crisis | 12/6/1994 | 6.03 | 6.31 | 6.47 | 6.41 | 6.19 | 6.25 | 28 | 44 | 38 | 16 | 22 | 4.66 | 7.25 | 6.22 | 2.59 | 3.63 |
| 2 | Mexico - Tequila Crisis | 12/19/1994 | 6.03 | 6.06 | 6.47 | 6.19 | 6.19 | 6.31 | 3 | 44 | 16 | 16 | 28 | 0.52 | 7.25 | 2.59 | 2.59 | 4.66 |
| 2 | Poison Gas Attack in Tokyo Subway | 3/20/1995 | 6.19 | 6.22 | 6.50 | 6.31 | 6.59 | 6.53 | 3 | 31 | 13 | 41 | 34 | 0.51 | 5.05 | 2.02 | 6.57 | 5.56 |
| 2 | Oklahoma City Bombing | 4/19/1995 | 6.22 | 6.50 | 6.31 | 6.59 | 6.59 | 6.59 | 28 | 9 | 38 | 38 | 38 | 4.52 | 1.51 | 6.03 | 6.03 | 6.03 |
| 2 | Terrorist Attack in Paris Metro | 7/25/1995 | 6.56 | 6.56 | 6.53 | 6.56 | 6.47 | 6.03 | 0 | -3 | 0 | -9 | -53 | 0.00 | -0.48 | 0.00 | -1.43 | -8.09 |
| 2 | Asian Stock Market Crisis | 10/7/1997 | 7.06 | 7.19 | 7.34 | 7.19 | 7.25 | 7.38 | 13 | 28 | 13 | 19 | 32 | 1.77 | 3.98 | 1.83 | 2.71 | 4.50 |
| 2 | Russia, LTCM Crisis | 8/18/1998 | 7.68 | 7.35 | 7.02 | 6.68 | 6.04 | 5.34 | -33 | -66 | -100 | -164 | -234 | -4.29 | -8.58 | -12.98 | -21.32 | -30.46 |
| Overall | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -1 | -15 | -20 | -28 | -42 | -0.07 | -1.79 | -2.29 | -3.43 | -4.66 |
| Median | | | | | | | | | 0 | 0 | -1 | -5 | -14 | 0.00 | 0.00 | -0.10 | -1.02 | -1.56 |
| Geopolitical Risk | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 1 | -12 | -16 | -18 | -20 | -0.11 | -2.06 | -2.05 | -1.75 | -1.13 |
| Median | | | | | | | | | -1 | -1 | -11 | -7 | -4 | -0.18 | -0.49 | -1.42 | -1.35 | -0.68 |
| Political Events | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -4 | -18 | -25 | -39 | -66 | -0.02 | -1.50 | -2.56 | -5.27 | -8.52 |
| Median | | | | | | | | | 0 | 0 | 0 | -5 | -48 | 0.00 | 0.00 | 0.00 | -0.53 | -7.65 |
| High Geopolitical Risk (A) | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -11 | -19 | -16 | -21 | -9 | -0.74 | -2.24 | -1.56 | -1.56 | 2.06 |
| Median | | | | | | | | | 0 | 1 | 2 | 1 | 0 | 0.00 | 1.00 | 2.00 | 1.00 | 0.00 |
| Medium Geopolitical Risk (B) | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 12 | -3 | -7 | -10 | -13 | 0.45 | -1.93 | -1.45 | -0.85 | -1.18 |
| Median | | | | | | | | | -4 | -19 | -18 | -11 | -4 | -0.68 | -2.47 | -2.15 | -1.55 | -0.73 |
| Low Geopolitical Risk (C) | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 0 | -16 | -32 | -29 | -53 | -0.09 | -1.97 | -4.14 | -3.88 | -6.79 |
| Median | | | | | | | | | 0 | -14 | -13 | -12 | -15 | 0.00 | -2.01 | -1.43 | -1.72 | -2.15 |
| U.K. Political Events (1) | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -46 | -105 | -102 | -111 | -197 | -4.76 | -10.90 | -10.49 | -11.21 | -19.47 |
| Median | | | | | | | | | -2 | 0 | -3 | -17 | -123 | -0.10 | 0.00 | -0.19 | -1.06 | -7.87 |
| U.K. Political Events (2) | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 3 | -4 | -13 | -28 | -45 | 0.73 | -0.02 | -1.30 | -4.33 | -6.79 |
| Median | | | | | | | | | 3 | 0 | 0 | 0 | -16 | 0.36 | 0.00 | 0.00 | 0.00 | -2.30 |

Sources: Lehman Brothers Fixed-Income Research and Global Financial Data.

Crisis Grade Key: A = High Geopolitical Risk, B = Medium Geopolitical Risk, C = Low Geopolitical Risk, 1 = U.K. Political Event, 2 = Non-U.K. Political Event

Figure A24. Performance of U.K. 3-Month Treasury Bills Before and After Military Conflicts, 1914 through June 2002

| | Date | 3-Month Treasury Yield (%) | 3-Month Treasury Yields (%) | | | | | | | | | | | | Cumulative Percent Change (%) in 3-Month Treasury Yields | | | | | | | | | | | |
|---|------------|----------------------------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | | in Number of Months Before/After Military Conflict | | | | | | | | | | | | in Number of Months Before/After Military Conflict | | | | | | | | | | | |
| | | | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 |
| World War I | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Assassination in Sarajevo | 6/28/1914 | 3.01 | 3.04 | 3.48 | 3.48 | 3.01 | 3.01 | 3.01 | 3.01 | 3.39 | 3.39 | 2.77 | 4.55 | -0.99 | -13.51 | -13.51 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 12.62 | 12.62 | 12.62 | -7.97 | 51.16 |
| Austria Declares War on Serbia | 7/28/1914 | 3.01 | 3.04 | 3.48 | 3.48 | 3.01 | 3.01 | 3.01 | 3.01 | 3.39 | 3.39 | 2.77 | 4.80 | -0.99 | -13.51 | -13.51 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 12.62 | 12.62 | 12.62 | -7.97 | 59.47 |
| U.S. Declares War on Germany | 4/6/1917 | 5.58 | 3.39 | 4.92 | 5.58 | 5.58 | 5.58 | 4.73 | 4.81 | 4.81 | 4.81 | 3.53 | 3.53 | 64.60 | 13.41 | 0.00 | 0.00 | 0.00 | 0.00 | -15.23 | -13.80 | -13.80 | -13.80 | -36.74 | -36.74 | |
| Austria, Hungary, & Germany Surrender | 11/11/1918 | 3.53 | 5.58 | 4.81 | 3.53 | 3.53 | 3.53 | 3.53 | 3.53 | 3.53 | 3.53 | 4.35 | 6.61 | -36.74 | -26.61 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 23.23 | 87.25 | |
| World War II | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Germany Invades Poland | 9/1/1939 | 1.92 | 0.52 | 0.51 | 0.51 | 1.36 | 0.76 | 0.77 | 3.23 | 1.77 | 1.18 | 1.09 | 1.02 | 1.00 | 269.23 | 276.47 | 276.47 | 41.18 | 152.63 | 149.35 | 68.23 | -7.81 | -38.54 | -43.23 | -46.88 | -47.92 |
| Germany Invades France | 5/10/1949 | 0.51 | 0.51 | 0.51 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.51 | 0.51 | 0.00 | 0.00 | 0.00 | -1.92 | -1.92 | -1.92 | 1.96 | 1.96 | 1.96 | 0.00 | 0.00 | 0.00 | |
| France Surrenders | 6/22/1940 | 1.02 | 0.59 | 0.70 | 1.18 | 1.09 | 1.02 | 1.03 | 1.02 | 1.02 | 1.02 | 1.02 | 1.00 | 1.00 | 72.88 | 45.71 | -13.56 | -6.42 | 0.00 | -0.97 | 0.00 | 0.00 | 0.00 | 0.00 | -1.96 | -1.96 |
| Pearl Harbor | 12/7/1941 | 1.00 | 1.18 | 1.02 | 1.00 | 1.00 | 1.01 | 1.00 | 1.01 | 1.01 | 1.01 | 1.00 | 1.00 | 1.00 | -15.25 | -1.96 | 0.00 | 0.00 | -0.99 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Germany Surrenders | 5/7/1945 | 1.01 | 1.01 | 1.01 | 1.00 | 1.01 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.75 | 0.51 | 0.51 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | -0.99 | -0.99 | -0.99 | -25.74 | -49.50 | -49.50 |
| Hiroshima/Nagasaki and Japanese Surrender | 8/14/1945 | 1.00 | 1.00 | 1.00 | 1.01 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.51 | 0.50 | 0.51 | 0.51 | 0.00 | 0.00 | -0.99 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -49.00 | -50.00 | -49.00 | -49.00 |
| Korea | | | | | | | | | | | | | | | | | | | | | | | | | | |
| North Korea Invades | 6/25/1950 | 0.51 | 0.51 | 0.52 | 0.52 | 0.52 | 0.52 | 0.51 | 0.51 | 0.51 | 0.52 | 0.51 | 0.51 | 2.37 | 0.00 | -1.92 | -1.92 | -1.92 | -1.92 | 0.00 | 0.00 | 0.00 | 1.96 | 0.00 | 0.00 | 364.71 |
| Cease Fire Signed | 7/27/1953 | 2.37 | 0.51 | 2.46 | 2.41 | 2.42 | 2.41 | 2.38 | 2.35 | 2.36 | 2.11 | 2.11 | 1.61 | 3.97 | 364.71 | -3.66 | -1.66 | -2.07 | -1.66 | -0.42 | -0.84 | -0.42 | -10.97 | -10.97 | -32.07 | 67.51 |
| Vietnam | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gulf of Tonkin | 8/2/1964 | 4.57 | 3.89 | 3.76 | 3.72 | 4.30 | 4.35 | 4.44 | 4.65 | 4.65 | 5.11 | 6.62 | 5.59 | 5.69 | 17.48 | 21.54 | 22.85 | 6.28 | 5.06 | 2.93 | 1.75 | 1.75 | 11.82 | 44.86 | 22.32 | 24.51 |
| U.S. Marines Sent | 3/8/1965 | 6.48 | 3.43 | 3.92 | 4.65 | 4.69 | 6.62 | 6.60 | 6.45 | 6.45 | 5.59 | 5.56 | 5.58 | 6.29 | 88.92 | 65.31 | 39.35 | 38.17 | -2.11 | -1.82 | -0.46 | -0.46 | -13.73 | -14.20 | -13.89 | -2.93 |
| North Vietnam Overtakes Saigon | 4/30/1975 | 9.28 | 7.67 | 11.51 | 10.93 | 10.99 | 9.84 | 9.41 | 9.48 | 9.56 | 10.44 | 11.50 | 10.00 | 8.45 | 21.01 | -19.36 | -15.08 | -15.55 | -5.71 | -1.33 | 2.19 | 3.03 | 12.46 | 23.91 | 7.74 | -8.92 |
| Gulf War | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Iraq Invades Kuwait | 8/2/1990 | 14.34 | 10.75 | 13.34 | 14.48 | 14.61 | 14.48 | 14.28 | 14.28 | 14.34 | 12.88 | 13.23 | 10.50 | 9.53 | 33.43 | 7.49 | -0.97 | -1.82 | -0.97 | 0.44 | -0.44 | 0.00 | -10.24 | -7.73 | -26.80 | -33.55 |
| U.N. Authorizes Force | 11/29/1990 | 12.64 | 12.63 | 14.61 | 14.48 | 14.38 | 14.26 | 13.34 | 13.59 | 13.25 | 11.56 | 10.78 | 10.16 | 6.69 | 0.12 | -13.48 | -12.73 | -12.07 | -11.36 | -5.27 | 7.54 | 4.82 | -8.53 | -14.71 | -19.65 | -47.10 |
| Desert Storm Begins | 1/17/1991 | 13.44 | 12.25 | 14.56 | 14.31 | 14.38 | 13.31 | 13.19 | 12.19 | 11.53 | 10.88 | 10.50 | 10.13 | 6.53 | 9.69 | -7.73 | -6.11 | -6.52 | 0.94 | 1.90 | -9.30 | -14.19 | -19.07 | -21.86 | -24.65 | -51.39 |
| Ground Assault Begins | 2/24/1991 | 12.19 | 12.38 | 14.48 | 14.22 | 13.33 | 13.41 | 13.27 | 11.63 | 11.19 | 10.69 | 10.16 | 9.66 | 5.50 | -1.52 | -15.86 | -14.29 | -8.56 | -9.09 | -8.13 | -4.62 | -8.21 | -12.31 | -16.67 | -20.77 | -54.87 |
| Kuwait Liberated | 2/27/1991 | 12.00 | 12.38 | 14.50 | 14.28 | 13.34 | 13.59 | 13.25 | 11.56 | 11.25 | 10.72 | 10.16 | 9.69 | 5.50 | -3.03 | -17.24 | -15.97 | -10.07 | -11.72 | -9.43 | -3.65 | -6.25 | -10.68 | -15.36 | -19.27 | -54.17 |
| War on Terrorism | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Afghanistan-U.S. Bombing Begins | 10/7/2001 | 4.34 | 5.29 | 6.04 | 5.35 | 5.13 | 4.90 | 4.84 | 4.08 | 3.92 | 3.96 | 4.13 | - | - | -17.98 | -28.15 | -18.88 | -15.40 | -11.43 | -10.33 | -5.99 | -9.68 | -8.81 | -4.76 | - | - |
| Overall | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 41.22 | 12.71 | 10.02 | 0.16 | 4.80 | 5.52 | 1.96 | -1.74 | -6.77 | -6.81 | -15.19 | 10.83 |
| Median | | | | | | | | | | | | | | | 0.00 | -1.96 | -1.66 | -1.82 | -0.97 | 0.00 | 0.00 | 0.00 | -8.53 | -7.73 | -16.58 | -5.93 |
| World War I | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 6.47 | -10.05 | -6.75 | 0.00 | 0.00 | 0.00 | -3.81 | -0.29 | 2.86 | 2.86 | -7.36 | 40.29 |
| Median | | | | | | | | | | | | | | | -0.99 | -13.51 | -6.75 | 0.00 | 0.00 | 0.00 | 0.00 | 6.31 | 6.31 | -7.97 | 55.32 | |
| World War II | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 54.48 | 53.37 | 43.82 | 5.47 | 25.12 | 24.58 | 11.70 | -0.97 | -14.26 | -19.50 | -24.56 | -24.73 |
| Median | | | | | | | | | | | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.50 | 0.00 | -0.50 | -12.87 | -24.42 | -24.94 |
| Vietnam | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 42.47 | 22.50 | 15.71 | 9.63 | -0.92 | -0.07 | 1.16 | 1.44 | 3.51 | 18.19 | 5.39 | 4.22 |
| Median | | | | | | | | | | | | | | | 21.01 | 21.54 | 22.85 | 6.28 | -2.11 | -1.33 | 1.75 | 1.75 | 11.82 | 23.91 | 7.74 | -2.93 |
| Gulf War | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 7.74 | -9.36 | -10.01 | -7.81 | -6.44 | -4.10 | -2.09 | -4.76 | -12.16 | -15.27 | -22.23 | -48.22 |
| Median | | | | | | | | | | | | | | | 0.12 | -13.48 | -12.73 | -8.56 | -9.09 | -5.27 | -3.65 | -6.25 | -10.68 | -15.36 | -20.77 | -51.39 |

Sources: Lehman Brothers Fixed-Income Research and Global Financial Data.

Figure A25. French Three-Month Treasury Bill Reactions to Various Crisis Events, 1940 through June 2002

| Crisis Grade | Crisis Events | Date | 3-Month Treasury Yield (%) | 3-Month Treasury Yields (%) in Number of Months After Reaction | | | | | Cumulative Change (bp) in Yields in Number of Months After Reaction | | | | | Cumulative Percent Change in Yields in Number of Months After Reaction | | | | | |
|-------------------------------------|--|------------|----------------------------|---|-------|-------|-------|-------|--|------|------|------|------|---|--------|--------|--------|--------|--|
| | | | | 1 | 2 | 3 | 4 | 6 | 1 | 2 | 3 | 4 | 6 | 1 | 2 | 3 | 4 | 6 | |
| A | Pearl Harbor | 12/6/1941 | 1.67 | 1.73 | 1.68 | 1.63 | 1.65 | 1.62 | 6 | 1 | -4 | -2 | -5 | 3.59 | 0.60 | -2.40 | -1.20 | -2.99 | |
| A | Korean War | 6/23/1950 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| A | Cuban Missile Crisis | 10/19/1962 | 3.22 | 3.41 | 3.39 | 3.38 | 3.35 | 3.30 | 19 | 17 | 16 | 13 | 8 | 5.90 | 5.28 | 4.97 | 4.04 | 2.48 | |
| A | Gulf of Tonkin | 8/2/1964 | 3.79 | 3.51 | 3.40 | 3.78 | 3.69 | 3.68 | -28 | -39 | -1 | -10 | -11 | -7.39 | -10.29 | -0.26 | -2.64 | -2.90 | |
| A | Arab Oil Embargo | 10/18/1973 | 10.37 | 11.36 | 11.18 | 11.36 | 13.43 | 12.33 | 99 | 81 | 99 | 306 | 196 | 9.55 | 7.81 | 9.55 | 29.51 | 18.90 | |
| A | Gulf War Ultimatum | 12/24/1990 | 9.94 | 10.22 | 10.09 | 9.85 | 9.54 | 9.39 | 28 | 16 | -9 | -40 | -55 | 2.80 | 1.57 | -0.88 | -3.98 | -5.56 | |
| A | WTC Attack | 9/11/2001 | 4.00 | 3.43 | 3.24 | 3.17 | 3.21 | 3.26 | -57 | -76 | -83 | -79 | -74 | -14.25 | -19.00 | -20.75 | -19.75 | -18.50 | |
| B | Fall of France | 5/9/1940 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| B | France Falls at Dien Bien Phu | 5/8/1954 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| B | Sputnik | 10/3/1957 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| B | Soviet Tanks Invade Prague | 8/20/1968 | 5.87 | 5.80 | 6.49 | 6.81 | 7.60 | 7.94 | -7 | 62 | 94 | 173 | 207 | -1.19 | 10.56 | 16.01 | 29.47 | 35.26 | |
| B | Iranian Revolution | 1/16/1979 | 6.67 | 6.57 | 6.88 | 7.10 | 7.00 | 8.68 | -10 | 21 | 43 | 33 | 201 | -1.50 | 3.15 | 6.45 | 4.95 | 30.13 | |
| B | USSR Invasion of Afghanistan | 12/24/1979 | 12.77 | 12.59 | 12.38 | 12.63 | 13.99 | 12.65 | -18 | -39 | -14 | 122 | -12 | -1.41 | -3.05 | -1.10 | 9.55 | -0.94 | |
| B | U.S. Invades Grenada | 10/24/1983 | 12.61 | 12.63 | 12.50 | 12.36 | 12.62 | 12.72 | 2 | -11 | -25 | 1 | 11 | 0.16 | -0.87 | -1.98 | 0.08 | 0.87 | |
| B | Invasion of Panama | 12/15/1989 | 10.46 | 10.81 | 10.28 | 10.99 | 10.63 | 9.75 | 35 | -18 | 53 | 17 | -71 | 3.35 | -1.76 | 5.10 | 1.60 | -6.79 | |
| B | Gorbachev Coup | 8/16/1991 | 9.72 | 9.81 | 9.54 | 9.39 | 9.49 | 10.12 | 9 | -18 | -33 | -23 | 40 | 0.88 | -1.87 | -3.40 | -2.41 | 4.11 | |
| C | U.S. Bombs Cambodia | 4/30/1970 | 8.95 | 8.95 | 9.02 | 9.59 | 9.10 | 8.28 | 0 | 7 | 64 | 15 | -67 | 0.00 | 0.78 | 7.15 | 1.68 | -7.49 | |
| C | Falkland Islands War | 4/1/1982 | 15.25 | 16.36 | 16.19 | 15.86 | 15.86 | 14.68 | 111 | 94 | 61 | 61 | -57 | 7.28 | 6.16 | 4.00 | 4.00 | -3.74 | |
| C | U.S. Bombs Libya | 4/15/1986 | 8.42 | 7.73 | 7.31 | 7.33 | 7.22 | 7.18 | -69 | -111 | -109 | -120 | -124 | -8.19 | -13.18 | -12.95 | -14.25 | -14.73 | |
| C | U.S. Embassy Bombings in Nairobi and Dar es Salaam | 8/7/1998 | 3.48 | 3.49 | 3.45 | 3.42 | 3.45 | 3.03 | 1 | -3 | -6 | -3 | -45 | 0.22 | -0.77 | -1.77 | -0.83 | -12.91 | |
| 1 | Hunt Silver Crisis | 2/13/1980 | 12.38 | 12.63 | 13.99 | 12.96 | 12.65 | 11.93 | 25 | 161 | 58 | 27 | -45 | 2.02 | 13.00 | 4.68 | 2.18 | -3.63 | |
| 1 | Riots and Labor Strikes in France | 5/6/1968 | 5.14 | 5.37 | 5.75 | 5.87 | 5.80 | 6.81 | 23 | 61 | 73 | 66 | 167 | 4.47 | 11.87 | 14.20 | 12.84 | 32.49 | |
| 1 | Terrorist Attack in Paris Metro | 7/25/1995 | 7.29 | 6.52 | 6.01 | 5.97 | 6.84 | 5.49 | -77 | -128 | -132 | -45 | -180 | -10.55 | -17.55 | -18.09 | -6.23 | -24.73 | |
| 2 | Truman Upset Victory | 11/2/1948 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2 | Eisenhower Heart Attack | 9/23/1955 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2 | JFK Assassination | 11/21/1963 | 3.33 | 3.32 | 3.13 | 3.34 | 3.39 | 3.31 | -1 | -20 | 1 | 6 | -2 | -0.30 | -6.01 | 0.30 | 1.80 | -0.60 | |
| 2 | Kent State Shootings | 5/4/1970 | 8.95 | 9.02 | 9.59 | 9.10 | 8.64 | 8.28 | 7 | 64 | 15 | -31 | -67 | 0.78 | 7.15 | 1.68 | -3.46 | -7.49 | |
| 2 | Nixon Resigns | 8/9/1974 | 14.13 | 13.97 | 13.92 | 13.38 | 12.26 | 10.03 | -16 | -21 | -75 | -187 | -410 | -1.13 | -1.49 | -5.31 | -13.23 | -29.02 | |
| 2 | U.S. Stock Market Crash of 1987 | 10/2/1987 | 7.92 | 8.27 | 8.72 | 8.54 | 8.54 | 7.61 | 35 | 80 | 62 | 62 | -31 | 4.42 | 10.10 | 7.83 | 7.83 | -3.91 | |
| 2 | ERM U.K. Currency Crisis | 9/14/1992 | 10.66 | 10.79 | 10.98 | 10.44 | 10.78 | 11.82 | 13 | 31 | -22 | 11 | 115 | 1.18 | 2.91 | -2.07 | 1.04 | 10.79 | |
| 2 | WTC Bombing | 2/26/1993 | 11.65 | 11.82 | 11.40 | 9.18 | 7.73 | 7.69 | 16 | -26 | -247 | -392 | -396 | 1.41 | -2.20 | -21.18 | -33.65 | -33.97 | |
| 2 | Orange County, CA Bankruptcy & Financial Crisis | 12/6/1994 | 5.53 | 5.38 | 5.81 | 5.80 | 7.93 | 7.59 | -15 | 28 | 27 | 240 | 206 | -2.67 | 5.10 | 4.83 | 43.33 | 37.20 | |
| 2 | Mexico - Tequila Crisis | 12/19/1994 | 5.53 | 5.38 | 5.81 | 5.80 | 7.93 | 7.59 | -15 | 28 | 27 | 240 | 206 | -2.67 | 5.10 | 4.83 | 43.33 | 37.20 | |
| 2 | Poison Gas Attack in Tokyo Subway | 3/20/1995 | 5.80 | 7.93 | 7.87 | 7.59 | 7.29 | 6.01 | 213 | 208 | 179 | 149 | 21 | 36.73 | 35.79 | 30.88 | 25.77 | 3.70 | |
| 2 | Oklahoma City Bombing | 4/19/1995 | 7.93 | 7.87 | 7.59 | 7.29 | 6.52 | 5.97 | -5 | -34 | -64 | -141 | -196 | -0.69 | -4.28 | -8.02 | -17.72 | -24.66 | |
| 2 | Asian Stock Market Crisis | 10/7/1997 | 3.30 | 3.47 | 3.55 | 3.53 | 3.49 | 3.48 | 18 | 26 | 24 | 20 | 18 | 5.38 | 7.78 | 7.20 | 5.95 | 5.53 | |
| 2 | Russia, LTCM Crisis | 8/18/1998 | 3.48 | 3.49 | 3.45 | 3.42 | 3.45 | 3.03 | 1 | -3 | -6 | -3 | -45 | 0.22 | -0.77 | -1.77 | -0.83 | -12.91 | |
| Overall | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 9 | 12 | 2 | 13 | -13 | 1.04 | 1.40 | 0.75 | 2.94 | 0.03 | |
| Median | | | | | | | | | 0 | 0 | 0 | 0 | -2 | 0.00 | 0.00 | 0.00 | 0.00 | -0.60 | |
| Geopolitical Risk | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 6 | -1 | 7 | 23 | 7 | -0.01 | -0.74 | 0.39 | 1.99 | 0.76 | |
| Median | | | | | | | | | 0 | 0 | 0 | 0 | -2 | 0.00 | 0.00 | 0.00 | 0.00 | -0.47 | |
| Political Events | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 13 | 27 | -5 | 1 | -38 | 2.27 | 3.91 | 1.18 | 4.06 | -0.82 | |
| Median | | | | | | | | | 1 | 26 | 1 | 6 | -2 | 0.22 | 2.91 | 0.30 | 1.04 | -0.60 | |
| High Geopolitical Risk (A) | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 10 | 0 | 3 | 27 | 8 | 0.03 | -2.00 | -1.40 | 0.85 | -1.22 | |
| Median | | | | | | | | | 6 | 1 | -1 | -2 | -5 | 2.80 | 0.60 | -0.26 | -1.20 | -2.90 | |
| Medium Geopolitical Risk (B) | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 1 | 0 | 13 | 36 | 42 | 0.03 | 0.68 | 2.34 | 4.81 | 6.96 | |
| Median | | | | | | | | | 0 | 0 | 0 | 1 | 0 | 0.00 | 0.00 | 0.00 | 0.08 | 0.00 | |
| Low Geopolitical Risk (C) | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 11 | -3 | 2 | -12 | -73 | -0.17 | -1.75 | -0.89 | -2.35 | -9.71 | |
| Median | | | | | | | | | 0 | 2 | 27 | 6 | -62 | 0.11 | 0.01 | 1.11 | 0.42 | -10.20 | |
| French Political Events (1) | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -10 | 31 | 0 | 16 | -19 | -1.35 | 2.44 | 0.27 | 2.93 | 1.38 | |
| Median | | | | | | | | | 23 | 61 | 58 | 27 | -45 | 2.02 | 11.87 | 4.68 | 2.18 | -3.63 | |
| French Political Events (2) | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 18 | 26 | -6 | -2 | -41 | 3.05 | 4.23 | 1.37 | 4.30 | -1.30 | |
| Median | | | | | | | | | 0 | 13 | 0 | 3 | -1 | 0.11 | 1.46 | 0.15 | 0.52 | -0.30 | |

Sources: Lehman Brothers Fixed-Income Research and Global Financial Data.

Crisis Grade Key: A = High Geopolitical Risk, B = Medium Geopolitical Risk, C = Low Geopolitical Risk, 1 = French Political Event, 2 = Non-French Political Event

Figure A26. Performance of French 3-Month Treasury Bills Before and After Military Conflicts, 1939 through June 2002

| | Date | 3-Month Treasury Yield (%) | 3-Month Treasury Yields (%) | | | | | | | | | | | | Cumulative Percent Change (%) in 3-Month Treasury Yields | | | | | | | | | | | | |
|---|------------|----------------------------|--|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|--|--------|--------|--------|--------|--------|-------|--------|--------|--------|--------|--------|-------|
| | | | in Number of Months Before/After Military Conflict | | | | | | | | | | | | in Number of Months Before/After Military Conflict | | | | | | | | | | | | |
| | | | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 | |
| World War II | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Germany Invades Poland | 9/1/1939 | 1.88 | 3.86 | 2.47 | 1.72 | 1.77 | 1.84 | 1.81 | 1.98 | 2.00 | 2.00 | 2.00 | 2.00 | 1.84 | -51.30 | -23.89 | 9.30 | 6.21 | 2.17 | 3.87 | 5.32 | 6.38 | 6.38 | 6.38 | -2.13 | | |
| Germany Invades France | 5/10/1949 | 2.00 | 1.70 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 3.00 | 17.65 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 50.00 | | |
| France Surrenders | 6/22/1940 | 2.00 | 2.31 | 1.77 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.84 | 1.62 | -13.42 | 12.99 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -19.00 | | |
| Pearl Harbor | 12/7/1941 | 1.67 | 2.00 | 2.00 | 1.84 | 1.84 | 1.81 | 1.66 | 1.73 | 1.68 | 1.65 | 1.62 | 1.66 | 1.67 | -16.50 | -16.50 | -9.24 | -7.73 | 0.60 | 3.59 | 0.60 | -1.20 | -2.99 | -0.60 | 0.00 | | |
| Germany Surrenders | 5/7/1945 | 1.50 | 1.66 | 1.67 | 1.72 | 1.72 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.70 | -9.64 | -10.18 | -12.79 | -12.79 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 13.33 | | |
| Hiroshima/Nagasaki and Japanese Surrender | 8/14/1945 | 1.50 | 1.70 | 1.72 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.70 | -11.76 | -12.79 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 13.33 | | |
| Korea | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| North Korea Invades | 6/25/1950 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 3.00 | 3.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 50.00 | 50.00 | | |
| Cease Fire Signed | 7/27/1953 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| Vietnam | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gulf of Tonkin | 8/2/1964 | 3.79 | 3.38 | 3.31 | 3.34 | 3.46 | 3.22 | 3.74 | 3.51 | 3.40 | 3.69 | 3.68 | 3.21 | 2.98 | 12.13 | 14.50 | 13.47 | 9.54 | 17.70 | 1.34 | -7.39 | -10.29 | -2.64 | -2.90 | -15.30 | -21.37 | |
| U.S. Marines Sent | 3/8/1965 | 3.29 | 3.38 | 3.39 | 3.51 | 3.78 | 3.68 | 3.16 | 3.28 | 3.09 | 3.21 | 3.20 | 2.97 | 4.01 | -2.66 | -2.95 | -6.27 | -12.96 | -10.60 | 4.11 | -0.30 | -6.08 | -2.43 | -2.74 | -9.73 | 21.88 | |
| North Vietnam Overtakes Saigon | 4/30/1975 | 8.24 | 7.68 | 12.27 | 13.38 | 11.53 | 9.79 | 8.94 | 8.24 | 7.58 | 7.33 | 7.05 | 7.84 | 9.96 | 7.29 | -32.84 | -38.42 | -28.53 | -15.83 | -7.83 | 0.00 | -8.01 | -11.04 | -14.44 | -4.85 | 20.87 | |
| Gulf War | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Iraq Invades Kuwait | 8/2/1990 | 9.98 | 7.38 | 9.12 | 10.28 | 10.63 | 9.75 | 10.02 | 10.14 | 10.29 | 9.94 | 10.22 | 9.85 | 10.35 | 35.27 | 9.46 | -2.85 | -6.07 | 2.39 | -0.33 | 1.56 | 3.09 | -0.46 | 2.33 | -1.33 | 3.67 | |
| U.N. Authorizes Force | 11/29/1990 | 9.99 | 8.08 | 10.46 | 9.75 | 9.98 | 10.29 | 10.29 | 9.94 | 10.22 | 9.85 | 9.50 | 9.39 | 10.98 | 23.63 | -4.50 | 2.45 | 0.06 | -2.94 | -2.94 | -0.52 | 2.26 | -1.39 | -4.90 | -5.96 | 9.87 | |
| Desert Storm Begins | 1/17/1991 | 10.22 | 8.42 | 10.81 | 10.02 | 10.14 | 9.99 | 9.94 | 10.09 | 9.85 | 9.50 | 9.85 | 10.06 | 10.78 | 21.32 | -5.50 | 1.99 | 0.75 | 2.26 | 2.80 | -1.19 | -3.57 | -7.01 | -3.58 | -1.48 | 5.49 | |
| Ground Assault Begins | 2/24/1991 | 10.09 | 9.19 | 10.99 | 9.98 | 10.29 | 9.94 | 10.22 | 9.85 | 9.54 | 9.39 | 9.72 | 10.12 | 11.65 | 9.83 | -8.19 | 1.11 | -1.93 | 1.57 | -1.19 | -2.41 | -5.46 | -7.02 | -3.66 | 0.30 | 15.44 | |
| Kuwait Liberated | 2/27/1991 | 10.09 | 9.19 | 10.99 | 10.14 | 10.29 | 9.94 | 10.22 | 9.85 | 9.54 | 9.39 | 9.72 | 10.12 | 11.65 | 9.83 | -8.19 | -0.45 | -1.93 | 1.57 | -1.19 | -2.41 | -5.46 | -7.02 | -3.66 | 0.30 | 15.44 | |
| War on Terrorism | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Afghanistan-U.S. Bombing Begins | 10/7/2001 | 3.38 | 2.65 | 4.67 | 4.41 | 4.25 | 4.29 | 4.11 | 3.30 | 3.15 | 3.22 | 3.29 | - | - | 27.55 | -27.62 | -23.36 | -20.47 | -21.21 | -17.76 | -2.37 | -6.80 | -4.73 | -2.66 | - | - | |
| Overall | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | 3.48 | -6.84 | -3.83 | -4.55 | -1.80 | -1.09 | -0.36 | -1.96 | -2.27 | -1.93 | 0.61 | 11.05 |
| Median | | | | | | | | | | | | | | | | 7.29 | -5.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -1.20 | -2.66 | -0.30 | 11.60 |
| World War II | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | -14.16 | -8.39 | -2.12 | -2.64 | -0.93 | 0.74 | 1.49 | 1.16 | 0.86 | 0.56 | -0.37 | 9.26 |
| Median | | | | | | | | | | | | | | | | -12.59 | -11.49 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.67 |
| Vietnam | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | 5.59 | -7.10 | -10.40 | -10.65 | -2.91 | -0.79 | -2.56 | -8.13 | -5.37 | -6.69 | -9.96 | 7.13 |
| Median | | | | | | | | | | | | | | | | 7.29 | -2.95 | -6.27 | -12.96 | -10.60 | 1.34 | -0.30 | -8.01 | -2.64 | -2.90 | -9.73 | 20.87 |
| Gulf War | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | 19.98 | -3.38 | 0.45 | -1.82 | 0.97 | -0.57 | -0.99 | -1.83 | -4.58 | -2.69 | -1.64 | 9.98 |
| Median | | | | | | | | | | | | | | | | 21.32 | -5.50 | 1.11 | -1.93 | 1.57 | -1.19 | -1.19 | -3.57 | -7.01 | -3.66 | -1.33 | 9.87 |

Sources: Lehman Brothers Fixed-Income Research and Global Financial Data.

Figure A27. German Three-Month Treasury Bill Reactions to Various Crisis Events, 1954 through June 2002

| Crisis Grade | Crisis Events | Date | 3-Month Treasury Yield (%) | 3-Month Treasury Yields (%) in Number of Months After Reaction | | | | | Cumulative Change (bp) in Yields in Number of Months After Reaction | | | | | Cumulative Percent Change in Yields in Number of Months after Reaction | | | | | |
|--|--|------------|----------------------------|---|------|------|------|------|--|------|------|------|------|---|--------|--------|--------|--------|------|
| | | | | 1 | 2 | 3 | 4 | 6 | 1 | 2 | 3 | 4 | 6 | 1 | 2 | 3 | 4 | 6 | |
| A | Cuban Missile Crisis | 10/19/1962 | 2.50 | 2.63 | 2.63 | 2.63 | 2.63 | 2.63 | 13 | 13 | 13 | 13 | 13 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| A | Gulf of Tonkin | 8/2/1964 | 2.63 | 2.63 | 2.63 | 2.63 | 2.63 | 2.63 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| A | Arab Oil Embargo | 10/18/1973 | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| A | Gulf War Ultimatum | 12/24/1990 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| A | WTC Attack | 9/11/2001 | 3.57 | 3.35 | 2.90 | 3.05 | 3.14 | 3.37 | -22 | -67 | -52 | -43 | -20 | -6.16 | -18.77 | -14.57 | -12.04 | -5.71 | |
| B | France Falls at Dien Bien Phu | 5/8/1954 | 2.75 | 2.50 | 2.50 | 2.50 | 2.25 | 2.25 | -25 | -25 | -25 | -50 | -50 | -9.09 | -9.09 | -9.09 | -18.18 | -18.18 | |
| B | Sputnik | 10/3/1957 | 3.88 | 3.50 | 3.50 | 3.75 | 3.41 | 3.63 | -38 | -38 | -13 | -47 | -47 | -9.68 | -9.68 | -3.23 | -12.00 | -6.32 | |
| B | Soviet Tanks Invade Prague | 8/20/1968 | 2.75 | 2.75 | 2.75 | 2.75 | 2.75 | 2.75 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| B | Iranian Revolution | 1/16/1979 | 4.00 | 4.04 | 4.22 | 4.22 | 4.75 | 5.49 | 4 | 22 | 22 | 75 | 149 | 1.00 | 5.50 | 5.50 | 18.75 | 37.25 | |
| B | USSR Invasion of Afghanistan | 12/24/1979 | 6.95 | 7.94 | 7.87 | 7.87 | 8.17 | 8.40 | 99 | 92 | 92 | 122 | 145 | 14.24 | 13.24 | 13.24 | 17.55 | 20.86 | |
| B | U.S. Invades Grenada | 10/24/1983 | 6.10 | 5.90 | 5.83 | 6.12 | 5.99 | 5.58 | -20 | -27 | 2 | -11 | -52 | -3.28 | -4.43 | 0.33 | -1.80 | -8.52 | |
| B | Invasion of Panama | 12/15/1989 | 7.20 | 7.25 | 7.25 | 8.00 | 8.00 | 8.25 | 5 | 5 | 80 | 80 | 105 | 0.69 | 0.69 | 11.11 | 11.11 | 14.58 | |
| B | Gorbachev Coup | 8/16/1991 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.50 | 0 | 0 | 0 | 0 | 25 | 0.00 | 0.00 | 0.00 | 0.00 | 3.03 | |
| C | U.S. Bombs Cambodia | 4/30/1970 | 7.00 | 7.00 | 7.00 | 6.75 | 6.75 | 6.75 | 0 | 0 | -25 | -25 | -25 | 0.00 | 0.00 | -3.57 | -3.57 | -3.57 | |
| C | Falkland Islands War | 4/1/1982 | 9.30 | 8.64 | 8.46 | 8.49 | 8.49 | 8.54 | -66 | -84 | -76 | -81 | -76 | -7.10 | -9.03 | -8.71 | -8.71 | -8.17 | |
| C | U.S. Bombs Libya | 4/15/1986 | 3.90 | 3.61 | 3.50 | 3.88 | 3.90 | 3.80 | -29 | -40 | -2 | 0 | -10 | -7.44 | -10.26 | -0.51 | 0.00 | -2.56 | |
| C | U.S. Embassy Bombings in Nairobi and Dar es Salaam | 8/7/1998 | 3.63 | 3.20 | 3.20 | 3.20 | 3.20 | 2.70 | -43 | -43 | -43 | -43 | -93 | -11.85 | -11.85 | -11.85 | -11.85 | -25.62 | |
| 1 | Hunt Silver Crisis | 2/13/1980 | 7.87 | 7.87 | 8.17 | 8.40 | 8.40 | 8.09 | 0 | 30 | 53 | 53 | 22 | 0.00 | 3.81 | 6.73 | 6.73 | 2.80 | |
| 2 | Eisenhower Heart Attack | 9/23/1955 | 3.00 | 3.25 | 3.38 | 3.38 | 3.38 | 3.38 | 25 | 38 | 38 | 38 | 38 | 8.33 | 12.50 | 12.50 | 12.50 | 12.50 | |
| 2 | JFK Assassination | 11/21/1963 | 2.63 | 2.63 | 2.63 | 2.63 | 2.63 | 2.63 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2 | Riots and Labor Strikes in France | 5/6/1968 | 2.75 | 2.75 | 2.75 | 2.75 | 2.75 | 2.75 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2 | Kent State Shootings | 5/4/1970 | 7.00 | 7.00 | 6.75 | 6.75 | 6.75 | 6.25 | 0 | -25 | -25 | -25 | -75 | 0.00 | -3.57 | -3.57 | -3.57 | -10.71 | |
| 2 | Nixon Resigns | 8/9/1974 | 5.63 | 5.63 | 5.63 | 5.63 | 5.63 | 5.13 | 0 | 0 | 0 | 0 | -50 | 0.00 | 0.00 | 0.00 | 0.00 | -8.89 | |
| 2 | U.S. Stock Market Crash of 1987 | 10/2/1987 | 3.35 | 3.77 | 3.28 | 3.15 | 3.15 | 3.15 | 42 | -7 | -20 | -20 | -20 | 12.54 | -2.09 | -5.97 | -5.97 | -5.97 | |
| 2 | ERM U.K. Currency Crisis | 9/14/1992 | 8.75 | 8.60 | 7.70 | 7.50 | 7.50 | 7.00 | -15 | -105 | -125 | -125 | -175 | -1.71 | -12.00 | -14.29 | -14.29 | -20.00 | |
| 2 | WTC Bombing | 2/26/1993 | 7.00 | 7.00 | 6.60 | 6.60 | 6.60 | 6.30 | 0 | -40 | -40 | -40 | -70 | 0.00 | -5.71 | -5.71 | -5.71 | -10.00 | |
| 2 | Orange County, CA Bankruptcy & Financial Crisis | 12/6/1994 | 5.20 | 5.20 | 5.20 | 5.20 | 4.85 | 4.30 | 0 | 0 | 0 | -35 | -90 | 0.00 | 0.00 | 0.00 | -6.73 | -17.31 | |
| 2 | Mexico - Tequila Crisis | 12/19/1994 | 5.20 | 5.20 | 5.20 | 5.20 | 4.85 | 4.30 | 0 | 0 | 0 | -35 | -90 | 0.00 | 0.00 | 0.00 | -6.73 | -17.31 | |
| 2 | Poison Gas Attack in Tokyo Subway | 3/20/1995 | 5.20 | 4.85 | 4.65 | 4.30 | 4.35 | 4.35 | -35 | -55 | -90 | -85 | -85 | -6.73 | -10.58 | -17.31 | -16.35 | -16.35 | |
| 2 | Oklahoma City Bombing | 4/19/1995 | 4.85 | 4.65 | 4.30 | 4.35 | 4.35 | 4.10 | -20 | -55 | -50 | -50 | -75 | -4.12 | -11.34 | -10.31 | -10.31 | -15.46 | |
| 2 | Terrorist Attack in Paris Metro | 7/25/1995 | 4.35 | 4.35 | 4.35 | 4.10 | 3.90 | 3.80 | 0 | 0 | -25 | -45 | -55 | 0.00 | 0.00 | -5.75 | -10.34 | -12.64 | |
| 2 | Asian Stock Market Crisis | 10/7/1997 | 3.20 | 3.75 | 3.75 | 3.75 | 3.57 | 3.50 | 55 | 55 | 55 | 37 | 30 | 17.19 | 17.19 | 17.19 | 11.56 | 9.37 | |
| 2 | Russia, LTCM Crisis | 8/18/1998 | 3.63 | 3.20 | 3.20 | 3.20 | 3.20 | 2.70 | -43 | -43 | -43 | -43 | -93 | -11.85 | -11.85 | -11.85 | -11.85 | -25.62 | |
| Overall | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -3 | -12 | -9 | -12 | -21 | -0.61 | -2.19 | -1.66 | -2.33 | -4.05 | |
| Median | | | | | | | | | 0 | 0 | 0 | -11 | -20 | 0.00 | 0.00 | 0.00 | -1.80 | -5.71 | |
| Geopolitical Risk | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -7 | -11 | -2 | -1 | 5 | -1.98 | -2.86 | -0.96 | -0.93 | 0.12 | |
| Median | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Political Events | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 1 | -13 | -17 | -23 | -49 | 0.85 | -1.48 | -2.40 | -3.82 | -8.47 | |
| Median | | | | | | | | | 0 | 0 | -10 | -30 | -63 | 0.00 | 0.00 | -1.79 | -5.84 | -10.36 | |
| High Geopolitical Risk (A) | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -2 | -11 | -8 | -6 | -2 | -0.23 | -2.75 | -1.91 | -1.41 | -0.14 | |
| Median | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Medium Geopolitical Risk (B) | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 3 | 4 | 20 | 21 | 37 | -0.76 | -0.47 | 2.23 | 1.93 | 5.34 | |
| Median | | | | | | | | | 0 | 0 | 1 | 0 | 13 | 0.00 | 0.00 | 0.16 | 0.00 | 1.52 | |
| Low Geopolitical Risk (C) | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -35 | -42 | -38 | -37 | -51 | -6.59 | -7.78 | -6.16 | -6.03 | -9.98 | |
| Median | | | | | | | | | -36 | -42 | -34 | -34 | -51 | -7.27 | -9.64 | -6.14 | -6.14 | -5.87 | |
| German Political Events (1) | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 0 | 30 | 53 | 53 | 22 | 0.00 | 3.81 | 6.73 | 6.73 | 2.80 | |
| Median | | | | | | | | | 0 | 30 | 53 | 53 | 22 | 0.00 | 3.81 | 6.73 | 6.73 | 2.80 | |
| Non-German Political Events (2) | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | 1 | -16 | -22 | -29 | -54 | 0.91 | -1.83 | -3.00 | -4.52 | -9.23 | |
| Median | | | | | | | | | 0 | 0 | -20 | -35 | -70 | 0.00 | 0.00 | -3.57 | -5.97 | -10.71 | |

Sources: Lehman Brothers Fixed-Income Research and Global Financial Data.

Crisis Grade Key: A = High Geopolitical Risk, B = Medium Geopolitical Risk, C = Low Geopolitical Risk, 1 = German Political Event, 2 = Non-German Political Event

Figure A28. Performance of German 3-Month Treasury Bills Before and After Military Conflicts, 1953 through June 2002

| | 3-Month Treasury | | 3-Month Treasury Yields (%) in Number of Months Before/After Military Conflict | | | | | | | | | | | | Cumulative Percent Change (%) in 3-Month Treasury Yields in Number of Months Before/After Military Conflict | | | | | | | | | | | | |
|---------------------------------|------------------|-----------|---|------|------|------|------|------|------|------|------|------|------|------|--|--------|--------|--------|--------|--------|--------|-------|-------|------|--------|-------|--------|
| | Date | Yield (%) | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 | |
| Korea | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| North Korea Invades | 6/25/1950 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cease Fire Signed | 7/27/1953 | 2.88 | - | - | - | 3.25 | 3.25 | 3.25 | 2.88 | 2.88 | 3.00 | 3.00 | 2.50 | 2.63 | - | - | - | -11.54 | -11.54 | -11.54 | 0.00 | 0.00 | 4.35 | 4.35 | -13.04 | -8.52 | |
| Vietnam | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gulf of Tonkin | 8/2/1964 | 2.63 | 2.38 | 2.63 | 2.63 | 2.63 | 2.63 | 2.63 | 2.63 | 2.63 | 2.63 | 2.63 | 3.13 | 5.00 | 10.53 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 19.05 | 90.48 |
| U.S. Marines Sent | 3/8/1965 | 3.13 | 2.63 | 2.63 | 2.63 | 2.63 | 3.13 | 3.13 | 3.13 | 3.13 | 3.13 | 3.88 | 4.00 | 4.13 | 19.05 | 19.05 | 19.05 | 19.05 | 19.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24.00 | 28.00 | 32.00 |
| North Vietnam Overtakes Saigon | 4/30/1975 | 5.40 | 5.75 | 5.63 | 5.63 | 5.63 | 4.63 | 5.40 | 5.40 | 5.40 | 5.40 | 5.40 | 5.24 | 4.78 | -6.09 | -4.00 | -4.00 | -4.00 | 16.76 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -2.96 | -11.48 |
| Gulf War | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Iraq Invades Kuwait | 8/2/1990 | 8.25 | 3.15 | 6.49 | 7.25 | 8.00 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.50 | 161.90 | 27.12 | 13.79 | 3.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.03 |
| U.N. Authorizes Force | 11/29/1990 | 8.25 | 4.20 | 7.20 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 7.70 | 96.43 | 14.58 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -6.67 |
| Desert Storm Begins | 1/17/1991 | 8.25 | 4.20 | 7.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.50 | 7.50 | 96.43 | 13.79 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.03 | -9.09 |
| Ground Assault Begins | 2/24/1991 | 8.25 | 5.49 | 8.00 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.50 | 7.35 | 50.27 | 3.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.03 | -10.91 |
| Kuwait Liberated | 2/27/1991 | 8.25 | 5.49 | 8.00 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.50 | 7.35 | 50.27 | 3.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.03 | -10.91 |
| War on Terrorism | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Afghanistan-U.S. Bombing Begins | 10/7/2001 | 3.35 | 3.00 | 4.77 | 3.95 | 3.99 | 3.85 | 3.57 | 2.90 | 3.05 | 3.37 | 3.45 | - | - | 11.67 | -29.77 | -15.19 | -16.04 | -12.99 | -6.16 | -13.43 | -8.96 | 0.63 | 2.93 | - | - | |
| Overall | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | 54.50 | 5.22 | 1.52 | -0.94 | 1.13 | -1.77 | -1.34 | -0.90 | 0.50 | 3.13 | 4.46 | 7.55 |
| Median | | | | | | | | | | | | | | | | 50.27 | 3.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.03 | -8.52 |
| Vietnam | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | 7.83 | 5.02 | 5.02 | 5.02 | 11.93 | 0.00 | 0.00 | 0.00 | 0.00 | 8.00 | 14.69 | 37.00 |
| Median | | | | | | | | | | | | | | | | 10.53 | 0.00 | 0.00 | 0.00 | 16.76 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 19.05 | 32.00 |
| Gulf War | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | | 91.06 | 12.35 | 2.76 | 0.63 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.82 | -6.91 |
| Median | | | | | | | | | | | | | | | | 96.43 | 13.79 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.03 | -9.09 |

Sources: Lehman Brothers Fixed-Income Research and Global Financial Data.

Figure A29. Japanese Three-Month Treasury Bill Reactions to Various Crisis Events, 1962 through June 2002

| Crisis Grade | Crisis Events | Date | 3-Month Treasury Yield (%) | 3-Month Treasury Yields (%) in Number of Months After Reaction | | | | | Cumulative Change (bp) in Yields in Number of Months After Reaction | | | | | Cumulative Percent Change in Yields in Number of Months after Reaction | | | | | | |
|--|--|------------|----------------------------|---|------|------|------|------|--|------|------|------|------|---|--------|---------|--------|--------|--------|--------|
| | | | | 1 | 2 | 3 | 4 | 6 | 1 | 2 | 3 | 4 | 6 | 1 | 2 | 3 | 4 | 6 | | |
| A | Cuban Missile Crisis | 10/19/1962 | 6.08 | 6.08 | 6.08 | 6.08 | 6.08 | 6.08 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| A | Gulf of Tonkin | 8/2/1964 | 5.71 | 5.71 | 5.71 | 5.71 | 5.71 | 5.71 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| A | Arab Oil Embargo | 10/18/1973 | 5.55 | 5.80 | 5.80 | 5.80 | 6.83 | 6.83 | 25 | 25 | 25 | 128 | 128 | 4.50 | 4.50 | 4.50 | 23.06 | 23.06 | 23.06 | 23.06 |
| A | Gulf War Ultimatum | 12/24/1990 | 8.10 | 7.82 | 7.44 | 7.27 | 7.36 | 7.56 | -28 | -66 | -83 | -74 | -54 | -3.49 | -8.12 | -10.28 | -9.16 | -6.70 | -6.70 | -6.70 |
| A | WTC Attack | 9/11/2001 | 0.01 | 0.01 | 0.01 | 0.03 | 0.01 | 0.00 | 0 | 0 | 2 | 0 | -1 | 0.00 | 0.00 | 200.00 | 0.00 | -90.00 | -90.00 | -90.00 |
| B | Soviet Tanks Invade Prague | 8/20/1968 | 5.90 | 5.71 | 5.71 | 5.71 | 5.71 | 5.71 | -19 | -19 | -19 | -19 | -19 | -3.22 | -3.22 | -3.22 | -3.22 | -3.22 | -3.22 | -3.22 |
| B | Iranian Revolution | 1/16/1979 | 3.39 | 3.39 | 3.39 | 3.39 | 4.15 | 4.15 | 0 | 0 | 0 | 76 | 76 | 0.00 | 0.00 | 0.00 | 0.00 | 22.42 | 22.42 | 22.42 |
| B | USSR Invasion of Afghanistan | 12/24/1979 | 5.17 | 5.68 | 6.83 | 6.83 | 6.83 | 6.83 | 51 | 166 | 166 | 166 | 166 | 9.86 | 32.01 | 32.01 | 32.01 | 32.01 | 32.01 | 32.01 |
| B | U.S. Invades Grenada | 10/24/1983 | 5.42 | 4.91 | 4.91 | 4.91 | 4.91 | 4.91 | -51 | -51 | -51 | -51 | -51 | -9.39 | -9.39 | -9.39 | -9.39 | -9.39 | -9.39 | -9.39 |
| B | Invasion of Panama | 12/15/1989 | 6.44 | 5.99 | 6.43 | 6.77 | 7.16 | 7.40 | -44 | -1 | 33 | 72 | 96 | -6.91 | -0.17 | 5.17 | 11.15 | 14.86 | 14.86 | 14.86 |
| B | Gorbachev Coup | 8/16/1991 | 7.33 | 7.24 | 6.26 | 6.18 | 6.14 | 4.97 | -9 | -107 | -115 | -119 | -236 | -1.20 | -14.61 | -15.69 | -16.20 | -32.15 | -32.15 | -32.15 |
| C | U.S. Bombs Cambodia | 4/30/1970 | 5.93 | 5.93 | 5.93 | 5.93 | 5.93 | 5.93 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| C | Falkland Islands War | 4/1/1982 | 5.42 | 5.42 | 5.42 | 5.42 | 5.42 | 5.42 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| C | U.S. Bombs Libya | 4/15/1986 | 4.99 | 4.99 | 4.99 | 4.99 | 4.99 | 4.63 | 0 | 0 | 0 | 0 | -37 | 0.00 | 0.00 | 0.00 | 0.00 | -7.35 | -7.35 | -7.35 |
| C | U.S. Embassy Bombings in Nairobi and Dar es Salaam | 8/7/1998 | 0.37 | 0.30 | 0.15 | 0.00 | 0.10 | 0.22 | -7 | -22 | -37 | -27 | -15 | -17.87 | -59.51 | -100.00 | -71.88 | -39.62 | -39.62 | -39.62 |
| 1 | Hunt Silver Crisis | 2/13/1980 | 6.83 | 6.83 | 6.83 | 6.83 | 6.83 | 6.83 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1 | Poison Gas Attack in Tokyo Subway | 3/20/1995 | 2.17 | 2.03 | 1.31 | 1.32 | 1.12 | 0.88 | -14 | -86 | -85 | -105 | -129 | -6.37 | -39.62 | -39.21 | -48.48 | -59.64 | -59.64 | -59.64 |
| 1 | Asian Stock Market Crisis | 10/7/1997 | 0.42 | 0.44 | 0.23 | 0.35 | 0.37 | 0.49 | 3 | -19 | -6 | -5 | 7 | 6.24 | -45.80 | -15.35 | -11.27 | 17.51 | 17.51 | 17.51 |
| 2 | JFK Assassination | 11/21/1963 | 5.71 | 5.71 | 5.71 | 5.71 | 5.71 | 5.71 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | Riots and Labor Strikes in France | 5/6/1968 | 5.90 | 5.90 | 5.90 | 5.90 | 5.71 | 5.71 | 0 | 0 | 0 | -19 | -19 | 0.00 | 0.00 | 0.00 | -3.22 | -3.22 | -3.22 | -3.22 |
| 2 | Kent State Shootings | 5/4/1970 | 5.93 | 5.93 | 5.93 | 5.93 | 5.93 | 5.93 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | Nixon Resigns | 8/9/1974 | 6.83 | 6.83 | 6.83 | 6.83 | 6.83 | 6.83 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | U.S. Stock Market Crash of 1987 | 10/2/1987 | 3.69 | 3.69 | 3.69 | 3.69 | 3.69 | 3.41 | 0 | 0 | 0 | 0 | -29 | 0.00 | 0.00 | 0.00 | 0.00 | -7.75 | -7.75 | -7.75 |
| 2 | ERM U.K. Currency Crisis | 9/14/1992 | 3.24 | 3.55 | 3.51 | 3.57 | 3.41 | 2.87 | 31 | 27 | 33 | 17 | -37 | 9.63 | 8.18 | 10.06 | 5.12 | -11.48 | -11.48 | -11.48 |
| 2 | WTC Bombing | 2/26/1993 | 3.38 | 2.87 | 3.04 | 3.16 | 3.17 | 2.94 | -51 | -34 | -22 | -21 | -44 | -15.15 | -10.18 | -6.48 | -6.27 | -13.14 | -13.14 | -13.14 |
| 2 | Orange County, CA Bankruptcy & Financial Crisis | 12/6/1994 | 2.28 | 2.25 | 2.23 | 2.17 | 2.03 | 1.32 | -3 | -5 | -11 | -25 | -96 | -1.23 | -2.24 | -4.95 | -11.00 | -42.22 | -42.22 | -42.22 |
| 2 | Mexico - Tequila Crisis | 12/19/1994 | 2.28 | 2.25 | 2.23 | 2.17 | 2.03 | 1.32 | -3 | -5 | -11 | -25 | -96 | -1.23 | -2.24 | -4.95 | -11.00 | -42.22 | -42.22 | -42.22 |
| 2 | Oklahoma City Bombing | 4/19/1995 | 2.03 | 1.31 | 1.32 | 1.12 | 0.82 | 0.40 | -72 | -71 | -91 | -121 | -164 | -35.52 | -35.07 | -44.98 | -59.56 | -80.54 | -80.54 | -80.54 |
| 2 | Terrorist Attack in Paris Metro | 7/25/1995 | 1.12 | 0.82 | 0.88 | 0.40 | 0.24 | 0.31 | -30 | -24 | -72 | -88 | -81 | -26.50 | -21.67 | -64.64 | -78.33 | -72.34 | -72.34 | -72.34 |
| 2 | Russia, LTCM Crisis | 8/18/1998 | 0.40 | 0.17 | 0.09 | 0.03 | 0.24 | 0.19 | -24 | -32 | -37 | -17 | -21 | -58.96 | -78.86 | -92.54 | -41.47 | -51.82 | -51.82 | -51.82 |
| Overall | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -8 | -11 | -13 | -9 | -22 | -5.23 | -9.53 | -5.33 | -9.56 | -15.43 | -15.43 | |
| Median | | | | | | | | | 0 | 0 | 0 | 0 | -17 | 0.00 | 0.00 | 0.00 | 0.00 | -4.96 | -4.96 | |
| Geopolitical Risk | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -5 | -5 | -5 | 10 | 4 | -1.85 | -3.90 | 6.87 | -1.41 | -6.40 | -6.40 | |
| Median | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| Political Events | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -11 | -17 | -20 | -27 | -47 | -8.61 | -15.17 | -17.54 | -17.70 | -24.46 | -24.46 | |
| Median | | | | | | | | | 0 | -5 | -6 | -17 | -29 | 0.00 | -2.24 | -4.95 | -6.27 | -11.48 | -11.48 | |
| High Geopolitical Risk (A) | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -1 | -8 | -11 | 11 | 15 | 0.20 | -0.72 | 38.84 | 2.78 | -14.73 | -14.73 | |
| Median | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| Medium Geopolitical Risk (B) | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -12 | -2 | 2 | 21 | 5 | -1.81 | 0.77 | 1.48 | 6.13 | 4.09 | 4.09 | |
| Median | | | | | | | | | -14 | -10 | -10 | 26 | 29 | -2.21 | -1.70 | -1.61 | 3.97 | 5.82 | 5.82 | |
| Low Geopolitical Risk (C) | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -2 | -6 | -9 | -7 | -13 | -4.47 | -14.88 | -25.00 | -17.97 | -11.74 | -11.74 | |
| Median | | | | | | | | | 0 | 0 | 0 | 0 | -7 | 0.00 | 0.00 | 0.00 | 0.00 | -3.67 | -3.67 | |
| Japanese Political Events (1) | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -4 | -35 | -30 | -37 | -41 | -0.04 | -28.48 | -18.18 | -19.92 | -14.04 | -14.04 | |
| Median | | | | | | | | | 0 | -19 | -6 | -5 | 0 | 0.00 | -39.62 | -15.35 | -11.27 | 0.00 | 0.00 | |
| Non-Japanese Political Events (2) | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | -13 | -12 | -18 | -25 | -49 | -10.75 | -11.84 | -17.37 | -17.14 | -27.06 | -27.06 | |
| Median | | | | | | | | | -1 | -3 | -6 | -18 | -33 | -0.61 | -1.12 | -2.48 | -4.75 | -12.31 | -12.31 | |

Sources: Lehman Brothers Fixed-Income Research and Global Financial Data.

Crisis Grade Key: A = High Geopolitical Risk, B = Medium Geopolitical Risk, C = Low Geopolitical Risk, 1 = Japanese Political Event, 2 = Non-Japanese Political Event

Figure A30. Performance of Japanese 3-Month Treasury Bills Before and After Military Conflicts, 1964 through June 2002

| | 3-Month Treasury | | 3-Month Treasury Yields (%) | | | | | | | | | | | | Cumulative Percent Change (%) in 3-Month Treasury Yields | | | | | | | | | | | | |
|---------------------------------|------------------|-----------|--|------|------|------|------|------|------|------|------|------|------|-------|--|--------|--------|-------|--------|-------|-------|--------|--------|--------|--------|--------|--------|
| | | | in Number of Months Before/After Military Conflict | | | | | | | | | | | | | | | | | | | | | | | | |
| | Date | Yield (%) | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 | -24 | -12 | -6 | -4 | -2 | -1 | 1 | 2 | 4 | 6 | 12 | 24 | |
| Vietnam | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gulf of Tonkin | 8/2/1964 | 5.71 | 6.08 | 5.71 | 5.71 | 5.71 | 5.71 | 5.71 | 5.71 | 5.71 | 5.71 | 5.71 | 5.71 | 5.71 | -6.09 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| U.S. Marines Sent | 3/8/1965 | 5.71 | 6.08 | 5.71 | 5.71 | 5.71 | 5.71 | 5.71 | 5.71 | 5.71 | 5.71 | 5.71 | 5.71 | 5.71 | -6.09 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| North Vietnam Overtakes Saigon | 4/30/1975 | 6.83 | 4.91 | 6.83 | 6.83 | 6.83 | 6.83 | 6.83 | 6.83 | 6.31 | 6.06 | 5.68 | 5.55 | 39.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -7.61 | -11.27 | -16.84 | -18.74 | |
| Gulf War | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Iraq Invades Kuwait | 8/2/1990 | 7.49 | 3.26 | 4.80 | 6.43 | 7.16 | 7.40 | 7.03 | 7.85 | 8.27 | 8.10 | 7.82 | 7.66 | 4.47 | 129.55 | 55.90 | 16.51 | 4.64 | 1.26 | 6.59 | 4.86 | 10.43 | 8.19 | 4.41 | 2.35 | -40.29 | |
| U.N. Authorizes Force | 11/29/1990 | 8.08 | 4.46 | 6.44 | 7.40 | 7.49 | 8.27 | 8.27 | 8.10 | 7.82 | 7.27 | 7.41 | 6.18 | 3.51 | 81.34 | 25.57 | 9.32 | 7.96 | -2.24 | -2.24 | 0.21 | -3.29 | -10.09 | -8.31 | -23.60 | -56.64 | |
| Desert Storm Begins | 1/17/1991 | 7.82 | 4.58 | 5.99 | 7.03 | 7.85 | 8.08 | 8.10 | 7.44 | 7.27 | 7.41 | 7.66 | 5.66 | 3.41 | 70.55 | 30.45 | 11.29 | -0.43 | -3.29 | -3.49 | -4.80 | -7.04 | -5.19 | -1.97 | -27.64 | -56.43 | |
| Ground Assault Begins | 2/24/1991 | 7.44 | 4.39 | 6.77 | 7.49 | 8.27 | 8.10 | 7.82 | 7.27 | 7.36 | 7.56 | 7.33 | 4.97 | 3.38 | 69.39 | 9.92 | -0.60 | -9.99 | -8.12 | -4.80 | -2.35 | -1.13 | 1.55 | -1.59 | -33.23 | -54.59 | |
| Kuwait Liberated | 2/27/1991 | 7.44 | 4.39 | 6.77 | 7.85 | 8.27 | 8.10 | 7.82 | 7.27 | 7.36 | 7.56 | 7.33 | 4.97 | 3.38 | 69.39 | 9.92 | -5.21 | -9.99 | -8.12 | -4.80 | -2.35 | -1.13 | 1.55 | -1.59 | -33.23 | -54.59 | |
| War on Terrorism | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Afghanistan-U.S. Bombing Begins | 10/7/2001 | 0.01 | 0.05 | 0.44 | 0.05 | 0.01 | 0.03 | 0.01 | 0.01 | 0.03 | 0.00 | 0.00 | - | - | -78.72 | -97.73 | -80.00 | 0.00 | -66.67 | 0.00 | 0.00 | 200.00 | -90.00 | -90.00 | - | - | |
| Overall | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 40.94 | 3.78 | -5.41 | -0.87 | -9.69 | -0.97 | -0.49 | 21.98 | -11.29 | -12.26 | -16.52 | -35.16 | |
| Median | | | | | | | | | | | | | | | 69.39 | 9.92 | 0.00 | 0.00 | -2.24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -1.59 | -20.22 | -47.44 |
| Vietnam | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 8.98 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -2.54 | -3.76 | -5.61 | -6.25 | |
| Median | | | | | | | | | | | | | | | -6.09 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Gulf War | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | | | | | | | | | | | | | 84.04 | 26.35 | 6.26 | -1.56 | -4.10 | -1.75 | -0.89 | -0.43 | -0.80 | -1.81 | -23.07 | -52.51 | |
| Median | | | | | | | | | | | | | | | 70.55 | 25.57 | 9.32 | -0.43 | -3.29 | -3.49 | -2.35 | -1.13 | 1.55 | -1.59 | -27.64 | -54.59 | |

Sources: Lehman Brothers Fixed-Income Research and Global Financial Data.