Positioning Portfolios for Turbulent Times

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Investors are investing during a time of turbulence. This turbulence is not unusual, but it might seem unusual because investors’ experience and training have not prepared them for it. Game theory related to geopolitics, liquidity, and solvency issues, along with the integration of developed and developing economies, are the sources of today’s turbulence and investment opportunities.

To paraphrase U.S. President Franklin D. Roosevelt’s inaugural address during the deepest part of the Great Depression in 1933, the only thing investors have to fear is fear itself—but only in the short term. It is important to see today’s turbulence from the perspective of 110 years of the U.S. equity market, as represented by the S&P 500 Total Return Index and inflation shown in Figure 1. Today is not unduly turbulent. It is just something investors are not used to, and the source of turbulence is different from what they have experienced. Over the long term, investors can expect to achieve a 6% real growth rate in U.S. equities, which has been sustainable over the period of time in Figure 1. It remains to be seen if this rate is sustainable going forward.

Since 1948, there have been four regime changes, or distinctive breaks, in the risk–return characteristics of the U.S. equity market, as shown in Panels A–D of Figure 2. The first regime in Panel A is the 17-year period from 1948 to 1965, which was comparatively benign, with nominal annual returns that were actually quite significant at a little less than 10%. Volatility, measured by the standard deviation of nominal returns, was quite low at around 11%. The next regime, shown in Panel B, is the 16-year period from 1965 to 1981, roughly the same length as the previous regime. That period, during which real (inflation-adjusted) returns were negative and volatility was about 30% higher than in the previous period, was quite turbulent. During this regime, many historical events took place that affected the United States, such as the OPEC oil embargo, the Vietnam War, and the Watergate scandal that would eventually lead to President Nixon’s resignation.

Panel C shows the third regime, which encompasses the wonderfully benign 18-year period of the 1980s and 1990s. When stocks and bonds perform as they did in that period, it does not take a rocket scientist to be a great investor. Panel D shows the current regime, which has lasted about 12 years so far—not as long as the previous periods. I am not saying there is anything unique or predictive about the length of these cycles but rather observing that the 12 years of turbulence in the current cycle is really not unique.

U.S. bonds have also experienced relatively benign periods, represented by the performance of Barclays Capital U.S. Aggregate Bond Index shown in Panels A–D in Figure 3. There are notable turbulent periods, such as the 1960s to the early 1980s, which is shown in Panel B. What is interesting about the current 12-year period, shown in Panel D, is that it is fairly benign from a fixed-income perspective because of declining inflation and the United States’ safe haven status. Excluding these exceptions, fixed income around the world has recently been generally turbulent.

Investing during turbulent times really means investing in a world of turbulent volatility sources. There are three sets of capital market drivers that will ultimately influence asset prices:

1. New world power order
2. Illiquidity and insolvency
3. Global integration and connectedness

Interestingly, the Financial Times has recently published several pieces about capitalism in crisis.1 But it is not capitalism itself that is in crisis; rather, this presentation comes from the India Investment Conference: Positioning Portfolios for Turbulent Times held in Mumbai, India, on 13 January 2012 in partnership with the Indian Association of Investment Professionals and the National Institute of Securities Markets.

1For more information, go to www.ft.com/indepth/capitalism-in-crisis.
Figure 1. S&P 500 Total Return Index, 1900–2010

Sources: Based on data from Robert Shiller and William Blair.

Figure 2. S&P 500 Total Returns in Four Regimes, 1948–2010

Note: All date ranges begin and end on 31 December.
state governance is in crisis. The process of capital markets navigating the perverse incentives, hurdles, and barriers erected by states creates the greatest crisis that investors face today.

**New World Power Order**

The world that investors have experienced and the training that they have received are results of a unique environment. The work of Nobel laureate and famed mathematician John Nash helps in understanding this environment. Nash won the Nobel Prize for pioneering certain aspects of game theory, whereby decisions among strategic rivals are made interdependently. In a Nash equilibrium, each rival knows the optimal strategies of the other rivals and devises his or her own optimal strategy with these in mind; no rival in that environment can improve his strategy, and each rival’s strategy is his best strategy given what the other rivals are doing in the game.

There are four powers in game theory: economic, threat, risk tolerance, and coalition. The game theory powers reference benefits described in prior work by Woody Brock at Strategic Economic Decisions.

- **Economic Power.** During the Cold War, this power was demonstrated as nuclear power. In political terms, it would be political capital. Rivals demonstrate economic power by showing an abundance of whatever power they are using—for example, nuclear abundance. The abundance, however, can be faked or bluffed, or it can actually exist.
- **Threat Power.** This power is not only a rival’s ability to threaten others, but also the ability to demonstrate a capacity to sustain significant damage, from other rivals as well as internally. The expected behaviors are aggressive and can include bluffing.
- **Risk Tolerance Power.** A rival may show no willingness to reach a deal in the game and just be able to walk away. The expected behaviors include bluffing or disinterest in the game followed by a willingness to engage in 11th-hour, last-minute, urgent negotiations.
- **Coalition Power.** This power is the ability to create alliances or solidarity with other players in the game. Probably the greatest example today is “Merkozy,” the personal coalition between German Chancellor Angela Merkel and French President Nicolas Sarkozy. For example, Merkel has said that she supports a financial transaction tax—an idea raised by Sarkozy. He could have raised this controversial issue at any time, but he raised it now, when he is up for reelection. To demonstrate solidarity, Merkel has said she is on board, but she is not really on board, and it is highly unlikely to happen unless many other countries adopt it.

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**Figure 3. Barclays Capital Aggregate Total Returns, 30 April 1953–31 December 2010**

**A. 30 April 1953–31 December 1965**

<table>
<thead>
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<th>Year</th>
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<tbody>
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</tr>
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<td>1963</td>
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**B. 31 December 1965–31 December 1981**

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<td>1976</td>
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**C. 31 December 1981–31 December 1999**

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<td>150</td>
</tr>
<tr>
<td>1992</td>
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**D. 31 December 1999–31 December 2010**

<table>
<thead>
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<tbody>
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<td>2010</td>
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The world that the present generation of seasoned investment professionals has grown up in and drawn its knowledge from includes the time of the Cold War. That was a two-player game between the United States and the former Soviet Union. The game was one of mutually assured destruction; if one rival had nuclear warheads, then the other rival’s best strategy was to also have nuclear warheads. So, both rivals had nuclear warheads and mutual destruction was assured, which was a stable but not an optimal situation. Although stability enabled long-term economic planning, society would have fared much better if money had been spent on almost anything other than nuclear warheads. That is the type of capital market experience that investment professionals had from about 1950 through the lingering benefits of the Berlin Wall’s collapse on 9 November 1989.

Today’s world is that of an evolving multiplayer game, rather than just two large rivals in a stable equilibrium of mutually assured destruction. Today’s evolving game is not stable. The various players demonstrate or fake their game theory powers. These might include mining in the Strait of Hormuz, the vital shipping lane for Middle Eastern oil to reach global markets, or demands of fiscal prudence out of Italy when Italy just needs cash immediately. Today’s game will evolve in the sense of military alliances and geopolitical economic powers.

**New World Order: The Evolving Knowledge Base of Investing**

In an unstable, suboptimal game, a knowledge base for investing that is built only on the fundamentals of security valuation is not as valuable as it used to be. In the past, it was not only necessary but also sufficient for investors to understand the fundamental values of securities. Today, it is still necessary but no longer sufficient in order to be a good investor.

A sufficient knowledge base today includes an understanding of behavioral finance, game theory, and more esoteric disciplines, such as complexity theory. An awareness of reflexivity—that investor’s actions influence market prices in a self-reinforcing manner—is also important. Higher prices entice market investors to push prices even higher, well past their fundamental or equilibrium values. Eventually, the market recognizes that prices are too high and the self-reinforcement works in reverse. Unlike classic economic theory, which suggests that market prices adhere to an equilibrium, reflexivity means that markets can be unstable, similar to the predictions of complexity theory, and may only rarely reach a stable state that reflects true fundamentals.

Game theory must account for reflexivity. Everyone talks about George Soros famously taking down the Bank of England by betting against the British pound, which is not quite the full story. I think that he understood the game he was playing and understood the game the Bank of England was playing. He understood the central bank’s bluff and how much economic power the Bank of England had, and he won. In a multiplayer world with increasing relevance attached to strategic geopolitical and econopolitical games, understanding the other player’s economic power provides an opportunity to actually elicit behavior.

Part of behavioral finance is understanding geopolitics and game theory. Investors do not operate in a world of isolation. Continual analysis to understand the players, their behaviors, and the behaviors that they are trying to elicit is valuable.

People are not necessarily rational, but some of them are normally intelligent and some of them are normally unintelligent. In an unstable environment, players in the game, such as geopolitical leaders, can unfortunately be normal but unintelligent. The March of Folly, the 1984 book by Pulitzer Prize–winning historian and author Barbara W. Tuchman, follows governance failures from ancient Greece to Vietnam and asks a simple question: Why do statesmen make terrible decisions when it is clear that their advisers are counseling against such decisions? There are many things people do well, but there is one thing that people do poorly time after time: governance.

In understanding the current environment, volatility is a fact of life, but it is not new to the allocation of resources over the span of history. In a world of unstable game theory, miscalculations and bad decisions are made at the geopolitical level, which means increased tail risk. But this risk does not preclude investing; it just means that tail risk is an important element of investing today. These are not black swans, and any suggestion of such is an attempt to deflect accountability. These are the results of “games” played at the sovereign level with outcomes that can be immense.

**Illiquidity and Insolvency**

Illiquidity means that an entity cannot meet current cash flows. This issue is acute and immediate. Insolvency is a state where liabilities exceed assets, which is different from illiquidity. For example, assets could be 100% cash and the liabilities could stretch for years and exceed the cash assets on a discounted present value basis. That is not a liquidity problem. The cash...
is available to meet the short-term cash flow payments but is not sufficient to meet all of the liability payments, which represents chronic insolvency.

Each problem requires a different mindset, and investors and leaders require a new set of skills. The traditional way of thinking about default, for example, assumes that corporate bond returns are relatively normal. That is the world where most of our leaders, in the developed world at least, have lived. That is not the world, however, of Portugal, Italy, Ireland, Greece, and Spain today, and it is not the world that leaders in developed countries need to understand to make the right decisions. Today, the default of a security implies significant left-tail losses and a bimodal return distribution, which results in either complete success or total failure with nothing in between. The skills a leader in this different world needs are similar to the skills that a corporate issuer uses to structure issues and to negotiate a default. Of course, monetary policies can inflate and devalue currencies, but this situation is default and recovery by another name. Investors are no longer just looking at an open world of sovereign fixed-income indices. Macro investors and sovereign leaders need different skills than the ones they have relied on in the recent past.

Illiquidity and insolvency are not mutually exclusive. They do feed on each other in a vicious circle. During a banking crisis like that of 2008, it is important for the central bank to provide liquidity, which it did. There were other instances, however, when liquidity was needed but not provided, such as during the Great Depression of the 1930s. The money supply in the United States and elsewhere contracted dramatically in that period, which deepened and prolonged the Great Depression.

In a solvency situation, increased liquidity does not help. Consider the case of Japan, during what is called the “lost decade” (now, the “lost multiple decades”): There was a solvency issue at the government and corporate levels. But the problem was not addressed as a solvency issue; instead, it was addressed as a liquidity issue, with the Bank of Japan providing liquidity and pushing short-term interest rates near zero. Despite so much liquidity, economic growth remains stagnant in Japan. In contrast, during the Swedish banking solvency issue in the early 1990s, there was no provision of liquidity. Instead, the insolvency situation was addressed within the banking system by the creation of a separate entity to allow distressed banks to move problem assets off their balance sheets, much like the present-day Troubled Asset Relief Program (TARP) in the United States. No concept of voluntary default, similar to what is happening in Greece today, existed. Instead, it was understood that the banks faced a solvency problem, and in a solvency problem, equity and debt investors take the hit and move on, which they successfully did.

The eurozone today is facing an acute liquidity situation, as the United States faced in 2008. From the perspective of game theory, the powers and the strategies of the players are understood and generally known. Germany will demonstrate its economic, threat, risk tolerance, and coalition game theory powers with the goal of imposing Teutonic fiscal prudence on the eurozone and, in particular, the European Monetary Union (EMU). Portugal, Italy, Ireland, Greece, and Spain, however, need money now. The game objective for these players is to get the money, but they have to give up fiscal sovereignty by adopting fiscal prudence. Former Greek Prime Minister George Papandreou tried to threaten other countries with a referendum. Unfortunately, it was a bluff, and when it was called, he lost his job. In the case of France, its banks are exposed to those countries that need money and it needs liquidity so that the banks do not go under. So, France has created a coalition with Germany to tap Germany’s economic power and to leverage alignment with the ultimate EMU backstop. It is not trying to tear apart capital markets; it is playing a sovereign game—exactly as John Nash’s model would predict.

The leaders and their media partners are playing the game quite well, although it might not be easy for investors to comprehend. All the players have adopted strategies based on their understanding of the other players’ strategies. In that regard, they are reaching an equilibrium. It is not optimal, but without a terrible miscalculation, there will be resolution of the illiquidity situation. Unfortunately, as Tuchman observed in her book, people make a poorer performance of governance than of any other human activity. So, betting on the lack of a miscalculation is not necessarily the safest thing to do, but understanding the game, the powers, and the exercise of those powers is the only way investors can navigate the unfolding liquidity issue.

Once the illiquidity problem has passed, many developed countries will be faced with chronic insolvency. Conventional wisdom suggests that when a country’s debt-to-GDP ratio reaches 90%, the country needs to worry about future economic growth and inflation. For many developed countries, especially troubled European countries, the current debt-to-GDP ratio is at or above the tipping point and the trajectories for the future continue an upward climb.
This simple measure of debt/GDP is the way most people think about solvency, but a more meaningful measure is needed.

The Center for Strategic and International Studies has conducted research on fiscal sustainability, and the results are shown in Figure 4. A high positive score is good, meaning that a country has not overcommitted itself in a fiscal sense. For example, India has done very well in that it has basically made no commitments to its population from a social perspective. Spain, at the other end of the spectrum, has made tremendous fiscal commitments. In general, the most sustainable countries in this framework are developing economies; the least sustainable are developed economies.

In addition to fiscal commitment is the ability to adapt, garnering more income to meet the commitments, which is also shown in Figure 4. Again, a high positive score is desirable. For example, although India is classified as sustainable, it is not able to adapt. The opposite extreme is the Netherlands, which has made tremendous commitments but also has a tremendous ability to adapt through its ability to raise taxes and encourage a cultural affinity for savings. In the end, because of its high income adaptability, the Netherlands has the ability for the family unit to become a sustaining unit, independent of the sovereign.

In an ideal, growth-oriented country, both of these measures should be high and positive at the same time. Figure 5 maps fiscal sustainability along the x-axis with income adequacy on the y-axis. So, countries in or near the top-right quadrant with high positive scores indicate a low or limited solvency threat. Other countries may have a high fiscal commitment combined with a tremendous ability to adapt, such as the Netherlands. Countries with a significant solvency threat would be on the bottom left (high commitment with low adaptability). Figure 5 offers an interesting revelation with regard to Japan. Everybody knows that Japan’s public debt is overwhelming, measuring a couple hundred percent of GDP (although it is probably the most difficult country in which to accurately measure public debt). The debt-to-GDP ratio by itself is not too revealing. But considering its ability to adapt, Japan seems to be in a much better overall position. Most countries in the sample are in the top-right quadrant, with low or limited solvency threat.

**Figure 4. Fiscal Solvency and Income Adaptability Indices for Various Countries, Listed According to Sustainability**

![Bar chart showing fiscal solvency and income adaptability indices for various countries](chart)

Source: Based on data from the Center for Strategic and International Studies.
In the midst of the eurozone crisis, the perception of widespread acute illiquidity leads to the strong performance of certain bond markets—namely, the United States, Germany, Japan, and Switzerland. When countries are ranked based on solvency threat, as shown in Figure 6, the picture changes dramatically compared with rankings based on fiscal sustainability. Through this lens, Japan, France, and Switzerland no longer seem to be safe havens. The only safe haven country using the solvency measure is the United States. Economist Mancur Olson’s 1984 treatise, The Rise and Decline of Nations, is the best theoretical framework for thinking about how democracies and governance survive this type of situation.

**Global Integration and Connectedness**

This time in history is the greatest opportunity for the integration of developed and developing economies because the demographic difference between economies is so great that the incentive for integration is absolutely inexorable. In 1970, there were about 20 countries involved in free trade agreements; today there are more than 140. As a result, trade flows from the developing world to the developed world, tending toward current account deficits (i.e., imports are greater than exports) for the developed economies. As that occurs, dollars will also flow to the developing world. These countries have a comparatively young population that is beginning to build wealth through saving, which is, in turn, recycled back to the United States through the U.S. capital account (surplus) into U.S. Treasury bonds and other assets. A fundamental lesson of international economics is that the current account and the capital account must sum to zero. Developed countries’ current account deficits are financed by capital account surpluses from the savings of developing countries. People always ask, What happens if China stops buying U.S. Treasury bonds? But China can only stop buying U.S. Treasury bonds if the United States stops buying Chinese goods. So, dollars flow right back into the U.S. asset markets.

Today, more than 80% of the world’s population is in the developing world, and it has a greater incentive to integrate with the developed world than ever before. Democracies in developed countries and authoritarian governments in developing countries may fail, but the developing world is the greatest opportunity out there for investors and countries to navigate through this new environment.

This article qualifies for 0.5 CE credits, inclusive of 0.5 SER credits.
Figure 6. Fiscal Solvency and Income Adaptability Indices for Various Countries, Listed According to Solvency

Source: Based on data from the Center for Strategic and International Studies.
Question and Answer Session
Brian D. Singer, CFA

**Question:** How will Basel III and increased regulation of banks affect the financial markets?

**Singer:** Investors invest in companies, and the companies themselves excel at getting around barriers. The investor’s job is to allocate resources legally and to evaluate accordingly the evolving global regulatory scene. They try to get around ill-conceived regulations designed more to garner votes and give the appearance of action than to resolve problems. Like it or not, a good lawyer, a derivative, and a smart financial mind can get around just about any regulation that is put in place, unfortunately sometimes illegally.

The Basel III Accord, the revised global framework for capital adequacy for banks, aims to promote stability, but it will be destabilizing because it interferes with inexorable free market forces. One problem is the increase in capital requirements. In Europe, these new requirements come at an inopportune time, when banks need liquidity and the economy needs lending. Instead, banks are being asked to reduce their lending or liquidate assets to increase their capital. It is not a good time for this to occur, but there never is a good time for this to occur.

Beyond the increase in capital requirements, in my opinion, Basel III is a bad idea, just like its predecessors, Basel I and Basel II, were bad ideas. These regulations prevent the free market from doing its job of forcing failure of weak entities. They create a world of privatized gains and socialized losses. As soon as Basel III imposes its regulations, less sophisticated market participants begin to act as if they can trust the loss socialization of that regulatory environment. All of this regulation creates an unhealthy interconnected regulatory environment that eventually becomes unstable.

It is much more stable to let the markets force small failures than to try to prevent them at the cost of a larger and potentially more harmful systemic failure in the future. Basel III will be destabilizing. It is, unfortunately, what investors have to deal with, so it is important to understand geopolitics and the evolving regulatory environment, both within a sovereign as well as on an international basis. In the end, however, the Bank for International Settlements and the Basel Standards are just players in the game.