RBC Global Asset Management

Economic Compass

Global Perspectives for Investors

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HIGHLIGHTS

- As earnings growth has slowed, the stock market rally has increasingly relied upon a rising risk appetite.
- We calculate that risk appetite has finally returned to a neutral stance, and still has room for further moderate improvement.
- Of the underlying contributors to this action, risk tolerance in particular can afford to continue normalizing and an attractive return proposition should remain a positive catalyst.
- While there is always the risk of a reversal, it is comforting that risk appetite looks much more normal than it did the prior two times the stock market reached current levels.

RISK APPETITE RENAISSANCE

Financial markets have plugged doggedly higher for several months. The S&P 500 is flirting with its all-time record, as are several other indexes (Exhibit 1). This has been a long time coming: investors have spent 13 years wading through the detritus of the dot-com bubble and global financial crisis to reach this point.

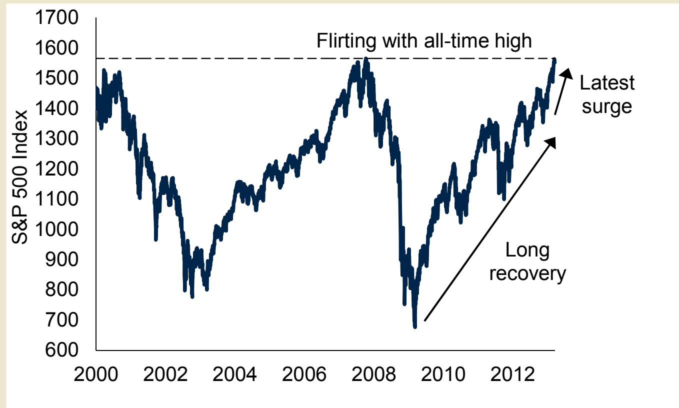
What has enabled this impressive comeback? To answer this question, we need to understand what drives stocks (Exhibit 2). The first and most durable driver is rising corporate earnings. Profits have indeed rebounded admirably from the worst of the financial crisis, though in recent quarters they have become less of a central contributor (Exhibit 3). The earnings outlook is adequate, but admittedly unexciting given an economy mired in sluggish growth.

The second source of stock-market gains is rising risk appetite. Loosely speaking, a resurgent risk appetite encourages investors to transition into traditionally riskier assets such as equities, resulting in higher valuations (Exhibit 4) and, consequently, a rising stock market.

Recent equity gains have come in sizeable part from the second of these drivers – renewed risk appetite – which has fluttered higher from a position of extreme risk aversion to risk reluctance, and now to risk neutrality. Future stock-market gains – should they occur – will have to come in large part from this wellspring until such a time as the economy and earnings are able to more boldly assert themselves.

In this context, what are the chances that the risk-appetite wellspring runs dry? In contrast to the prior market peaks of 2000 and 2007, risk appetite is not obviously overblown this time.

Exhibit 1: S&P 500 on Upward Trend Since 2009



Source: Haver Analytics, RBC GAM

Exhibit 2: Source of Stock Market Gains

Source: RBC GAM

In this report, we set out to better understand risk appetite, gauge its current level, determine the likelihood of further improvement and grasp its implications for the economy and financial markets.

Defining risk appetite

Risk appetite is a poorly understood concept, primarily because the term is not consistently or clearly defined.

Many times, the term "risk appetite" is bandied about in an overly loose fashion, for instance as shorthand for whether the stock market is rising or whether businesses are hiring. These phenomena can indeed respond to (and thus reflect) higher risk appetite, but they do not move solely at its behest.

At other times, the term is used more precisely – but too narrowly – for instance by probing the risk appetite of just a single sector of the economy, be it households or businesses or some aspect of the credit market.

Other proxies for risk appetite are theory-heavy and anchored in impressive math and statistics, but lack a reliable real-world connection.[1]

Each of these riffs on risk appetite has its value, but none captures the entire melody.

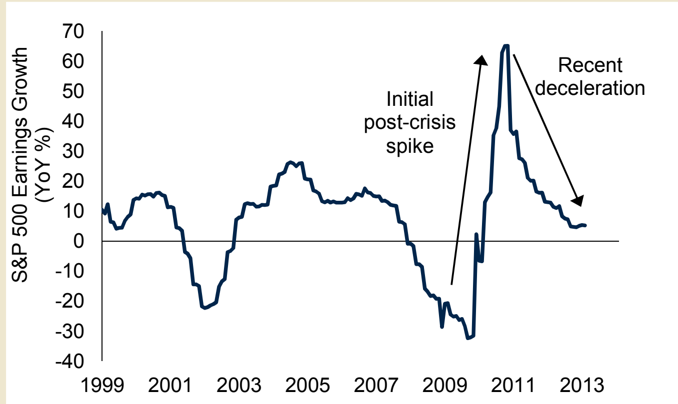
We define risk appetite as a greater willingness to engage in what are traditionally considered risky endeavours, such as rotating into more volatile investments, undertaking a new enterprise, expanding an existing business or leaping from one employer to another.

Even with this clarification in hand, there is a further complication: risk appetite is an unobserved variable. Unlike GDP growth or a dividend yield – for which official figures exist – risk appetite can only be guessed at.

Gauging risk appetite

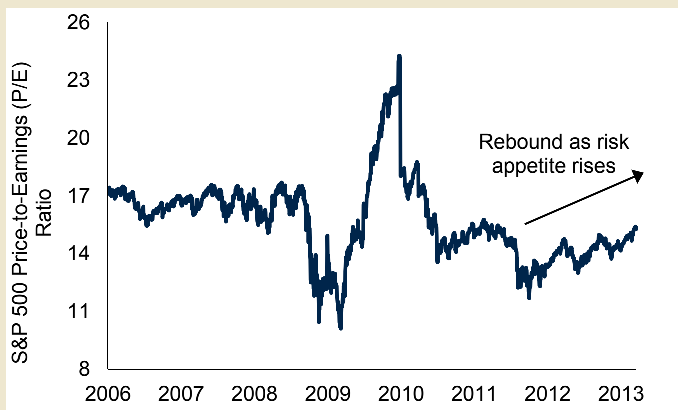
In an effort to obtain the best guess possible, we combine 46 different measures of observable proxies for risk appetite into a single risk appetite index (Exhibit 5).[2] The full set of variables is sorted by category and listed in Appendix A.

Exhibit 3: U.S. Corporate Earnings Growing Only Modestly



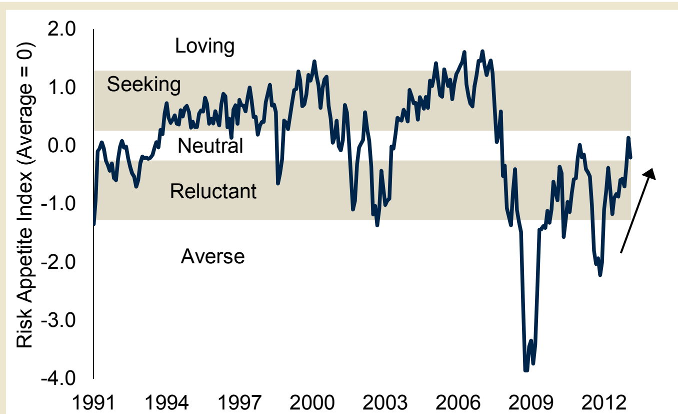
Note: Year-over-year % change of trailing 12-month earnings per share of S&P 500 stocks. Source: Bloomberg, RBC GAM

Exhibit 4: Rising Valuations Contribute to Equity Performance



Source: Bloomberg, RBC GAM

Exhibit 5: Reviving Risk Appetite



Note: Measures risk appetite based on 46 normalized inputs. Source: Bloomberg, RBC GAM, and as listed in Appendix A

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[1] These also tend not to be maintained for long by their publishers, as demonstrated by discontinued series from the International Monetary Fund, Bank of International Settlements and Bank of England.

[2] The components are normalized and weighted equally in the survey, and variables are excluded for periods earlier than their first data point. Inevitably, there is some duplication of variables, especially given the inclusion of third-party risk appetite indexes that in turn rely upon several of the primary indicators we include. Principal component analysis was rejected as an option due to the extreme limits placed on the output by a large number of inputs, and because the length of the resultant series would be restricted to the shortest input.

We find that risk appetite has indeed revived, progressing from the weakest reading in the history of the series in late 2008 to the strongest reading since the onset of the financial crisis. What's more, we calculate that risk appetite is now firmly into "risk-neutral" mode, meaning that the era of risk reluctance and the extreme risk aversion that preceded it seem to have come to an end. Risk appetite is finally near its historically average reading.[3]

Persistence check

One way to extract even more insight from our risk appetite index is to deconstruct it into slow- and fast-moving parts. Some inputs move more slowly and with greater persistence than others. They take years to swing from their lows to their highs, compared to several times a year for faster-moving inputs.

The slow movers are generally of greater use because we seek to identify trends that will endure for years, not ones that burn brightly for a few months only to fizzle out. Promisingly, the slow-moving index exhibits an even more pronounced upward trend and reveals a level of risk appetite that is actually smack on the average, rather than slightly worse (Exhibit 6). All of this bolsters our confidence that risk appetite may manage to continue rising, or at least sustain its recent gains.

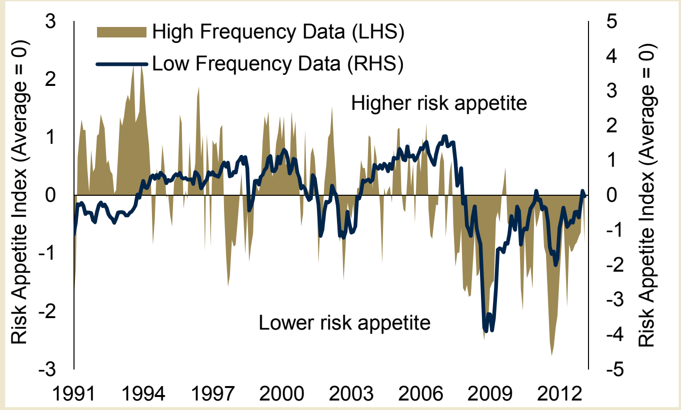
Another interesting observation is that risk appetite spends very little time around its average level. On the contrary, it typically spends brief periods at well-below average levels (such as when in the jaws of the financial crisis), then long periods at moderately above-average levels, in risk-seeking mode. This latter area constitutes the true "normal." This suggests some further progression is probable without risk appetite venturing into unsustainable territory.

Why bother including the fast-moving variables? They can be useful for timing short-term market movements. To this end, the fast movers have recently soured a little, suggesting a short-term downside risk to markets this spring.

Breadth check

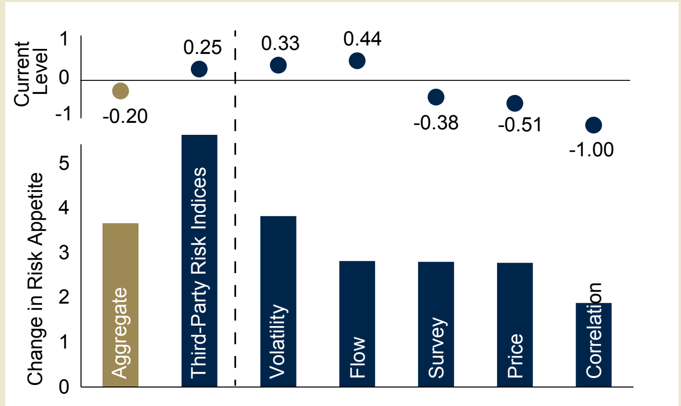
The overall risk appetite index also exhibits good breadth. We decompose it into six buckets, sorted by type of input. These are categorized according to price, flow, volatility, correlations, surveys and third-party risk indexes (refer again to Appendix A for details).

Exhibit 6: Risk Appetite Normalizing



Source: Bloomberg, RBC GAM, and as listed in Appendix A

Exhibit 7: All Elements of Risk Appetite Have Improved



Note: Change in risk appetite from the trough since January 2008.
Source: Bloomberg, RBC GAM, and as listed in Appendix A

Fortunately, all six measures agree with the overall risk appetite index (Exhibit 7). Each has improved substantially from its worst reading. Three of the six are now above their historical average and three remain below it. Within the context of our qualitative classification scheme, two of the six measures are in risk-seeking mode, one is in risk-neutral mode and three are in risk-reluctant mode.

Notably, our collection of third-party risk indexes – measures of risk appetite constructed by other organizations – is somewhat more optimistic than the historical average, whereas our own risk appetite index is still slightly below the average. Consequently, markets may wrongly think there is little upside left for risk appetite, whereas we suspect there is still some room for improvement.

[3] Within the risk appetite index, some measures are of course already well into risk-seeking mode (such as credit spreads) whereas others (such as the real U.S. 10-year yield) are still mired in risk-averse mode.

Justifying rising risk appetite

Why has risk appetite reanimated, and what might permit further gains?

We believe swings in risk appetite are induced by the locomotion of three underlying variables: "risk tolerance", the "return proposition" and the "risk proposition" (Exhibit 8). Each of these elements has lately contributed to the resurgence in risk appetite, and two of the three look capable of supporting further gains.

Risk tolerance

The first concept is risk tolerance, which is the most straightforward, and arguably comes closest to what most people envision when they think of risk appetite. Simply put, rising risk tolerance means that a party is willing to tolerate a higher level of risk, all things being equal.

In the context of an investment portfolio, rising risk tolerance usually motivates a shift into more volatile assets, resulting in the expectation of a somewhat better return in exchange for substantially more risk (Exhibit 9).

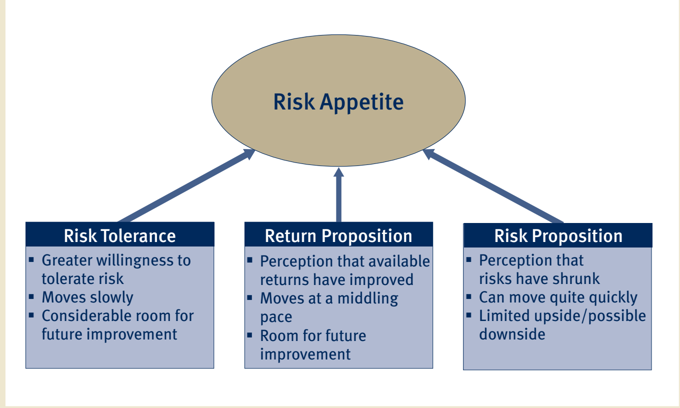
Of the three components, risk tolerance usually moves the most slowly and exhibits the greatest persistence in the direction of its movement. As an extreme example, the generation that lived through the Great Depression never fully recovered its risk tolerance after the trauma of the 1930s, favouring less risk throughout their lives despite the repercussion of inferior returns.

As the 2008 financial crisis fades from memory, the question is whether risk tolerance has been completely severed, as it was for the Great Depression generation, or just frayed. Fortunately, it appears to be the latter, likely because the economic decline did not cut as deeply and a raft of economic, market and social safety nets diminished the pain.

We can get a taste for the level of risk tolerance in a few ways. The correlation between different financial assets has declined from its highest levels. This hints that investors are becoming somewhat less lemming-like in their investment choices and again capable of distinguishing between the idiosyncratic possibilities in different markets and among different securities. Exhibits 10 and 11 reveal this diminished co-movement. These offer classic evidence of rising risk tolerance, though it is equally evident that risk tolerance is still far from normal and has the most room for further improvement of the three components.

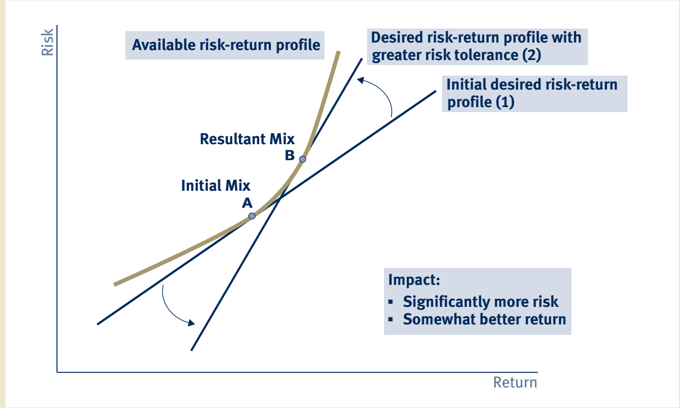
The frequency with which U.S. workers voluntarily change jobs (the "quit" rate) also provides a useful estimate of risk tolerance. Switching jobs is an inherently risky proposition given

Exhibit 8: Risk Appetite Underpinnings



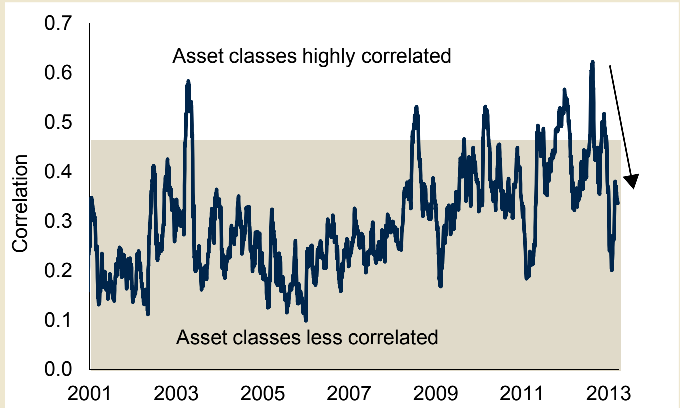
Source: RBC GAM

Exhibit 9: Depicting Rising Risk Tolerance



Source: RBC GAM

Exhibit 10: Cross-Asset Correlation Declining



Note: Cross-asset correlations of U.S. Dollar Index, U.S. dollar 10-year interest rate swap, S&P 500 Index, WTI crude oil price and gold spot price.
Source: Bloomberg, RBC GAM

the possibility of a poor fit, but is rewarded by an average 9% wage gain. Importantly, the risk doesn't vary much across the economic cycle. Thus, the fact that more American workers are again moving to new employers is promising, though the rate remains much lower than before the financial crisis (Exhibit 12). The same can be said for risk tolerance – improving, but still subpar.

Risk tolerance is slowly beginning to revive. Given past evidence of persistent movements and ample room for further gains, it can probably continue its ascent.

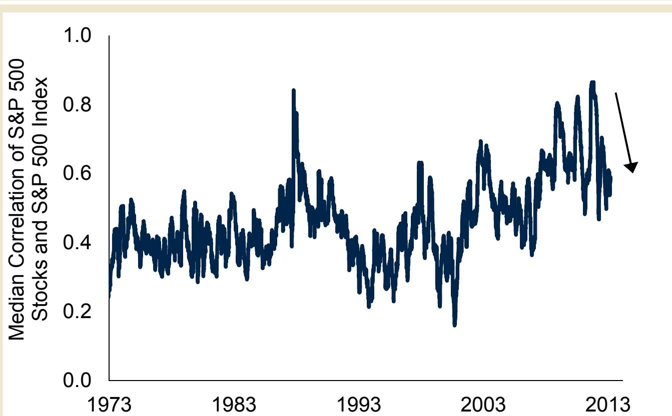
Return proposition

The second concept embedded within risk appetite is what we call the return proposition. The idea is that markets and/or the economy may occasionally contort themselves in ways that offer returns at odds with the associated risks. Investors, businesses and households eventually respond to this incentive, catalyzing a change in risk appetite.

Today, the return proposition is indeed altered – in two ways. Prospective returns for fixed income investments appear to be more limited than usual over the coming decade, owing to very low government yields, narrow credit spreads and the risk of capital loss when interest rates eventually begin normalizing (Exhibit 13). Compounding this shift, the risks have arguably increased given the general deterioration of government finances (Exhibit 14).

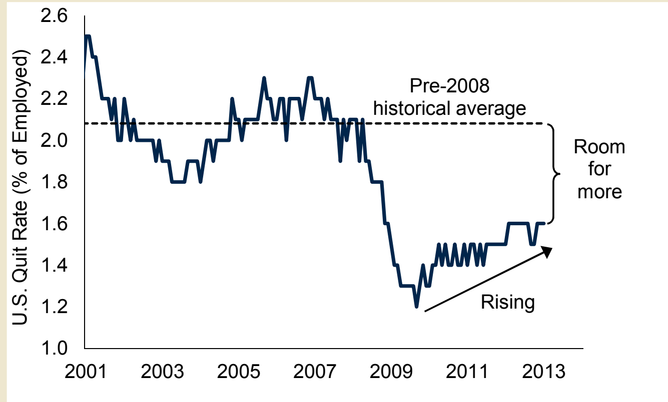
At the other end of the spectrum, the future return on stocks looks to be fairly good given inexpensive valuations (Exhibit 15). To be clear, bonds are still likely to exhibit less volatility than stocks, but the gap has shrunk, whereas the

Exhibit 11: Stock Correlations Down From Peak



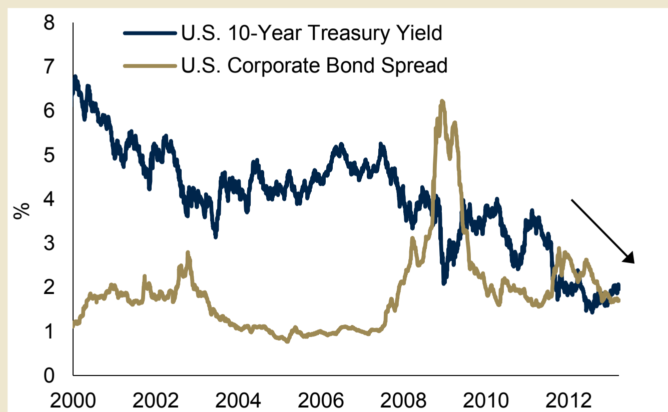
Source: Ned Davis Research, RBC GAM

Exhibit 12: Reluctance to Quit Hints at Low Risk Tolerance



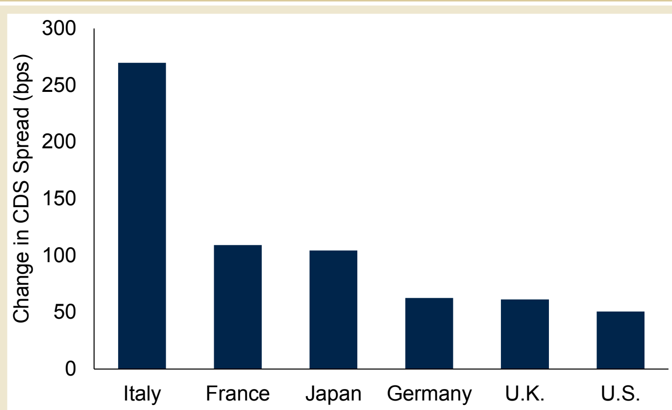
Source: Bureau of Labor Statistics, Haver Analytics, RBC GAM

Exhibit 13: Both Treasury Yields and Credit Spreads Have Declined



Note: Option-adjusted spreads of 7–10 year U.S. corporate bonds.
Source: BofA Merrill Lynch, RBC GAM

Exhibit 14: Rising Sovereign Default Risks



Note: Change in 10-year credit default swap (CDS) spreads on sovereign bonds since January 2008. Source: Bloomerg, RBC GAM disparity between prospective returns has grown (Exhibit 16). This new and improved return proposition motivates an increase in risk appetite, and results in a shift toward higher-yielding assets (Exhibit 17). That shift is already underway, with investors deploying previously idle cash into equities (Exhibit 18).

Markets are still some distance from fair value, suggesting that the return proposition should remain a positive catalyst for risk appetite. Our survey-based metric of risk appetite suggests that investors, businesses and households have not yet fully woken to this opportunity (Exhibit 19), allowing for some additional risk appetite upside as this realization sets in.

Risk proposition

The third component of risk appetite is the risk proposition. In a sense, it is the mirror image of the return proposition. The idea is that economic and market conditions sometimes vary in ways that present an across-the-board decrease in risks, without compromising expected returns.

Investors, businesses and households understandably respond to this incentive by pursuing more lucrative opportunities, content in the knowledge that their risk of failure is no worse than usual (Exhibit 20).

Arguably, the risk proposition has improved over the past year. Big downside risks to the global economy and markets have shrunk. Europe has found itself on firmer footing, as evidenced by lower Spanish bond yields (Exhibit 21). China has managed a soft landing (Exhibit 22); and American politicians have avoided the most dangerous pitfalls, providing incrementally better policy clarity along the way (Exhibit 23).

One useful way of confirming this improved risk proposition is by determining whether volatility is expected to be tame in the future. The volatility bucket within our risk appetite index says "yes." It has improved by more than most of the other elements and now sports among the best absolute readings (Exhibit 24).

In a similar vein, we observe that corporate defaults are again fairly tame (Exhibit 25).

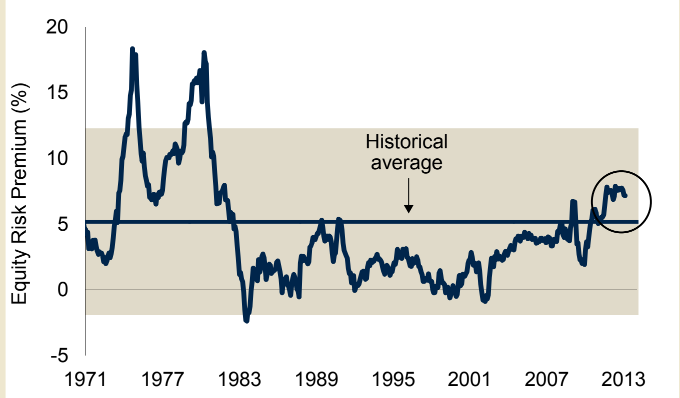
However, different from the prior two components, further improvements in the risk proposition could be difficult to achieve. This is partially because the risk proposition is already fairly good, and partially because the world is still host to a variety of brewing risks.

Europe looks safer than before, but must still contend with political gridlock in Italy, bank bail-ins in Cyprus and the ever-present risk of renewed crisis. Chinese growth has stabilized, but its housing, local-debt and shadow-banking sectors are as yet unreformed. U.S. public policy could still go off the rails.

Exhibit 15: Stock Valuations Still Modestly Cheap

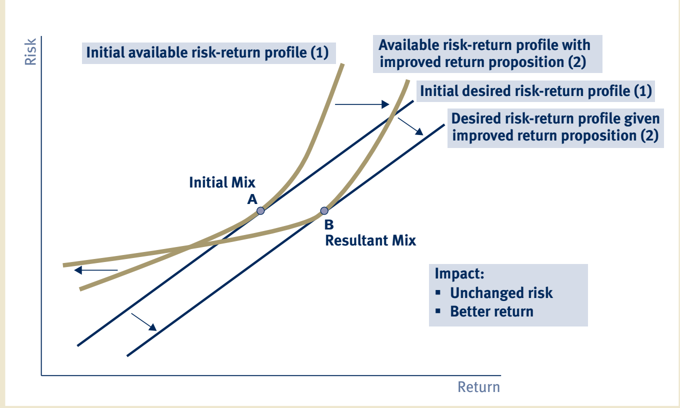
Source: Bloomberg, RBC GAM

Exhibit 16: Equity Risk Premium Is Attractive



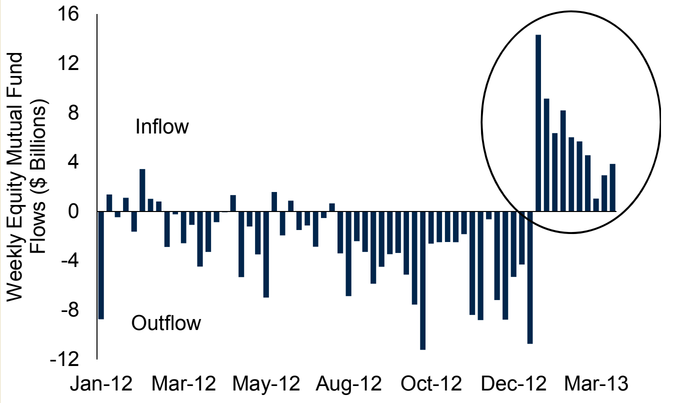
Note: Defined as difference between trailing earnings yield of S&P 500 stocks and real yield of U.S. 10-year Treasury bond. Shaded area denotes +1 and -1 standard deviation from average. Source: Barclays Capital, Haver Analytics, Shiller, RBC GAM

Exhibit 17: Depicting Improving Return Proposition



Source: RBC GAM

Exhibit 18: Investors Return to Equities Seeking Higher Returns

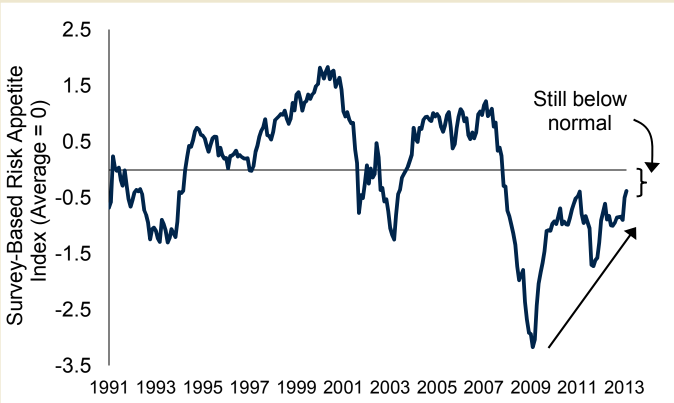


Source: ICI, RBC GAM

Exhibit 21: Substantial Decline in Spanish Borrowing Costs

Source: Financial Times, Haver Analytics, RBC GAM

Exhibit 19: Sentiment Is Improving, But Below Average

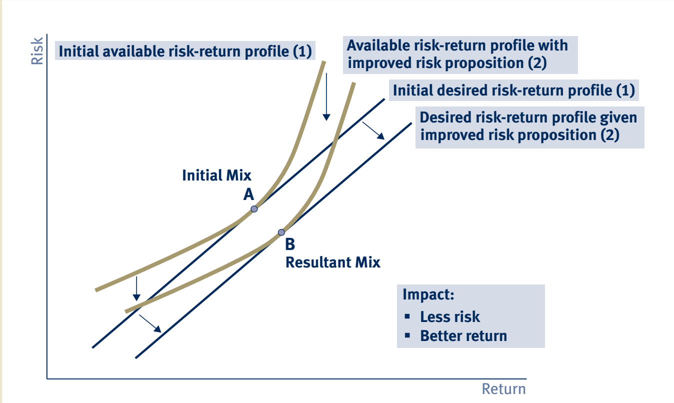


Source: Bloomberg, RBC GAM, and as listed in Appendix A

Exhibit 22: Chinese Economy Has Picked Up Speed

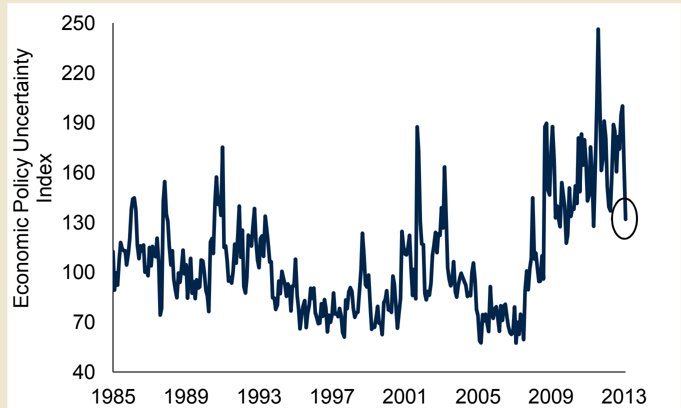
Note: PMI refers to Purchasing Managers Index, a measure of economic activities.
Source: HSBC, Markit, Haver Analytics, RBC GAM

Exhibit 20: Depicting Improving Risk Proposition



Source: RBC GAM

Exhibit 23: U.S. Policy Uncertainty High But Falling



Source: Economic Policy Uncertainty Index – Baker, Bloom and Davis, RBC GAM

Japan's bold experiment to re-inflate growth is worthwhile, but could unleash nasty consequences for its debt burden. Geopolitical tensions are on the rise in many corners of the world. Finally, there is always the (unlikely) threat of a natural disaster just when all else looks calm.

Implications

Risk appetite matters a great deal. The fact that risk appetite has finally returned to its historical average over the past few months is quite an important development for economic growth and financial-market performance, arguably no less notable than the recovery in the U.S. housing market or financial stabilization of Europe.

What could go wrong

To be sure, there is always the risk of a reversal of risk appetite. Unlike the U.S. housing market's solid foundation of attractive affordability and demographic demand, risk appetite is built on three potentially unstable pillars: the willingness to take chances, the sense that future returns could be larger than usual and the sense that future risks could be smaller than usual. All are subject to change, some more quickly than others.

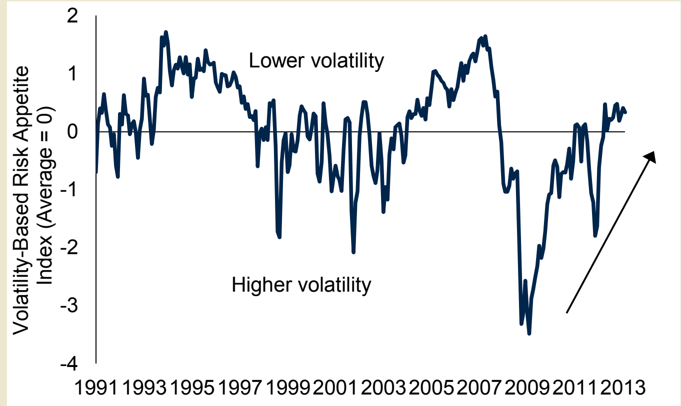
A series of adverse events could substantially worsen the risk proposition, shift focus away from the attractive return proposition and compromise the slow gains in risk tolerance made so far. Indeed, our faster-moving series hints that risk appetite could already be stalling out, though only temporarily.

What could go right

Despite this threat, we suspect risk appetite can continue to tread somewhat higher. Among the three components, the risk proposition is unlikely to become materially more favourable given its heady gains so far and the reality of a risk-laden world. But the return proposition should continue to act as a beacon for additional risk appetite, especially as economic healing persists.[4] Lastly, risk tolerance has a great deal of room for further improvement as the spectre of the global financial crisis fades.

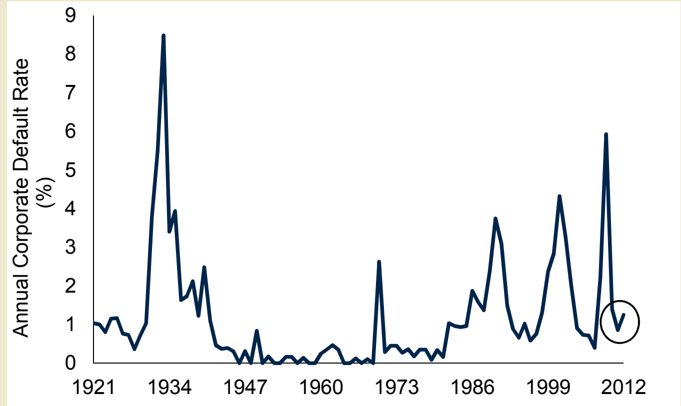
The fact that the slow-moving portion of our risk appetite index is still trending higher and the overall index is still short of its historically "normal" level means that market upside still beckons. This risk appetite renaissance looks like it could be for real.

Exhibit 24: Volatility Tapers as Uncertainties Subside



Source: Bloomberg, RBC GAM, and as listed in Appendix A

Exhibit 25: Corporate Default Rate Back to Low Levels



Note: Issuer-weighted default rate for all Moody's-rated corporate issuers.
Source: Moody's Investors Service, RBC GAM

Economy

Contrary to the admonishments of kindergarten teachers everywhere not to run with scissors, risky behaviour can sometimes be a very good thing. Economies cannot grow without people inventing new things, conceiving of new products and starting new companies. Most of these will be utter failures. But a few will succeed, employing more people and improving living standards.

Moreover, a rise in risk appetite can be a self-fulfilling prophecy. Greater risk-taking permits greater growth, encouraging yet more risk-taking. It can also be wonderfully contagious, leaping from country to country. For these reasons, it is both exciting and consequential to see risk appetite stage such a comeback.

We figure that the lack of risk appetite over the past several years was subtracting as much as a percentage point per year

[4] This healing refers primarily to U.S. housing and credit market improvements, stabilization in Europe and the exciting reforms in Japan.

from economic growth.[5] As risk appetite improves, that drag is fading and is on the cusp of generating forward propulsion. To be clear, economic growth in the developed world should still be restrained by public-sector deleveraging and a variety of other idiosyncratic drags, but this should not obscure the importance of eliminating one more obstacle.

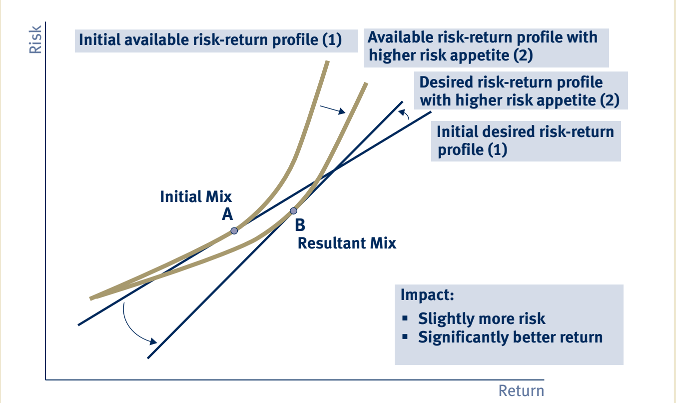
Markets

Rising risk appetite is also very important for markets, resulting in a greater willingness to take on risk in exchange for a greater return (Exhibit 26).

Investors often adjust their asset allocations as their risk appetite grows. A stylized depiction of this process is shown in Exhibit 27. Broadly, the transition from risk aversion to risk neutrality – the path trodden so far – is consistent with a diminished appetite for gold, cash and government bonds, and a greater appetite for credit and equities. Should risk appetite continue to gear up into risk-seeking mode, additional reallocation is possible, further diminishing fealty toward the former three investments and stimulating additional demand for more volatile forms of equities, such as growth stocks and emerging market stocks.

[5] Note that this drag was manifested in other economic variables, such as housing market weakness, sluggish hiring and anemic capital investments.

Exhibit 26: Depicting Rising Risk Appetite

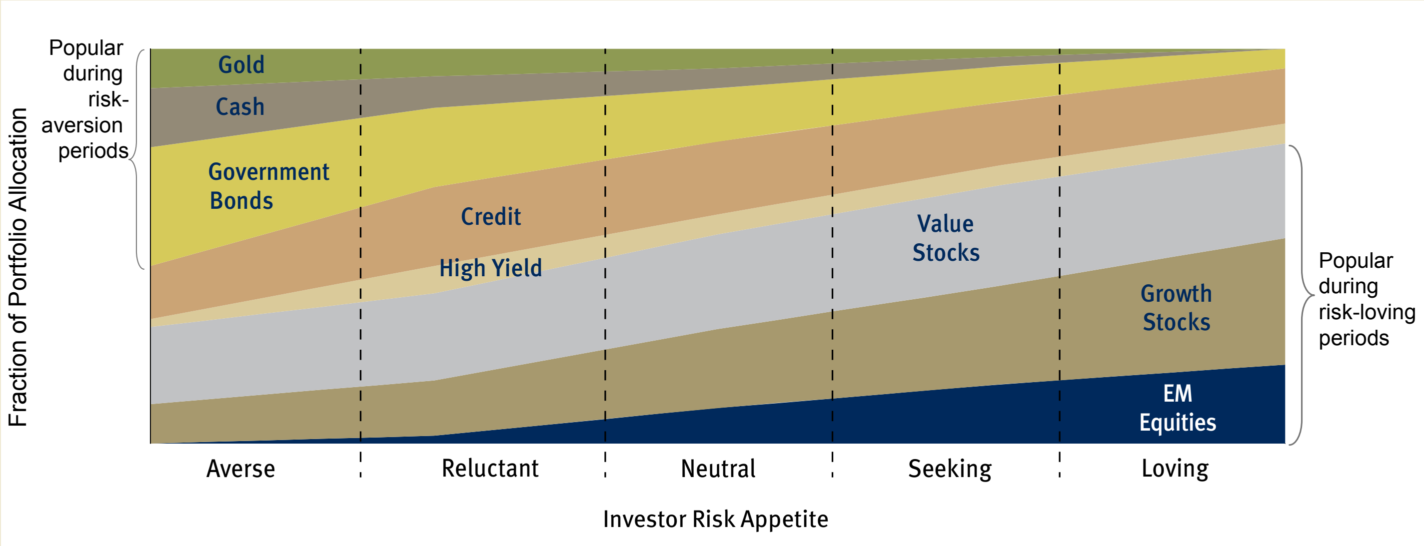


Note: Combines rising risk tolerance, an improving return proposition and an improving risk proposition. Source: RBC GAM

There is evidence that the precipitous stock market decline of 2008 was presaged by sharply declining risk appetite (Exhibit 28). As such, recent gains in risk appetite could be a leading indicator for further stock-market appreciation.

Whether or not risk appetite is truly a leading indicator, it is certainly no worse than a contemporaneous indicator. This is also a useful property. Our belief that risk appetite can afford

Exhibit 27: Risk Appetite and Investing Behaviour

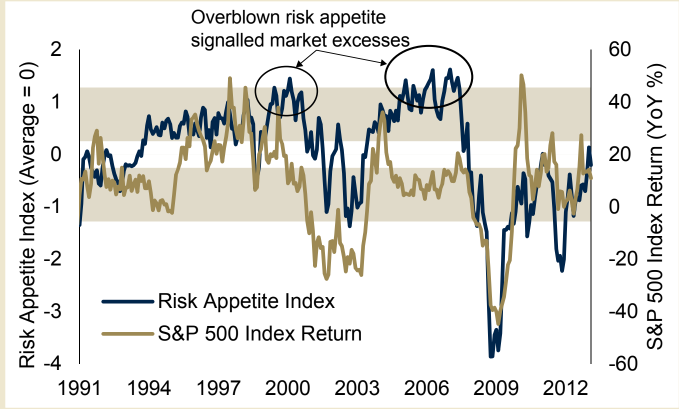


Source: RBC GAM

to edge higher over time – mostly on the back of improving risk tolerance and an attractive return proposition for investors – means that further stock market gains are possible.

What of the concern that stock markets suffered major corrections both times they previously inhaled this rarefied air? Never say never, but without major bubbles waiting to be pricked and lacking the arrogance of excessive risk appetite, the context is strikingly different this time.

Exhibit 28: Risk Appetite and Stocks Moving in Tandem



Note: Risk Appetite Index based on 46 normalized inputs.
Source: Bloomberg, RBC GAM, and as listed in Appendix A

APPENDIX A: RISK APPETITE INDEX COMPONENTS

PRICE	
U.S. 10-Year Treasury Real Yield	Yield of U.S. 10-year Treasury Inflation Protected Securities.
U.S. Corporate Bond Spread	Option-adjusted spread of the BofA Merrill Lynch (BofA ML) U.S. Corporate Index which is comprised of investment grade corporate debt in U.S. dollar issued in the U.S. domestic market.
U.S. High Yield Bond Spread	Option-adjusted spread of the BofA ML U.S. High Yield Index, which tracks the performance of non-investment grade corporate debt in U.S. dollar issued in the U.S. domestic market.
Global Corporate Bond Spread	Option-adjusted spread of the BofA ML Global Corporate Index, which is based on investment grade corporate debt issued in major domestic and eurobond markets.
Global High Yield Bond Spread	Option-adjusted spread of the BofA ML Global High Yield Index, which is comprised of non-investment grade corporate debt denominated in U.S. dollars, Canadian dollars, British pound and euros, issued in major domestic and eurobond markets.
Emerging Market Sovereign Bond Spreads	Option-adjusted spread of the BofA ML Emerging Markets Sovereign Plus Index, which tracks the performance of emerging markets and cross-over sovereign debt denominated in U.S. dollars and euro, issued in U.S. domestic, euro domestic and eurobond markets.
Sovereign Credit Default Swap (CDS) Spreads	CDS spreads – costs of insuring against loan defaults – on German, French, Italian and Spanish sovereign debts are averaged to create a composite.
Price-to-Earnings (P/E) Ratio	P/E ratio of S&P 500 Index.
Put-Call Ratio	Ratio of trading volume of put options to call options on S&P 500 Index.
VOLATILITY	
Euro-U.S. Dollar (EURUSD) Option Volatility 1 Year	The implied volatility of a 1-year EURUSD currency option is the market expectation of future volatility of the exchange rate of the currency pair.
U.S. Swaption Volatility 1Y 5Y Normalized	The implied volatility of a 1-year option on 5-year U.S. interest rate swap is an estimate of future bond market volatility.
CBOE Volatility Index (VIX)	Expected equity market volatility priced into S&P 500 Index options.
Consensus Economics Standard Deviations of GDP Forecasts – U.S.	Measures the level of disagreement in analyst forecasts of real GDP for U.S.
Consensus Economics Standard Deviations of GDP Forecasts – Eurozone	Measures the level of disagreement in analyst forecasts of real GDP for the Eurozone.
Consensus Economics Standard Deviations of GDP Forecasts – U.K.	Measures the level of disagreement in analyst forecasts of real GDP for the U.K.
Consensus Economics Standard Deviations of GDP Forecasts – Japan	Measures the level of disagreement in analyst forecasts of real GDP for Japan.
Survey of Professional Forecasters Real GDP Forecast Dispersion	Similar to the standard deviation of GDP forecasts from Consensus Economics, but with a longer history and only for the U.S. The forecast dispersion is measured as the percentage difference between the 75th percentile and 25th percentile of the projections of level of real GDP in 1 year.
Economic Policy Uncertainty Index	Monthly index of U.S. economic policy uncertainty, generated by assessing news with policy relevant terms, tax code expiries and forecast dispersions for CPI and government spending.
CORRELATION	
Cross-Asset Class Correlation	A composite of pairwise correlations of U.S. Dollar Index, U.S. dollar 10-year interest rate swap, S&P 500 Index, WTI crude oil price and gold spot price.
Correlation of S&P 500 Stocks and S&P 500 Index	Median correlation of S&P 500 individual stocks to S&P 500 Index.

APPENDIX A

FLOW	
Net Speculative Long Positions in U.S. Treasury	Difference between speculative long (bullish) and short (bearish) positions in U.S. 10-year Treasury futures.
U.S. Corporate Bond Issuance	Value of corporate bonds issued by U.S. corporations.
Eurozone Corporate Bond Issuance	Value of euro-denominated corporate bonds issued by Eurozone corporations.
U.S. Net Equity Issuance	Value of equity issuance by U.S. corporations.
Eurozone Net Equity Issuance	Value of equity issuance by Eurozone corporations.
U.S. Mutual Fund Flows Into Equities	U.S. net inflows into equity funds.
U.S. Mutual Fund Flows Into Bonds	U.S. net inflows into bond funds.
U.S. Mutual Fund Flows Into Emerging Markets	U.S. net inflows into emerging market equity and bond funds.
Credit Growth – U.S.	Year-over-year change in loans to households and non-financial corporations in the U.S.
Credit Growth – Eurozone	Year-over-year change in loans to households and non-financial corporations in the Eurozone.
SURVEY	
Thomson Reuters/University of Michigan Consumer Sentiment Index	Measures consumers' assessment of current economic conditions and expectations on future conditions in the U.S.
European Commission Economic Sentiment Indicator –EU	Assesses consumer confidence for European Union on economic and financial conditions, industry confidence and activities.
European Commission Economic Sentiment Indicator – Eurozone	Assesses consumer confidence for Eurozone on economic and financial conditions, industry confidence and activities.
Japanese Consumer Confidence Index	Measures consumers' expectation on overall livelihood, income growth, employment and spending on durable goods over the next six months.
National Association of Home Builders Housing Market Index	U.S. Index is based on a monthly survey of builder perceptions of current and future single-family home sales and traffic of prospective buyers.
Market Vane Bullish Consensus Stock Index	Tracks the degree of bullish sentiment of traders for stocks.
Rasmussen Investor Index	Measures economic confidence of consumers who have a minimum of $5,000 invested in stocks, bonds, and mutual funds.
THIRD-PARTY RISK INDICES	
Bloomberg Financial Conditions Index – U.S.	U.S. Index is constructed using money market spreads, credit spreads, and equity indices.
Bloomberg Financial Conditions Index – Europe	European Index is constructed using money market spreads, credit spreads, and equity indices.
BofA Merrill Lynch Financial Stress Index	A composite of over 20 variables from five asset classes covering a number of geographies; the index measures risk, hedging demand and investor appetite of risk.
Kansas City Financial Stress Index	A gauge of financial stress in the U.S. based on 11 variables, including yield spreads, cross-asset correlation and equity market volatility.
St. Louis Federal Reserve Bank Financial Stress Index	Similar to the Kansas City Financial Stress Index, the index measures stress in the U.S. financial system using various bond yields, yield spreads, equity and EM bond indices, bond and equity market volatility.
Citigroup Macro Risk Index	An equal-weighted index of credit spreads and implied foreign exchange and equity volatility that measures risk aversion.
Westpac Risk Aversion Index	Index is calculated using implied volatility of six major currencies against the U.S. dollars, VIX Index, U.S. 10-year bond-swap spread, JP Morgan EM bond spread and USBB1 industrial bond spread.
Credit Suisse Global Risk Appetite Index	Index is constructed based on the relationship of excess returns and volatility of safe assets and risky assets including equities and bonds of developed and emerging markets.
State Street Investor Confidence Index	Derived based on the premise that changes in sentiments are reflected in the shifts in holdings of risky assets by institutional investors.

A Note on Forward-Looking Statements

This report may contain forward-looking statements about future performance, strategies or prospects, and possible future action. The words “may,” “could,” “should,” “would,” “suspect,” “outlook,” “believe,” “plan,” “anticipate,” “estimate,” “expect,” “intend,” “forecast,” “objective” and similar expressions are intended to identify forward-looking statements. Forward-looking statements are not guarantees of future performance. Forward-looking statements involve inherent risks and uncertainties about general economic factors, so it is possible that predictions, forecasts, projections and other forward-looking statements will not be achieved. We caution you not to place undue reliance on these statements as a number of important factors could cause actual events or results to differ materially from those expressed or implied in any forward-looking statement made. These factors include, but are not limited to, general economic, political and market factors in Canada, the United States and internationally, interest and foreign exchange rates, global equity and capital markets, business competition, technological changes, changes in laws and regulations, judicial or regulatory judgments, legal proceedings and catastrophic events. The above list of important factors that may affect future results is not exhaustive. Before making any investment decisions, we encourage you to consider these and other factors carefully. All opinions contained in forward-looking statements are subject to change without notice and are provided in good faith but without legal responsibility.

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