Crisis: what it taught us
An investment framework for the future

Insights from UBS Wealth Management Research
The global financial crisis has been raging in one form or another for nearly a year and a half with devastating effect on the financial well being of investors the world over. While surveying the rubble, it seems only natural to ask why an investment process presumably designed to prevent losses of this scale failed, and why it should be trusted again as the effort to rebuild wealth begins. In this report, we address these questions first by critiquing the failings of both the financial markets and the investment management process, then by discussing what is still relevant to individual investors and finally by outlining what needs to change in order to ensure that recent mistakes are not repeated.

While we acknowledge that it is tempting, after a failure of this magnitude, to abandon the twin pillars of modern portfolio theory—diversification and asset allocation—we explain why these fundamentals are still sound and must remain the cornerstones of an effective investment process. That said, these practices are not in and of themselves bullet-proof approaches that will protect all investors in all circumstances. The crisis has revealed a number of vital considerations that must be incorporated into investment strategies in order to make them both more effective and robust.

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Beyond the traditional investment framework

We still maintain that a disciplined investment process consisting of investor risk profiling, strategic asset allocation, tactical asset allocation, portfolio construction and implementation, as well as portfolio monitoring and rebalancing, remains critical to investment success. Building on these essentials, and drawing on the lessons of the last 18 months, we have constructed a more robust strategy that includes the following tenets:

**Stronger investor risk profiling**
A better understanding of risk can be attained through various means such as stress testing, scenario analysis and planning-based risk assessment.

**Periodic reassessment**
Risk profiles and related strategic asset allocations must be re-examined at regular intervals in response to changing personal circumstances.

**Increased tactical asset allocation**
Key aspects include: adopting more aggressive tactical tilts within portfolios; depending on scenario-based approaches; and strengthening the focus on thematic research as tactical asset allocation drivers.

**More flexible portfolio rebalancing**
Rebalancing policies can benefit by a move away from mechanical approaches toward a more flexible framework. Rebalancing decisions should be linked to tactical views on asset classes and markets.

**Solid investment research capabilities**
At each stage of the disciplined investment process, access to reliable sources of research is paramount.

While this report won’t undo the damage inflicted by the financial crisis, we trust that it will help equip investors to effectively deal with the aftermath and position them properly for the recovery process.
There is cause to question convention

For nearly a generation now, market practitioners have been preaching the benefits of portfolio diversification and asset allocation. Pioneered by Nobel Prize winner Harry Markowitz in 1952, the notion of modern portfolio theory (MPT) simply held that by combining assets that were not perfectly correlated with one another into a portfolio, an investor could meaningfully reduce volatility without materially lowering expected returns. But the current financial market crisis poses one of the most significant challenges to the orthodoxy of Markowitz’s principles. The apparent inability of even seemingly well-diversified portfolios to protect investors from the ravages of this bear market has led many to question the efficacy of modern portfolio theory.

To better understand how modern portfolio theory has been compromised by the current crisis, we focus on two critical issues: the tendency for asset return correlations to rise during periods of market stress and the frequent occurrence of unlikely events. Consider the following:

Rising correlation among risky assets during market stress: Periods of extreme risk aversion can lead all risky assets to become much more highly correlated, as became all too evident during the current crisis. This is more apparent as investors flee from higher risk asset classes to the security of “safe haven” assets, such as cash or government securities.

The higher correlation among risky assets can occur either voluntarily through “asset disposal” or involuntarily through “asset confiscation” and forced deleveraging. The net result is a liquidation of risky assets and the purchase of these “safe haven” assets. One graphic illustration of risk aversion during the current crisis occurred last autumn, when the yield on Treasury bills temporarily turned negative. This is true not only across assets within a specific market but across markets and is reflected by the incidence of “contagion” in which financial crisis tends to spread across global financial markets. Figure 1 illustrates this tendency of markets to perform more uniformly during crisis. This can be seen during periods of higher equity market volatility, which are usually associated with a higher correlation across regional equity markets.
The frequency and severity of unlikely events:
Most investors are painfully aware of financial shocks, such as the 1987 stock market crash, the 1997-1998 Asian crisis and the bursting of the tech bubble in 2000. These events are assumed to occur infrequently, but have instead been taking place with greater regularity. During the last two years, the sheer severity of the crisis has been extraordinary, dwarfing the impact of other recent crisis episodes. While many factors contribute to these assorted crises, the failure to properly allow for such extreme events may well be a reflection of the limitation of the statistical tools used to model them.

Most statistically based market forecasting models employ simplifying assumptions, one of the most common of which is the notion that market returns are normally distributed. In reality, however, asset returns are neither perfectly symmetrically distributed around a mean, nor as narrowly bounded as the normal distribution would suggest. Instead, asset returns can be either positively or negatively skewed and also have much greater frequency of extreme occurrences, as in the so-called “fat tail” or “black swan” events. Figure 2 illustrates fat tail event scenarios like the stock market losses of 2008, and sorts annual returns of the S&P 500 since 1928, according to various return buckets. We then compare this return distribution to a normal distribution. While the returns generally conform to a standard bell curve, there tends to be a much higher incidence of extreme events than a normal distribution would.

A world in crisis
The definitive account of what has until now been alternatively referred to as the “subprime,” “housing” or “credit” crisis probably won’t be written for years to come. That doesn’t mean, however, that we aren’t able to reflect fairly upon the critical factors that set this vicious chain of economic and financial market events in motion.

In our recently released UBS research focus entitled, “The financial crisis and its aftermath,” we explore the catalysts behind the events of the past year and a half and also discuss the long-term implications for the economy, financial markets and asset allocation. As was the case in most prior crises, there was no single catalyst. Instead, there appear to have been a number of factors that, when considered in isolation, would be expected to have only a marginal impact upon markets. However, once combined, they have had a near lethal effect upon the global financial system.

While many factors contributed to both the scope and scale of the current crisis, there were four that played especially prominent roles: an unhealthy build-up of global macroeconomic imbalances; the excessive use of leverage; a breakdown in supervisory oversight; and an overly accommodating policy mix. For a more detailed look at the catalysts behind the current financial crisis, please see the aforementioned UBS research focus. In this report, we offer some perspectives on how these events have impacted the investment management process.
Many individual investors are now openly questioning the relevance of asset allocation and portfolio diversification.

allow. This suggests that extreme events—especially to the downside—tend to happen with much greater frequency than simplifying models would indicate.

Figure 2: Unexpectedly high frequency of large losses for stock investors
Source: Bloomberg, UBS WMR

Don’t reject modern portfolio theory
Many individual investors are now openly questioning the relevance of asset allocation and portfolio diversification amid the failure of traditional strategies to insulate portfolios when the need for protection was greatest. But a wholesale rejection of the basic tenets of modern portfolio theory would be a mistake. Simple yet powerful concepts such as diversification and maintaining a disciplined investment decision-making process are still essential.

We do, however, need to better appreciate both the benefits and limitations of such tools and processes. Diversification is meant to reduce risk within the portfolio, not to eliminate it. Short of simply stuffing cash in a mattress, investing still entail risks. The advantages and constraints of diversification need to be understood and respected. Likewise, there is no foolproof investment process. A balance must always be struck between maximizing return and offsetting risk, which implies certain tradeoffs within any investment portfolio. With this in mind, we consider aspects of the investment management process that still work, as well as some new concepts that offer the prospects to improve portfolio performance.

Diversification still matters
It is our view that any discussion involving the management of financial assets must still begin with the concept of diversification. Prior to the onset of the current financial crisis, the benefits of diversification had gone virtually unchallenged. Ever since Harry Markowitz documented its benefits more than half a century ago, portfolio diversification has been the cornerstone of modern investment processes and portfolio construction frameworks. Portfolio diversification comes in a variety of shapes and sizes, including:

- Diversifying within an asset class (increasing the number of individual securities within a portfolio)
- Diversifying across asset classes (increasing the number of unique classes of assets within a portfolio)
- Diversifying across regions (expanding into non-domestic markets)
- Diversifying across currencies (incorporating non-dollar holdings)
- Diversifying into nontraditional asset classes (expanding the investible universe to include nontraditional assets such as commodities, hedge funds, private equity and real estate)

But as we have already noted, investors have come to openly question the benefits of diversification in the
aftermath of the crisis. Many are left wondering how it is that even seemingly well-diversified portfolios still suffered staggering losses during this crisis. It is this aspect of the crisis that has proven most troubling to both investors and market professionals alike. We argue that while diversification has certainly shown its limitations in the current financial and economic crisis, investors are still well-served to maintain balanced portfolio holdings. The alternative—a concentration of holdings within narrower pools of assets—involves taking on even greater risks.

We illustrate in Figure 3 how diversifying across a range of stocks improves portfolio characteristics. There we compare the return and volatility of the Dow Jones Industrial Average (DJIA) with the average stock in the DJIA over the last 15 years. While the return of the average stock is in line with the index return, the volatility of the average stock is 84% higher than the index volatility. This example illustrates that the benefit of diversification is its ability to reduce volatility.

A simple concept
Perhaps the most powerful way to illustrate the benefits of portfolio diversification is through the simplest of examples. The table below shows both the annual returns on two separate assets as well as on a combined portfolio, with identical expected return and volatility. It also indicates the mean return and volatility for each. The two assets have the same mean return and similar volatilities. While the combined portfolio’s mean return is in line with the return of the individual assets, its volatility is markedly lower than for each of the assets.

<table>
<thead>
<tr>
<th>Time</th>
<th>Asset 1</th>
<th>Asset 2</th>
<th>Asset 1 &amp; 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>t=1</td>
<td>5.0%</td>
<td>14.0%</td>
<td>9.5%</td>
</tr>
<tr>
<td>t=2</td>
<td>13.0%</td>
<td>0.0%</td>
<td>6.5%</td>
</tr>
<tr>
<td>t=3</td>
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<td>3.0%</td>
<td>-4.0%</td>
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<td>0.5%</td>
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<td>21.0%</td>
<td>13.5%</td>
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<tr>
<td>t=9</td>
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<td>15.0%</td>
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<tr>
<td>t=10</td>
<td>15.0%</td>
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Mean return: 5.0% 5.0% 5.0%
Volatility: 11.4% 11.8% 6.5%
Return/volatility: 0.4 0.4 0.8

The stabilizing effect of diversifying across these two assets is also illustrated visually in the chart below.

Figure 3: Diversification can reduce volatility
Average stock in Dow Jones Industrial Average (DJIA) is more volatile than the index (1994 to 2008).
Source: UBS WMR
Questions still remain
While the general principles of diversification are still clearly applicable even in the aftermath of the crisis, another central tenet of modern portfolio theory has proven more troublesome. Markowitz’s theory also held that investors will require higher returns in order to compensate for taking on higher levels of risk. This suggests that those assets with more volatile return profiles, such as stocks, will offer higher returns over time than less volatile assets, such as government bonds and cash. A sampling of both returns and the standard deviation of returns since 1926 for U.S. stocks, U.S. Treasury bonds and U.S. Treasury bills bears this out. These provide the basic building blocks for constructing what are known as mean-variant efficient portfolios. Such portfolios essentially allow investors to combine assets in a manner where returns are maximized for any given level of risk. Figure 4 relies on seven portfolios with different allocations to stocks, bonds and cash that UBS Financial Services Inc. recommends for U.S. investors with risk profiles ranging from very conservative to very aggressive. This chart illustrates how the risk/reward tradeoff holds for the period 1926-2008.

However, the current financial crisis has exposed an apparent practical flaw in Markowitz’s theory. While mean-variant efficient portfolios reflect the risk/reward tradeoff over longer horizons, there have been periods during which investors have not been compensated for taking on risk. This typically occurs over a very short duration, such as several months, quarters or even a few years, yet the extraordinary events of 2008 have resulted in the underperformance of risky assets for the past decade. As Figure 5 illustrates, portfolios with higher risk profiles along the efficient frontier actually underperformed those with lower risk profiles.

Figure 4
Source: UBS WMR

Figure 5
Source: UBS WMR
There have been periods during which investors have not been compensated for taking on risk.

This admittedly depends on both the timing and length of the period being measured. If we had ended our sample at the end of 2007 instead of 2008, the results would have been more in line with expectations (Figure 6).

Efficient frontier 1990 - 2007

An inconvenient truth

The inconvenient truth, however, is that there are likely to be extended periods when investors are not adequately compensated for the higher risk associated with certain asset classes, such as equities and high yield corporate bonds. It is this fallout from the global financial crisis that poses the biggest challenge to practitioners of modern portfolio theory. We therefore devote the balance of this report to addressing this subject. First we explore the continuing need for implementing a well-defined investment process which includes: a comprehensive investor risk profile; an appropriate strategic asset allocation benchmark reflective of that risk profile; a dynamic approach that allows for tactical biases to be incorporated into the portfolio; an efficient process for structuring the portfolio holdings; and an ongoing monitoring process which helps ensure that the portfolio remains aligned with the original objectives.
Start with a disciplined investment process

It remains our view that a structured investment process that starts with a thorough understanding of investors’ objectives and risk tolerance, and centers on asset allocation, represents the most promising approach. Even though the financial market crisis does highlight some steps along the way that need to be improved, the overall approach remains sound. It is worth noting that the dramatic impact of extreme market events and the tendency for asset correlations to rise during periods of stress were exacerbated during the current crisis by increasing complacency and declining investment discipline among investors in the lead-up to the critical situation. For instance, it was not unusual for investors to both reach for incremental returns and fail to diversify beyond risky assets.

Figure 7 provides an example of the steps we feel comprise a well-structured investment process. It also highlights areas, discussed later on, where we see room for adjustments.

Investor risk profiling

This analysis should ideally be conducted as part of a comprehensive financial plan and serves as a basis for all subsequent decisions made within a client portfolio. A comprehensive financial plan and risk profile are two of the most crucial elements in a successful wealth management process. The financial plan generally involves understanding the investor’s investment objectives, cash flow needs, investment time horizon and risk tolerance, while risk profile involves, in particular, an investor’s ability to bear losses without abandoning investment discipline.

Strategic asset allocation (SAA)

The SAA is determined by the investor’s risk profile. Advances in portfolio theory over the past two decades confirm that no portfolio is optimal for all investors regardless of their circumstances. This means that each asset allocation must be tailored to an investor’s individual risk profile. The SAA represents the suitable allocation across asset classes, regions and financial market segments for the investor based on long-run assumptions about risk and return. Ideally, the SAA is well-diversified across asset classes, regions and segments, and is derived using portfolio optimization techniques.

Tactical asset allocation (TAA)

A portfolio’s SAA may not be optimal at any given point in time, in view of the information available about current financial market conditions. Deviating from the strategic asset allocation to capture perceived market opportunities is referred to as tactical asset allocation (TAA). The purpose of tactical deviations from the SAA is to tilt the allocation toward asset classes and markets that are expected to outperform the rest of the portfolio in the short- to intermediate-
Keep the best, reconsider the rest
Given the events of the past year, it would appear that we need to move beyond the standard investment framework. It would be a mistake, however, to discard the good along with the “bad.” Therefore, instead of simply rejecting the current investment process, we recommend a modified approach that allows for more robust risk profiling, clearer assessment of the appropriate investment horizon and strategic asset allocation benchmarks, a more prominent role for deploying tactical biases and a more pragmatic method for portfolio rebalancing.

Portfolio construction and implementation
In this stage of the process, the focus is on selecting the appropriate instruments with which to implement the asset allocation. This may be achieved by either purchasing individual securities directly or selecting managers or funds to manage those assets. Just as with the final assembly in any well-run manufacturing process, making sure all the parts fit together and work in the way intended by the designer is critical to the success of the portfolio. This includes executing the necessary financial market transactions in a timely and cost-efficient manner.

Portfolio monitoring and rebalancing
This step involves monitoring the portfolio’s performance and its characteristics to ensure that they remain within the desired risk/expected return parameters. Discrepancies may emerge over time due to changes in the risk characteristics of financial markets, a shift in the client’s risk profile or life circumstances, or simply because of financial market fluctuations. The consequence of such drifts is the investor’s need to periodically conduct portfolio rebalancing in order to return to the desired asset allocation.
Build on a disciplined investment process
As we noted from the outset, adherence to the standard investment process goes only so far in addressing some of the issues and concerns that have surfaced during the current crisis. We need to explore a modified approach that will address some of these issues more directly, but without compromising the integrity of the investment process. We therefore recommend that investors consider moving beyond the traditional framework to think about new ways of re-examining risk profiles and strategic asset allocation as well as more actively managing tactical biases.

A more robust risk profiling framework
The initial step in the standard risk profiling process is typically driven by a series of responses to a profiling questionnaire. Most Financial Advisors try to capture risk tolerance in a somewhat straightforward manner by assigning investors to generic low, moderate or aggressive risk tolerance categories. As we previously noted, this process may or may not also include a more comprehensive financial plan. While these tools are essential to identifying an investor’s risk tolerance level, they may not be sufficient to capture all elements of an investor’s appetite for risk. We believe that risk tolerance is far more nuanced than previously thought and can change over time. Stated risk tolerance levels tend to be higher when markets are moving up and the economy is booming, and lower when markets are under pressure and the economy is in recession. Behavioral psychologists have tested individuals and found they fear and react to losses to a far higher degree than they enjoy gains. This is not an issue of preference; it is a hard-wired physiological response of most humans to loss or gain circumstances.

In addition to the standard risk profiling tools, we recommend that investors consider additional means of assessing risk thresholds, including financial planning-based risk assessments to understand risk needs, and stress testing and event-based simulations to further assess tolerance for losses and extreme events. Consider the following:

Financial planning-based risk assessment
A key aspect to a more robust risk profiling framework involves modeling how potential market events impact the ability of investment portfolios to meet defined investor goals and objectives. Solely assessing how an event may impact investment portfolios without regard to how it affects longer-term planning needs can lead to spurious decision-making. This is especially true following periods of extreme market stress, such as the current environment. It is important to understand, especially after traumatic events, that losses sustained in the portfolio are not the only relevant measures of risk. The risk of missing the recovery after a market crash can be just as detrimental to achieving long-term investment goals. The financial planning aspect stresses the required investment returns to support certain planning objectives (“risk needs”). In addition, the focus should also be on the investor’s willingness to bear risk over longer cycles (“risk capacity”). This entails a broader, more comprehensive understanding of risk than is typically the case, and suggests using tools such as stress testing or scenario analysis.

Stress testing
To prevent investors from being placed in an inappropriate risk category, we believe that the crisis has made it necessary for investors and their Financial Advisors to thoroughly review risk attitudes and profiles. A risk profiling discussion should highlight for the investor the portfolio losses that may conceivably
be incurred during extreme, though unlikely, scenarios. Based on these losses, an attempt should be made to assess the likelihood that the investor will be tempted to switch risk profiles during such scenarios, thereby abandoning investment discipline and possibly forgoing the upside of a market recovery. Stress testing allows the investor to gain a better understanding of the potential range of events that can impact the value of an investment portfolio over different environments. Perhaps the most popular form of standardized stress testing is a process known as Monte Carlo simulation (MCS). The Monte Carlo simulation method was first introduced into finance in 1964, and is used to simulate different sources of uncertainty that affect a portfolio and then calculate the value of that portfolio based upon different inputs. This type of stress testing is typically utilized in the wealth management process to evaluate the impact of different market events upon underlying portfolio holdings. Such simulations are invaluable in helping the investor understand the potential impact from a broad range of market events associated with certain scenarios upon financial assets.

**Event-based scenario analysis**

While many analysts and economists do an admirable job of forecasting normal business cycles, they have a much more difficult time capturing what statisticians call “fat-tail” or “extraordinary” events. As noted earlier, such events occur far more frequently than most standard models would forecast. An event-based scenario analysis that goes one step beyond generic Monte Carlo simulation can help demonstrate how an investment or portfolio would have fared in certain distinct episodes of market stress such as the financial crisis of last year, the recession of 2002 or other episodes. In Figure 8, we illustrate the performance of a sample portfolio during some of the more prominent crises of the last decades. Many analytic packages now incorporate such historic market events into their scenario analysis menus. Using this information, investors can effectively “experience” the effects of market volatility and more accurately assess whether the portfolio is appropriate for their individual risk appetites. Such modeling tools can be extremely useful in helping investors understand the range of potential outcomes based upon different extreme market scenarios, and can therefore be used to further refine risk tolerance levels.

![Figure 8: Performance of a sample portfolio during crisis episodes](source: UBS WMR)

When utilized alone, a questionnaire-based risk profiling process will offer only a limited ability to assess both an investor’s risk capacity and risk needs. But when combined with a comprehensive financial plan, a planning-based risk assessment process, portfolio stress testing and an event-based scenario analysis, a more thorough understanding of the client’s true risk threshold emerges. Such a process provides a means of verifying that the risk profile ultimately selected for the client is appropriate from a number of critical perspectives.
Implementing the wrong portfolio tilts at the wrong times can result in an even worse outcome than doing nothing at all.

**Periodic reassessment of risk profile and strategic asset allocation**

Academic studies have found that a vast majority of portfolio performance is attributable to the strategic asset allocation decision. While such studies have occasionally been misinterpreted, Gary Brinson and colleagues demonstrated that about 90% of the variability of returns over time is explained by the initial benchmark policy weightings.\(^1\), \(^2\) It therefore appears that for investors with longer-term horizons, the mix of asset classes selected as the strategic allocation is one of the most crucial elements in the investment decision-making process. This is why so much time is spent in the initial process of risk profiling and choosing an appropriate strategic asset allocation benchmark. If the initial allocation fairly reflects the appropriate mix of assets to meet the investor’s longer-term objectives yet remains within acceptable risk tolerance levels, much of the uncertainty from asset/liability mismatches can be managed.

This does not mean, however, that the strategic asset allocation is simply set during the initial risk profiling step and then remains static over an investor’s lifetime. As Figure 9 illustrates, there are a number of distinct phases during a typical investor’s life that will require a shift in the risk profile and strategic asset allocation. For example, a younger investor with a longer horizon and significant contributions of human capital (i.e., salary and earnings) typically lies in the “accumulation” phase and requires a higher allocation to risky assets. But even if there is no change in the investor’s appetite for risk, there may still be a need for a shift in the strategic asset allocation due simply to the passage of time. As the investor transitions first to the “consolidation” and then to the “spending” and “gifting” phases, the allocation will need to be adjusted to reflect both the changes in horizon and expected contributions from human capital. Life cycle spending and saving patterns may vary across investors and, in particular, ultra high net worth individuals may not necessarily follow the typical phases. However, the discipline of life cycle investing remains critical and requires periodic reassessments of objectives as well as the strategic asset allocation—even in the absence of any material changes in the investor’s personal risk appetite or preferences.

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much more important role over shorter periods in distinguishing returns across fund managers. Ibbotson and Kaplan found that factors such as asset class timing, style choices within an asset class and security selection accounted for as much as 60% of the variation of returns across different funds. Given the more limited return expectations for financial assets going forward, a well-implemented tactical strategy may well be the determining factor in an investor’s ability to meet longer-term objectives.

Here too, we need to move beyond the traditional tactical asset allocation (TAA) framework. Most TAA processes are confined to either valuation or momentum-driven decisions—or some combination of the two. We instead recommend a multifaceted approach that incorporates a “scaled up” risk budget, a scenario-based overlay and a thematic driven intra-asset “opportunity set” into a single tactical view. This more robust approach toward tactical asset allocation has the potential to both enhance return prospects and provide a more informed assessment of the risk scenarios.

**Increased tactical risk budget**
The first step in an enhanced TAA process involves implementing larger tactical tilts within the portfolio to both take advantage of market opportunities as well as limit the portfolio’s exposure to overvalued asset classes and vulnerable markets. This entails increasing the risk budget for tactical tilts within investment portfolios to allow greater deviations from the strategic asset allocation. This makes it possible to more effectively “dial up” or “dial down” overall portfolio risk, based upon the current cyclical outlook and valuation assessment.

Figure 10 provides an illustration of how such an enhanced TAA could improve returns. It shows the performance of a benchmark portfolio over the past year and a half under three different scenarios: no TAA changes; TAA changes based upon WMR TAA recommendations; and TAA changes based upon amplified WMR TAA recommendations (the standard TAAs multiplied by a factor of five). As illustrated, an enhanced TAA strategy would have significantly outperformed both the benchmark and standard TAA portfolio during the current financial crisis. Of course, such an approach only makes sense for investors who can identify a reliable source of investment research to guide them in making such tactical decisions. If such a source cannot be identified, this type of approach can backfire, as implementing the wrong portfolio tilts at the wrong times can result in an even worse outcome than doing nothing at all.

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**Figure 10: Performance of moderate risk U.S. portfolio with and without WMR’s TAA**

*Source: UBS WMR*
Scenario-based overlay

The second step in the process entails incorporating a scenario-based overlay into the tactical view. As noted above, any tactical asset allocation is bound by the skills of the investment research process utilized, and studies suggest that the prospects for consistently outperforming strategic benchmarks are limited. However, the potential to enhance portfolio returns can still be improved by incorporating a scenario-based overlay on the strategic asset allocation. While timing markets is a challenge even to the most skilled managers, setting a medium- to longer-term tactical tilt based upon an assessment of the likely macro scenario can both reduce timing risks and enhance return prospects. Based on WMR’s recently released report, “The financial crisis and its aftermath,” Figure 11 illustrates four alternative macro environments and identifies the asset classes that are likely to fare best in each of these scenarios. This is not meant to suggest that a single or even narrow asset allocation process is the preferred approach. However, it does indicate that a higher weighting to certain asset classes can be appropriate based upon the scenario forecast.

![Figure 11: Potential scenarios and asset classes that benefit from them](image)

*Note: We indicate in which growth and inflation environment we think the various asset classes will achieve their best inflation-adjusted performance. This does not exclude good performance in other scenarios, should prices already reflect a less favorable outcome for that asset.*

*Source: UBS WMR*

Thematic research

The final step in the enhanced TAA process is to integrate thematic-based research insights. Keep in mind that certain trends have the potential to drive performance within a market, an asset class or sector over periods ranging from several months to several years. Identifying these trends or themes, determining which asset classes they are likely to affect and then gauging their impact on portfolio returns is essential to enhancing the TAA process. At UBS Wealth
Management Research, before any theme or trend will be incorporated into our tactical view, we require several criteria be met:

- the trend must play out over an investment horizon spanning one to three years
- the call must be one in which we have a very high level of conviction
- the impact from this trend must be measurable and identifiable to an asset class or group of assets
- the expected returns from this theme must exceed the expected returns of the overall market or a specific asset class

The ability to recognize such trends and incorporate them into a TAA approach can contribute to performance and temper the tendency to react exclusively to very short-term dynamics. Examples of such thematic-based research that WMR has advocated as tactical tilts in recent months include a preference for corporate over government bonds and a preference for large-cap stocks over small-caps.

**Dynamic portfolio rebalancing**

One important aspect of a well-structured investment process includes the periodic rebalancing of portfolios to ensure that the asset weightings remain aligned with an investor’s longer-term strategic benchmark. As we have already noted, there is a tendency for the asset mix to shift over time, based upon performance differences across markets. For example, an extended rally within the equity markets could leave a portfolio with a stock weighting that is above benchmark, thereby exposing the investor to a higher level of risk than is ideally suited to his or her risk profile. Most portfolios are therefore rebalanced on a regular basis (e.g., monthly or quarterly) to address this potential for asset mix drift. While we remain committed to periodic rebalancing of portfolios, applying such a process in an overly mechanical manner could also expose the portfolio to risks. For instance, a simple quarterly or monthly rebalancing scheme over the past year and a half would have required that investors continue to purchase risky assets even as they were declining. As Figure 12 illustrates, such an approach (as well as more frequent rebalancing) would have led to underperformance versus a static approach without rebalancing. The magnitude of such underperformance would have amounted to up to three percentage points (between monthly rebalancing and no rebalancing). While such a return deviation is dwarfed by the extent of the overall equity market losses, these differences can become significant over time.4

![Figure 12: Performance of moderate risk portfolio under various rebalancing frequencies](source: UBS WMR)

4 A 3% return difference compounded over 20 years results in a portfolio value difference of close to 80% at the end of the time horizon.
One cannot easily assume that a particular rebalancing policy will perform better than another over any given time period. What can be said, though, is that less frequent rebalancing tends to work better during trending markets, while more frequent rebalancing works better in periods of market reversals. During the bull market that ended in late 2007, for example, investors who did not rebalance their portfolios benefited from the rising stock market trend to a greater extent than those who did. However, at the peak of the market, the first group found itself significantly overexposed to equities and was more severely hit by the stock market crash.

It would appear that one way to enhance returns and limit risk would be to exercise greater discretion with regard to the portfolio rebalancing process based on an analysis of market conditions. Instead of simply rebalancing based upon some pre-established timetable, the investment decision-maker could opt to allow the portfolio to remain outside the strategic asset allocation guidelines for some extended period. This approach could be thought of as an extension of the tactical asset allocation process, as it would generally align with near-term tactical biases. If implemented properly, such an approach would not only allow for portfolios to benefit from strong outperformance within an asset class (or, alternatively, avoid underperformance within other asset classes), but would also yield cost savings as periodic rebalancing steps are deferred and tactical bets are expressed through the dynamic rebalancing decision. Of course, such an approach would need to be reconciled with the overall tactical tilts within the portfolio to ensure that positions within any single asset class do not run well beyond the strategic guidelines and the overall risk budget.

The events of the past 18 months simply cannot be undone. The frequency of extreme events and the tendency for risky assets to become highly correlated during periods of market distress have exposed the limitations of the standard investment process. This does not mean the principles that have guided portfolio management for more than half a century need to be abandoned. Simple yet powerful concepts such as maintaining a diversified portfolio and incorporating a comprehensive approach toward selecting the right asset mix still apply. However, we need to move beyond that traditional investment framework to ensure success. This should include a more robust means of risk profiling, a periodic reassessment of the appropriate strategic asset allocation and a more dynamic tactical approach toward managing portfolios. While this won’t prevent another financial crisis from developing, it will help ensure that investors are better positioned to weather the storm next time around.
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