

Expert know-how for Credit Suisse investment clients

Global Investor

Investment strategies for volatile markets

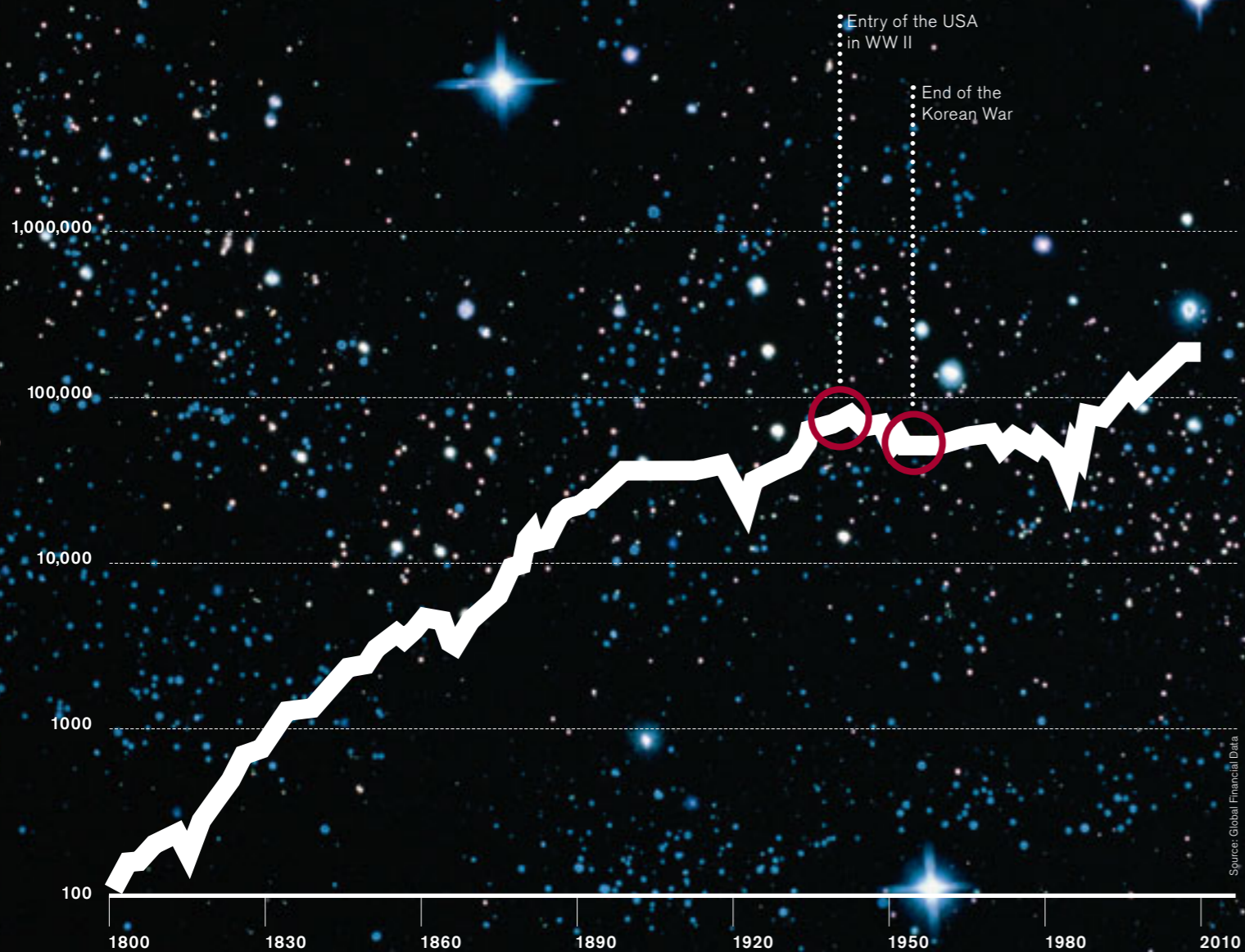
Boom, bust and recovery The long-term view on financial market performance

Investing across cycles Controlling the risk of loss on equity exposures

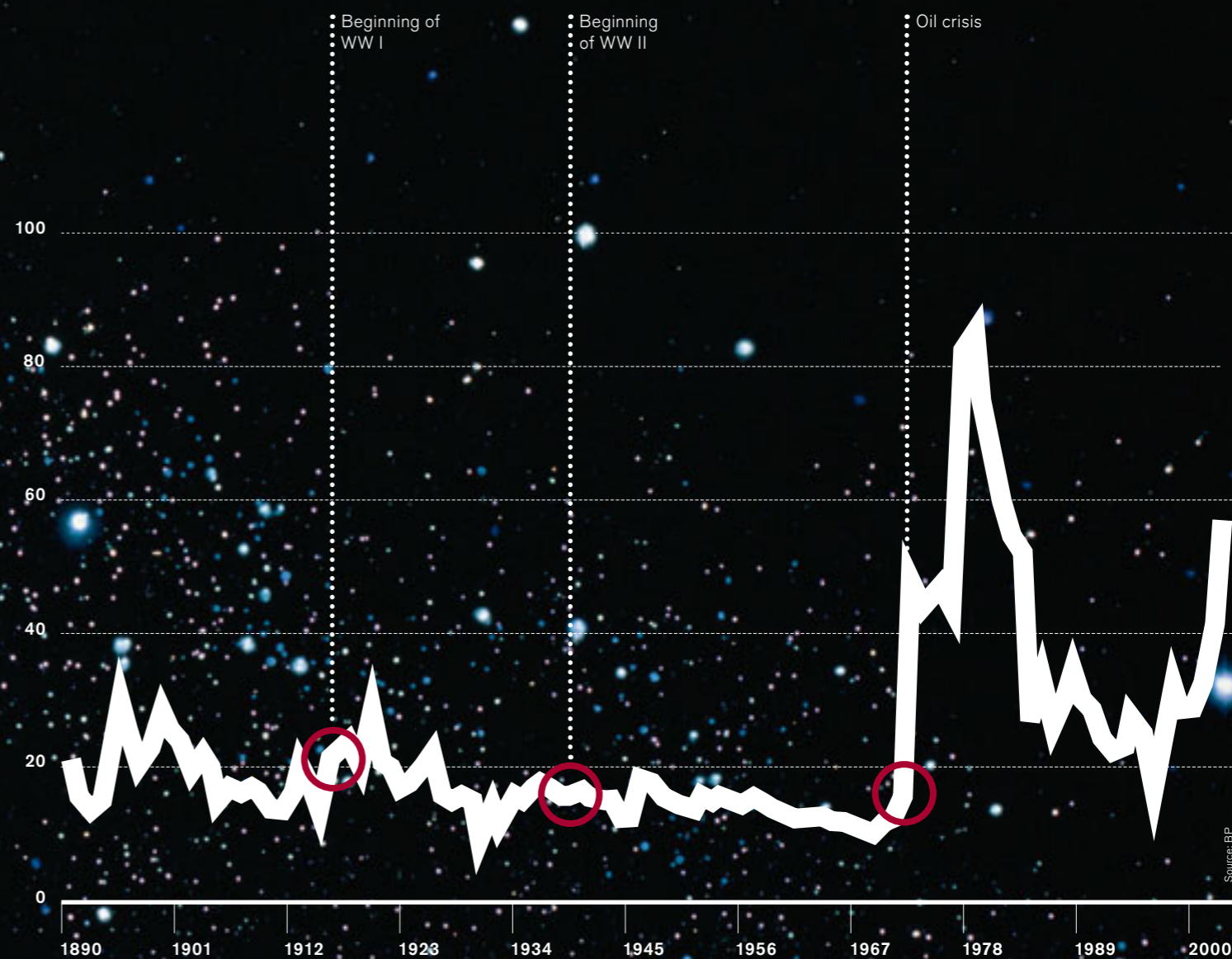
Hedge fund investments Interview with an experienced fund of hedge fund manager



US real bond returns



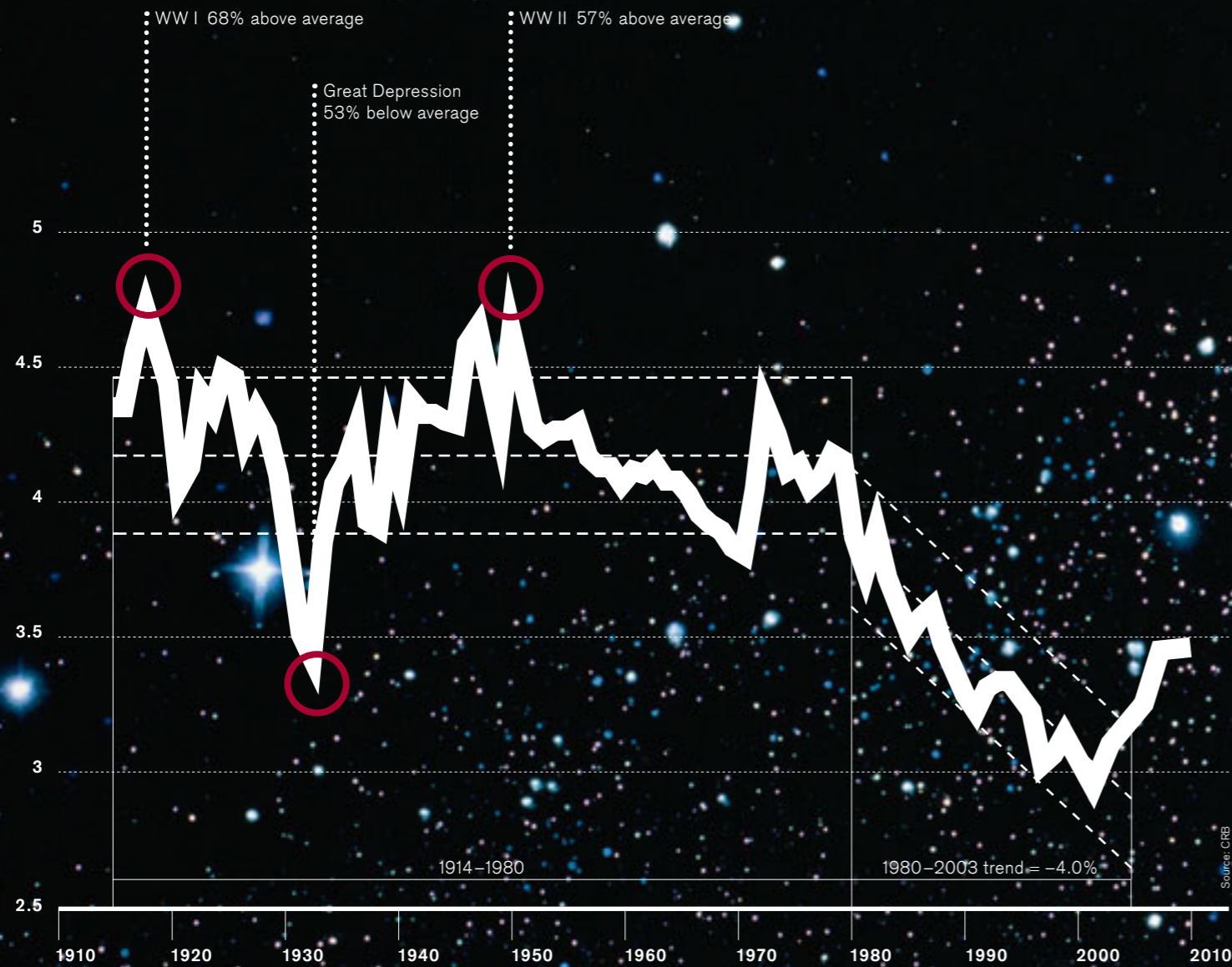
Real oil prices



Periods of falling prices and falling inflation led to the four major bond bull markets in 1815–1860, 1865–1899, 1920–1941 and 1981–2002. Recent years have been marked by modest real bond returns. War times were inflationary and obviously the most negative periods for bonds. The years between the USA's entry into WW II in 1942 and the end of the Korean War in 1952 were the most severe for bond investors. Since the effects of globalization are still deflationary, we do not anticipate a return of such negative scenarios in the foreseeable future, but we still expect some upward bias in long-term bond yields, reflecting the strong underlying growth of the global economy.

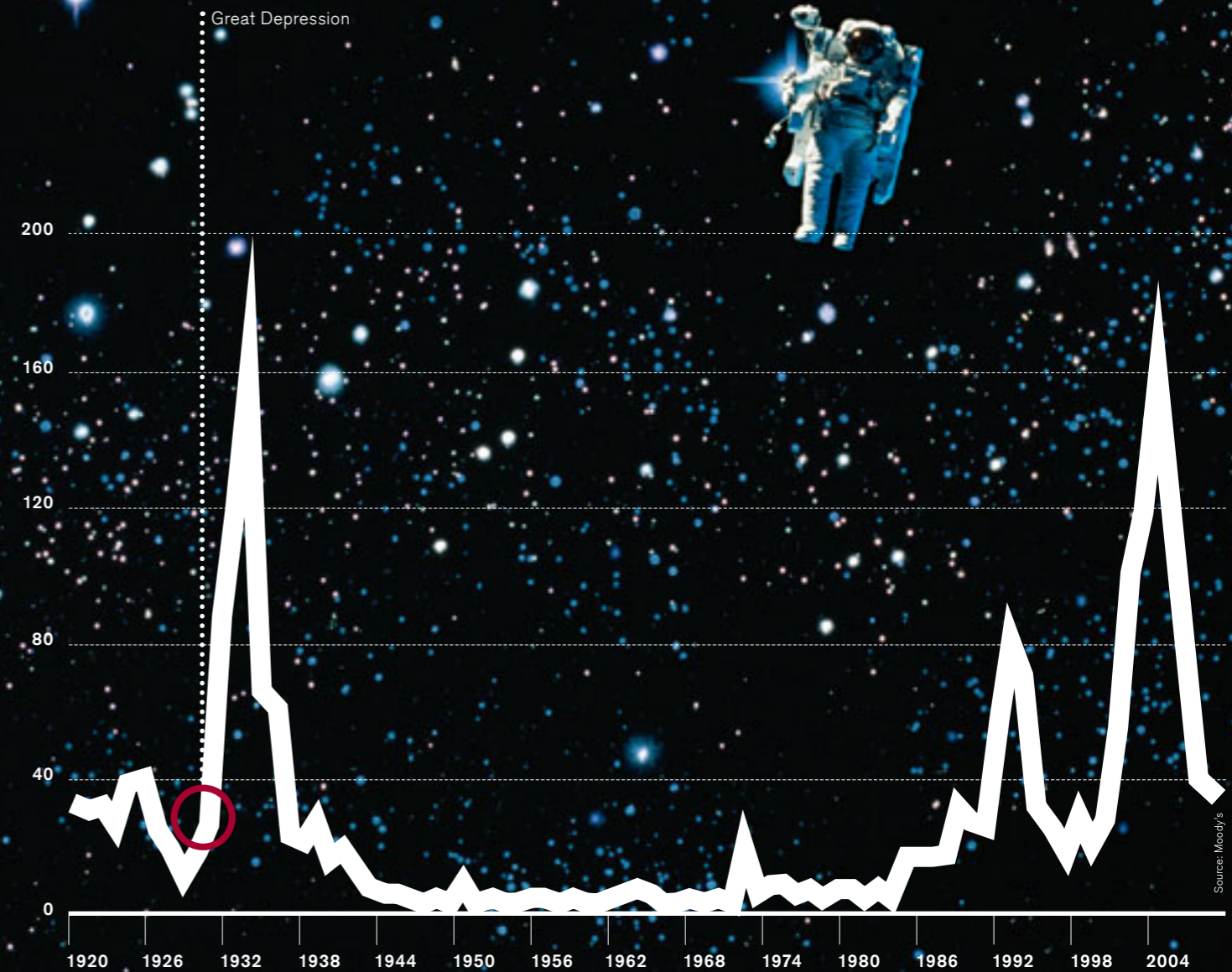
Following the spikes during the two World Wars, real oil prices saw a secular decline in the 1950s and 1960s, as exploitation of new sources and the oligopsony power of the Western oil companies drove prices down. This was one of the forces driving the equity bull market at that time. In the 1970s, OPEC tightened supply and prices surged, but this also stimulated conservation and the search for new sources, which in turn triggered a new decline in prices later in the 20th century. This situation has been reversed in the early years of this century, but, in contrast to the 1970s, the driver for higher prices is not a supply shortage but a demand boom caused by explosive economic growth in China and elsewhere.

CRB Commodities Index



We measure real commodity prices using the CRB index, divided by the US consumer price index. From World War I until the late 1970s, there was no clear secular trend, but very large cycles, especially during the Great Depression and the two World Wars. During the 1970s, OPEC hiked oil prices and easy monetary policy stimulated inflation in many other commodities. Price surges led to overinvestment and tighter monetary policy, resulting in what appears to be a secular bear market in the 1980s and 1990s. This led to chronic underinvestment, laying the ground for a turnaround at the start of the present decade, which has gathered pace with soaring demand from China and other emerging economies.

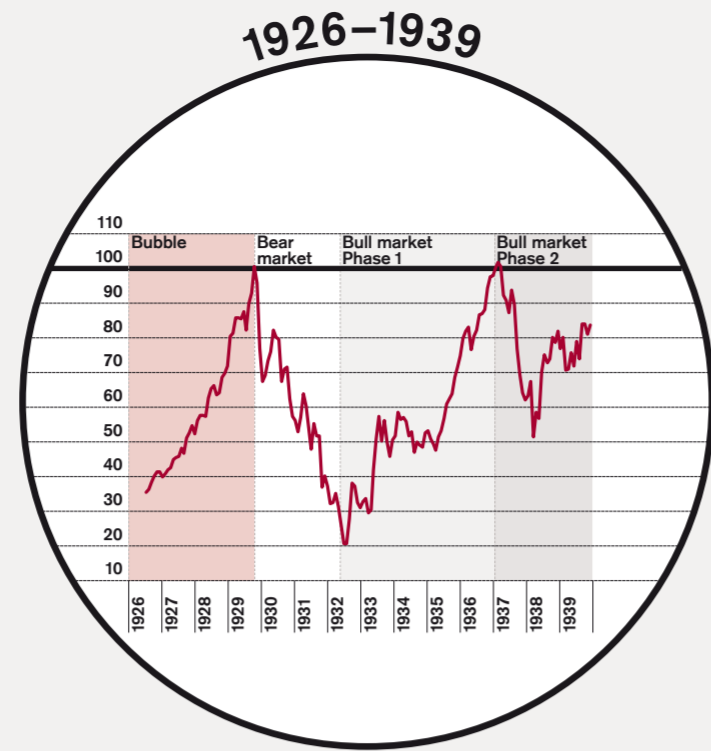
Moody's default rate



Default rates on corporate bonds generally fall in the early stages of an economic expansion. They then tend to rise in the later years of the upswing, as companies raise leverage and interest rates trend upward. Finally, they usually surge during recessions, as corporate cash flow contracts. Not surprisingly, the highest default rate was recorded during the Great Depression, with other noteworthy peaks as the 1960s expansion slowed into the 1970s, and during 1970 and 2001. Since then, default rates have fallen to historic lows as the economy has expanded. Looking ahead, however, a slow increase is likely over the next few years, as leverage rises and interest rates remain well above earlier lows.

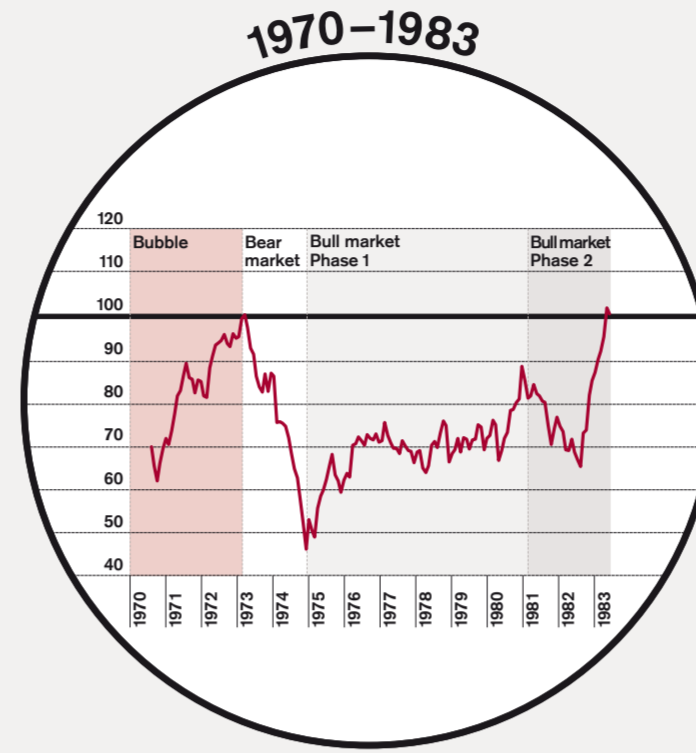
Long-cycle view

Since 1850, the US equity market has posted an impressive average annual real return of 6.2%. Major drivers included innovation, population growth and stable political conditions. While there was a clear upward trend during this period, two patterns of market conditions can be distinguished: secular bull markets and, generally shorter, boom-bust-recovery cycles. Secular bull markets are characterized by relatively steady growth, often supported by a stable political environment. Since 1849, there have been three secular bull markets. In contrast, boom-bust-recovery cycles are turbulent periods, marked by a bubble, a subsequent price decline and finally a recovery. Recoveries usually start fairly steadily, but experience a major correction after a few years followed by more volatility. Monetary and geopolitical developments can play a major role in these shorter cycles, for example the cut in oil production by OPEC in the 1970s. Currently, we believe that we are at the end of the first phase of the recovery after the burst of the dotcom bubble in 2001.



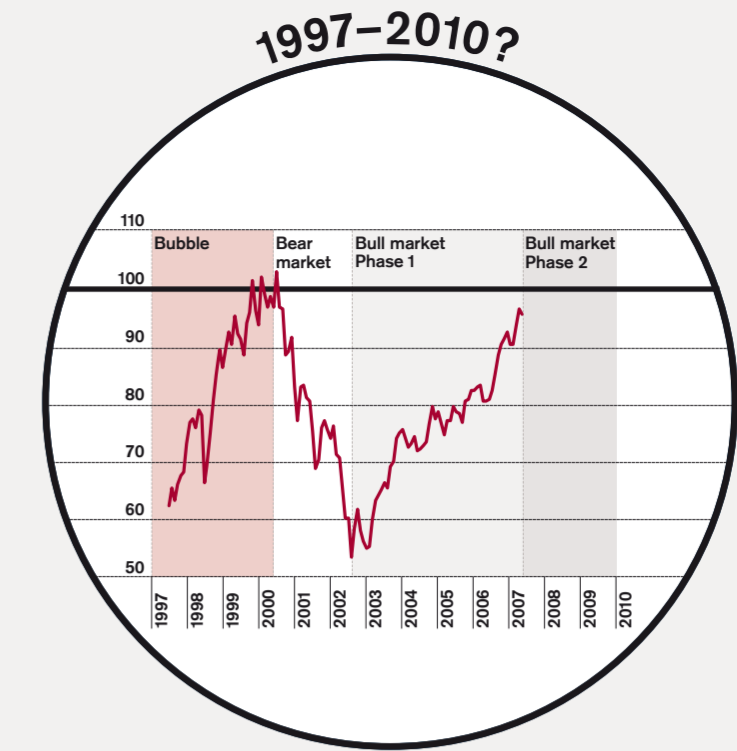
From the mid-1920s to the Great Depression

By the mid-1920s, the US stock market had regained its losses from World War I, only to enter a bubble phase, underpinned by rapid economic growth in the USA, and to a lesser extent elsewhere. Some researchers blame the Fed for being too expansionary in the 1920s. Others argue that low wage growth pushed profits to unsustainable highs or that US investors turned away from foreign markets, pushing up US asset prices. In any case, the result was a credit-driven bubble that culminated in the 1929 crash. This triggered a multiple credit contraction, which rapidly spilled over into contraction in the real economy, which many researchers feel was aggravated by over-tight monetary policy, and which led to a downward spiral of "debt deflation" as falling asset prices destroyed the value of collateral backing loans. Eventually, as this process began to work its way through, and helped by fiscal expansion under President Roosevelt's New Deal, the economy and the stock market gradually recovered, although tough external tariffs had been imposed and unemployment remained high throughout the 1930s. Stock markets remained turbulent during the World War II years.



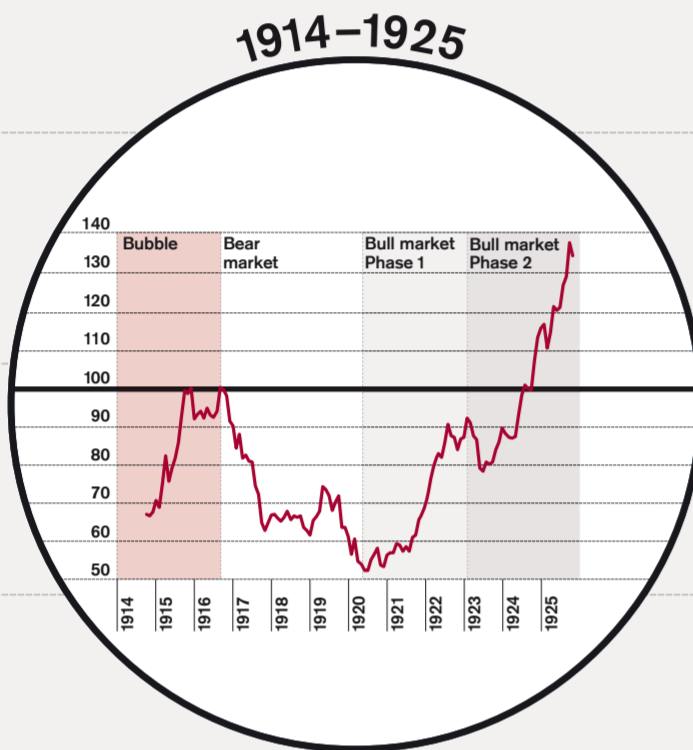
The 1970s and the impact of OPEC

The weakness of stock markets in the 1970s was heavily influenced by the actions of OPEC in pushing up oil prices, especially the first round in 1973, triggered by events in the Middle East, but also viewable as a rebalancing of economic power from oil consumers to producers after 25 years of historically low, and falling, real oil prices. There were clear monetary errors, with major inflation triggered by policy being far too expansionary, perhaps in reaction to being too tight in the early 1930s. This was eventually corrected with very tough policy under Fed Chairman Volcker in the USA, which initially caused recession, but laid the ground for the third great secular equity bull market in the 1980s and 1990s.



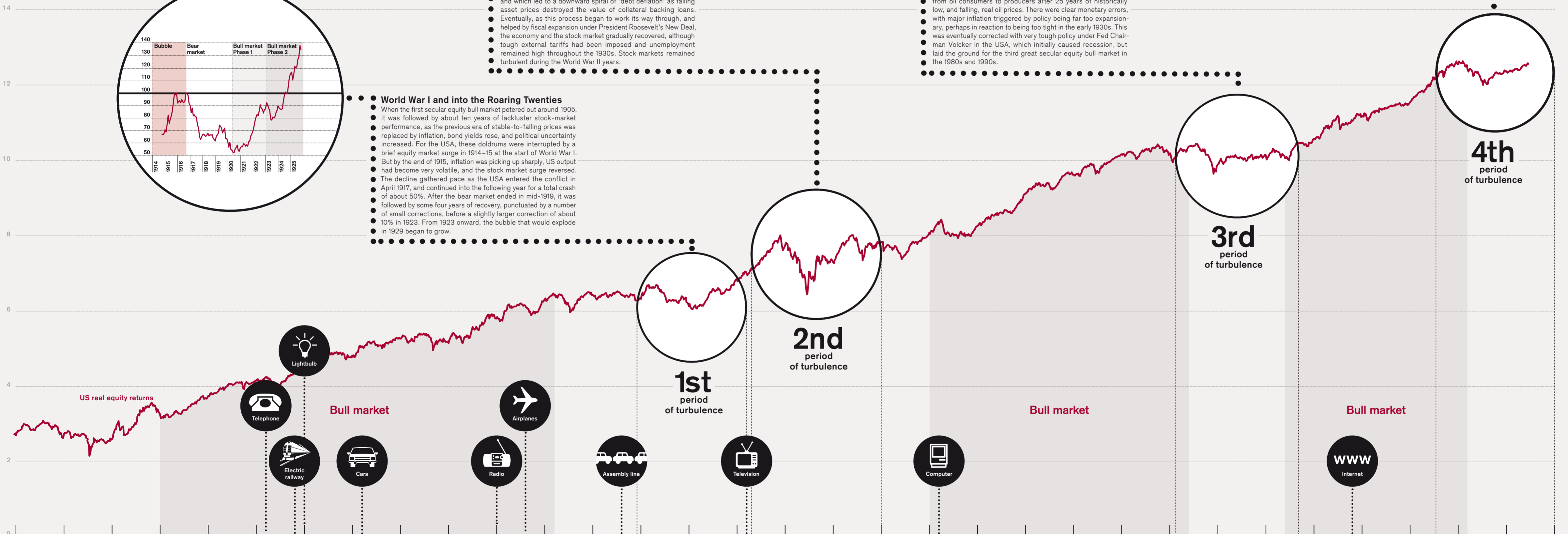
The dotcom bubble

- The dotcom bubble had the typical signs of an investor mania.
- Besides dotcom companies that were not valued by their earnings prospects, but by their cash-burn rates, there were also cases of fraud, such as at Enron. The stock market surge was accompanied by over-investment in the real economy, so that when the bubble burst, the economy went into recession as companies had too much capacity. The Fed cut interest rates to very low levels, which gradually restored demand, allowing the economy and the stock market to enter a recovery phase. If these events follow the pattern of previous boom-bust-recovery cycles, this current recovery would continue for several more years, but would become more volatile, perhaps with a large correction during the next 12 months.



World War I and into the Roaring Twenties

- When the first secular equity bull market petered out around 1905, it was followed by about ten years of lackluster stock-market performance, as the previous era of stable-to-falling prices was replaced by inflation, bond yields rose, and political uncertainty increased. For the USA, these doldrums were interrupted by a brief equity market surge in 1914-15 at the start of World War I. But by the end of 1915, inflation was picking up sharply, US output had become very volatile, and the stock market surge reversed. The decline gathered pace as the USA entered the conflict in April 1917, and continued into the following year for a total crash of about 50%. After the bear market ended in mid-1919, it was followed by some four years of recovery, punctuated by a number of small corrections, before a slightly larger correction of about 10% in 1923. From 1923 onward, the bubble that would explode in 1929 began to grow.



1850

2010

Historical time line



Demographic time line



**“Only those who know the past have
got a future.”**

Wilhelm von Humboldt (1767–1835), German philosopher and statesman



Ulrich Körner
CEO Switzerland



Daniel Brupbacher
Head Multi Asset Class Solutions

Photos: Thomas Eugster

In the first eight months of 2007, we have already seen two substantial bouts of volatility in global financial markets. Stock markets corrected sharply in February and again in July and August, and bond markets also saw sharp gyrations. We do not think this signals an end to the bull market in equities that started in 2003. But we do think it ushers in a period of significantly greater volatility, as markets have to cope with higher interest rates, tighter supplies of resources like energy, as well as profit growth below the stellar rates of recent years. And bond markets look likely to enter a more difficult phase, with yields no longer on a long-term downtrend, and credit conditions no longer improving.

In short, the current economic and investment cycles are starting to mature, just as we are seeing an increasing number of disruptions from structural change caused by the emerging powers in Asia and the implementation of new technologies. Against this backdrop, we advise investors to carefully review how much market exposure they want to carry in their portfolios and how much risk exposure they want.

There are a number of ways to adjust the balance between risk and reward in a portfolio, whether through standard diversification, or by the use of the many other products and strategies now available to investors, such as total return funds. These tools are especially relevant in an environment of rising volatility. Drawing on the lessons of a long historical perspective, as well as the range of theory and empirical results available to financial analysts, this issue of Global Investor examines how these tools can be used to help investors benefit from long-term growth in the economy, while at the same time controlling the risk of capital loss.



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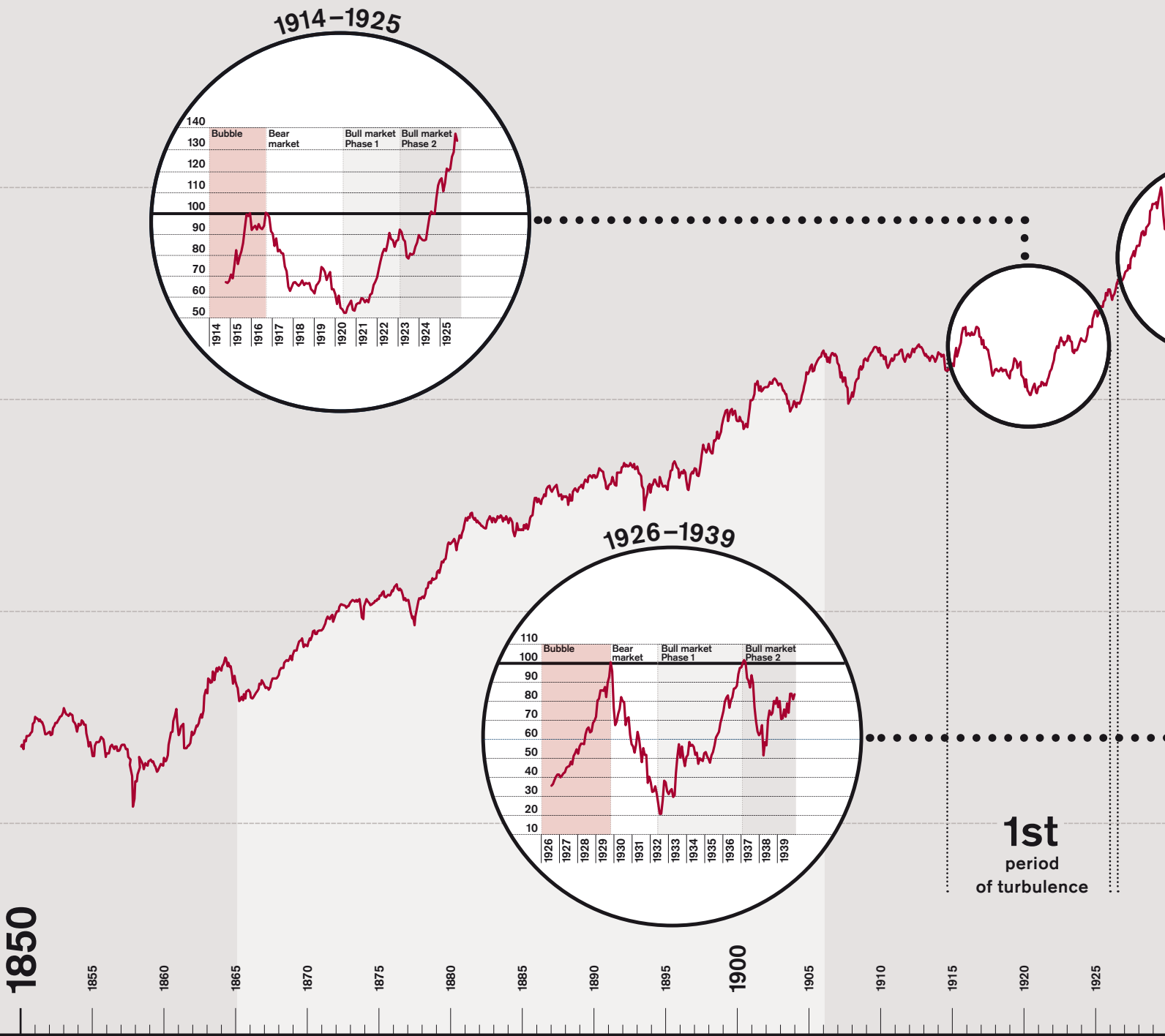


Wealth Management Guide

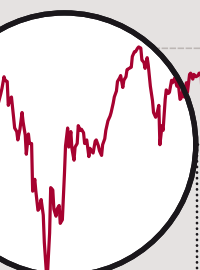
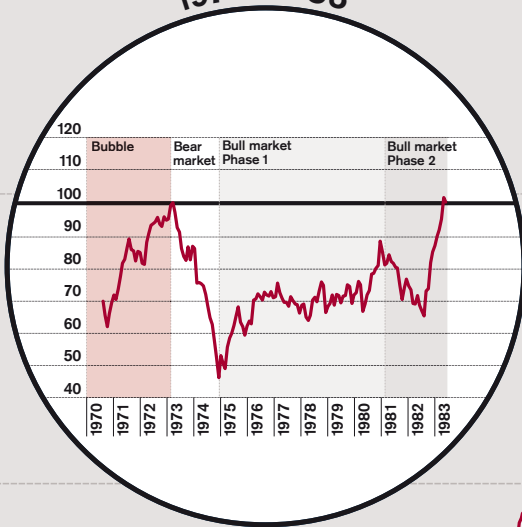
Modern asset management: Striving for structure, clarity and consistency. Our expert know-how serving your needs. **See page 37**

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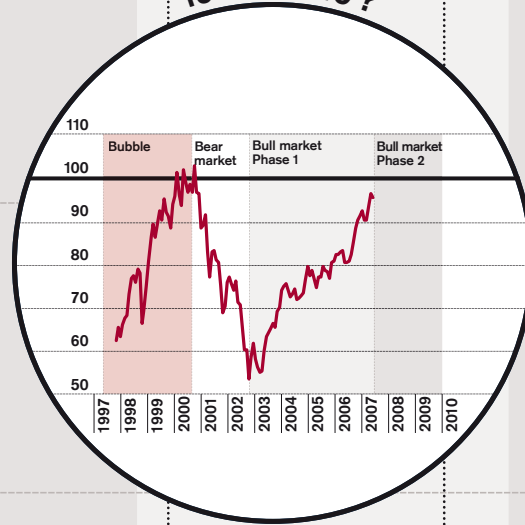
Boom, bust and recovery



1970-1983



1997-2010?



2nd
period
of turbulence

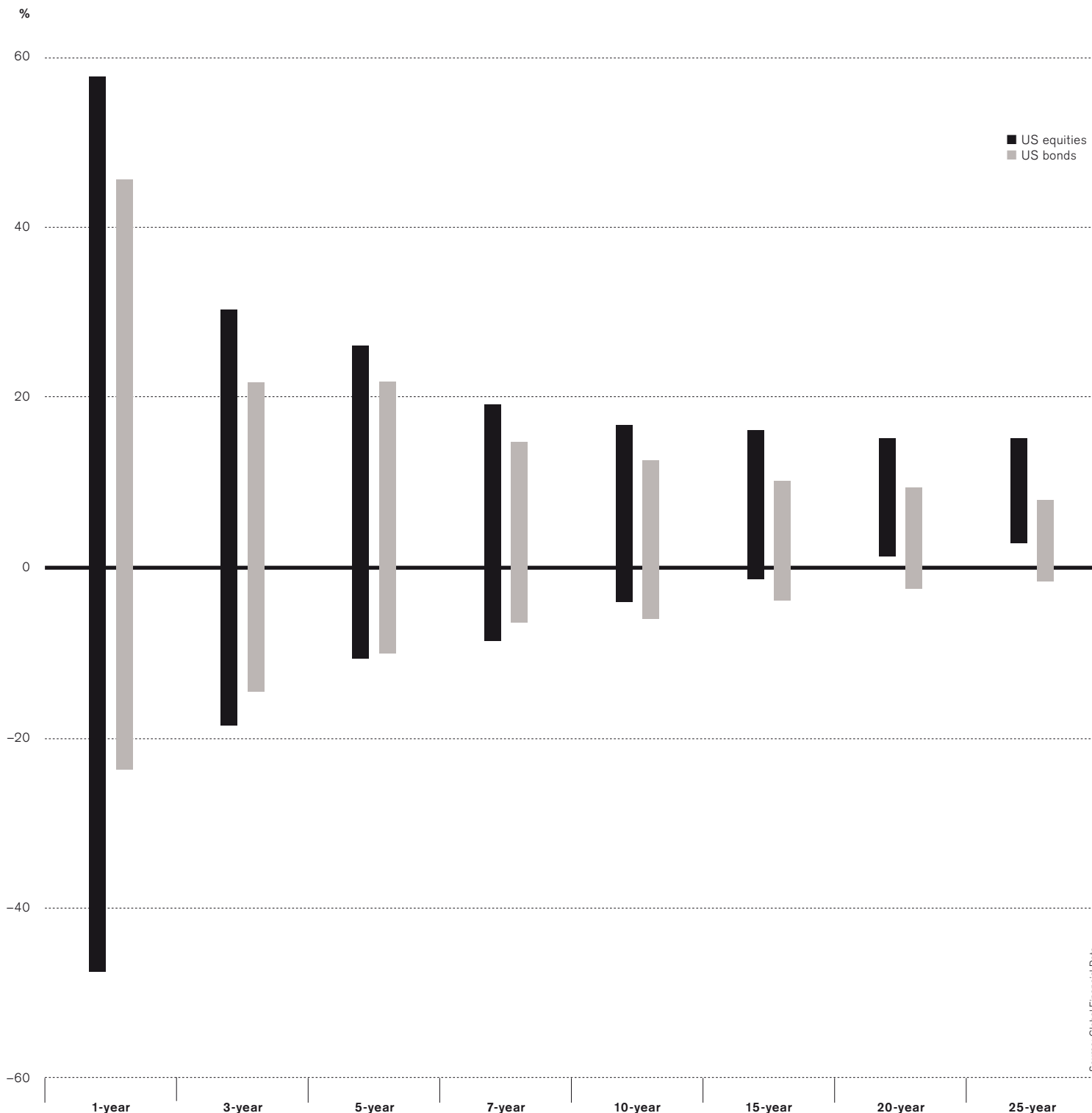
3rd
period
of turbulence

4th
period
of turbulence

1935 1940 1945 1950 1955 1960 1965 1970 1975 1980 1985 1990 1995 2000 2005 2010

Bull market

Bull market



Source: Global Financial Data

Figure 1
Range of annualized real returns for different holding periods (1950–2007)

The range of return becomes smaller, the longer the investment horizon. The biggest reduction can be achieved with equities, which are most volatile at the outset. After 25 years, investors can always achieve a positive real return with equities, but not with bonds.

Weighing the balance between long secular trends and short- to medium-term cycles is a key input to investment decisions. The underlying influences from economics, politics, technology, demographics and finance are always evolving, but even so we believe there are many lessons to be learned from a long, historical perspective.

Giles Keating, Head of Research for Private Banking and Asset Management

Looking back over almost 160 years of the US stockmarket, we find that the average total real return (over and above inflation, and including dividends) has been a healthy 6.2% per annum. US equities benefited from political continuity throughout this entire period, as did those in some other countries, such as the UK and Switzerland, while stocks in some other nations including Germany and Russia saw price collapses or total losses, reflecting political trauma. A study by Professors Elroy Dimson and Paul Marsh¹ at London Business School suggests that a sufficiently diversified portfolio, held for a long enough period, will tend to average out even events of this magnitude. Their work showed that a portfolio of stocks diversified across 16 major countries purchased in 1900 would have delivered about 5.8% per annum average real return since then, as shown in **Figure 2**. This is significantly ahead of the real returns achieved on bonds during the same time period of about 2.8% in Switzerland, 1.6% in the USA and just 1.3% in the UK. It also beats the negative real return recorded since 1910 for commodities, as measured by the CRB index (**see Figure 2**).

Holding assets for a long period makes it more likely that returns will be close to these averages. Investors who bought a diversified US stock portfolio and held it for 25 years would have achieved a real return very close to the long-term average (**see Figure 1**). This applies to any entry point, even when the purchase

was made right at the top of the market, just before a crash. However, few investors are willing or able to hold their investments for such a long period. For shorter holding periods, returns can differ from the average by a large margin in either direction, depending on market conditions. Looking back in history, we think it is helpful to divide those conditions into two broad types: long secular bull markets, of which there seem to have been three in the last 160 years, and the turbulent periods in between bubbles, crashes and slow recoveries.

The secular bull markets

The first secular bull market lasted about three decades, from the US Civil War until the start of the 20th century. It reflected major economic expansion in the USA and elsewhere, as well as massive migration to the Americas, technologies such as railroads and electricity, and monetary stability or even deflation under the gold standard, which underpinned a powerful bull market in bonds. The second secular bull phase for equities came after the World War II and lasted for just over two decades until the end of the 1960s. Drivers included cheap oil, the baby boom, the spread of US suburbia, postwar reconstruction in Europe, tariff cuts for manufacturers, and military and civilian use of technologies like aerospace. An expansionary monetary and fiscal bias gradually became embedded in chronic inflation, initially stimulative but finally destructive, with bonds unsurprisingly in a long bear market. The third secular bull market for stocks began in the early 1980s, lasting

¹ Dimson and Marsh (2002). *Triumph of the Optimists: 101 Years of Global Investment Returns*. Princeton University Press.



Figure 2

Real equity versus real bond returns since 1900

A study by Professors Elroy Dimson and Paul Marsh shows that a portfolio of stocks diversified across 16 major countries purchased in 1900 would have delivered about 5.8% per annum average real return since then. This is significantly ahead of the real returns achieved on bonds during the same time period.

about two decades until the dotcom bubble burst in 2001. Corporate America copied Japan's lean production and emphasized shareholder value, tax reforms boosted incentives, the digital era began, populations exploded in poorer nations, liberalization stimulated world trade, and the emerging market boom spread across Asia, Mexico and elsewhere, thus offsetting stagnation in continental Europe. Stimulus also came from falling real oil and commodity prices, following earlier overinvestment. Monetary policy reversed the excesses of the 1970s, and maintained generally low inflation, triggering a new bond bull market.

Within these secular equity bull markets, there were periods of decline, many of them small to medium-sized, but occasionally larger, like the 1987 crash. The smaller events were reversed within weeks or months, the larger ones usually rebounded within a year or so, and none appear large in the longer historical perspective. Had investors held positions through them, they would have regained their losses reasonably quickly. Of more importance are the three much larger boom-bust-recovery cycles in between the

secular bull markets. Two of these cycles occurred in the 1914–1945 period, in between the first and second secular bull markets. The third one occurred in the 1970s, in between the second and third longbull phases. The dotcom bubble, crash and subsequent rebound looks as though it may be a fourth such boom-bust-recovery cycle. More details about these cycles are given in the charts. Although the details differ, a common pattern of four phases can be detected. In the first phase, there was a sharp rise or bubble, sometimes building up over four or five years, and sometimes happening more quickly. The second phase saw a very large fall of between about 40% and 80% (in real total returns), spread over some two and ½ to three years. The third phase was a recovery, lasting about four to six years. The fourth and final phase began with a short but sharp correction, of perhaps 15%–20% or more, before seeing a resumption of the recovery for another three to four years that brought the markets back to the starting point in terms of real total returns. If we map the dotcom bubble, the crash and the subsequent recovery (starting in

continued on page 15

“Human nature hasn’t really changed”

Global Investor: You have been collecting long-term historical market data for over a decade. What was the rationale?

Jonathan Wilmot: It really started in the late 1980s and early 1990s, when I realized that the huge changes in the structure of the world economy had no real 20th century parallel. Digging a little into economic history, it seemed to me that the only precedent was the period after about 1850, when globalization and technology were also driving huge economic, social and political changes, capital flowed rapidly across national borders, and free markets and sound money were the norm. It was natural to seek out data on bond yields, inflation and equity market performance going back to that period, something that has since become almost fashionable. It isn't that easy to get the information now, but back then it was especially difficult.

What were the main problems you encountered?

Jonathan Wilmot: Obviously continuity and consistency across time, breadth of coverage across markets, issues like survivorship bias in the equity data. In brief, the more reliable long-run data is for the UK (especially bond yields) and the USA (see **Figure 3**), which has the most researched equity return data, but we gathered

enough information to see what is happening today in a new light, and to set it in the context of previous very long-run trends and cycles in growth, inflation and investment returns.

What are the main conclusions you draw from the data?

Jonathan Wilmot: That technology, “creative destruction” and new markets really are the key drivers of prosperity, which makes me think that we are probably only halfway through the biggest leap forward in global prosperity in human history, despite the obvious risks – from terrorism to climate change.

Also that human nature hasn't really changed, meaning that cycles of overinvestment in the real economy, together with bubbles, crashes, and overshooting in financial and commodity markets, are just as inevitable in the future as they have been evident in the past.

And, like Giles, I see big changes in relative prices, not a return to stagflation, developed bond and equity returns that are lower than in the past 25 years but still surprisingly good, and huge potential in the emerging world. Of course the key motors of change will be different from the last 25 years: aging and flexible retirement; 1 ½ billion people moving into cities in the emerging world, but better terms of

trade for the world's farmers; what I call the new “digital life style” and networked machines; a shift toward “cradle to cradle” recycling, and a complete reworking of the energy economy to help save the planet and reduce our dependence on volatile oil producers. Each of these trends represents a huge economic opportunity, and a threat to those companies (and investors) who stick to the old way of doing things.

And perhaps that is the ultimate lesson of history – that those (countries, firms or individuals) who have the ability to identify and the courage to embrace the key changes of their day are usually the long-term winners. ■



Jonathan Wilmot is a Managing Director of Credit Suisse and Chief Global Strategist in the Investment Banking division, based in London. His work focuses on major secular and cyclical themes in the world economy and their implications for global capital flows and asset prices.

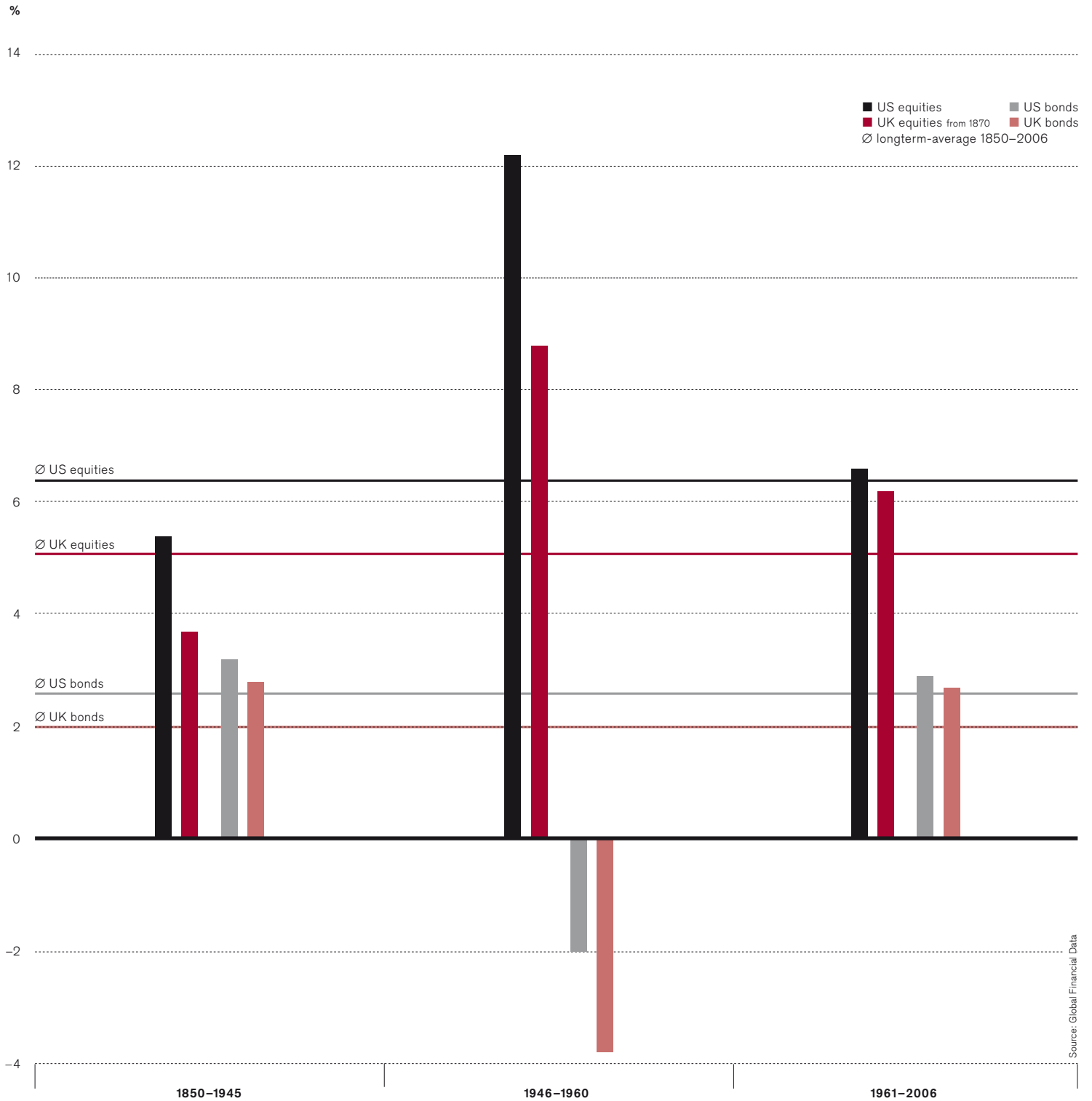


Figure 3

Real equity and bond returns in the USA and the UK

The long-term real returns on equities and bonds observed in the USA and the UK from 1850 to 1945, and from 1960 to 2006, offer a reasonable estimate of expected long-term real returns on these assets. In contrast, the period between 1946 and 1960 was characterized by unusually high equity and abnormally low bond returns.

early 2003) against these historic cycles, it appears that the first three phases have been almost completed, implying that the fourth phase lies just ahead. If the historical pattern is repeated, this would suggest that stock markets can continue their rising trend for at least another three to four years, but this trend would be more volatile than it has been recently. In particular further significant corrections could lie ahead over the next 12 months.

Such corrections could be in reaction to ongoing credit problems, at a time when central banks face the dilemma of on the one hand wanting to support markets and the economy, but on the other, not wanting to encourage future lax behavior by relaxing policy too readily at times of stress.

Looking much further out, many of the conditions seem to be in place for a new secular bull market in equities that could potentially last decades. As in the late 19th century, there is a demographic expansion and migration of peoples toward productive capital, but on an even larger scale. There is a cluster of enabling innovations (digital and nanotechnologies, and new flexible working patterns) potentially comparable to electricity in the late 19th century, automobiles in the mid-20th century, and lean production and the early digital era in the late 20th century. And there is the stimulus as more and more countries join the world trading system. But the sheer pace of change suggests that the path into such a bull market, if it happens, is likely to be turbulent. As major new companies in China, India, Russia and elsewhere jostle to be global champions, following Japan's Toyota and Sony in the 1960s and 1970s, Western companies will need to reinvent themselves ever faster. And the sometimes unfulfilled aspirations of surging and youthful populations point to ongoing geopolitical upheaval, as does the evolution from US hegemony to a multipolar world, and conflict related to climate change.

Opportunities, but volatility likely to be higher

As for monetary policy, central banks may avoid their earlier crude overreaction to previous errors, but have the subtler challenge of massive shifts in relative prices. Manufacturers and traded services face secular deflation, while the opposite applies for resources – energy, metals, water, soft commodities and land. In this environment, disentangling structural from cyclical when setting monetary policy is especially difficult, and there are likely to be mistakes. So inflation should stay broadly under control, but will be variable. This implies the great bond bull market of the 1980s and 1990s is probably over, but although yields may need to edge up for a year or so for cyclical reasons, a major bear market seems unlikely on a longer view.

Any outlook for the markets can be thrown off course by a myriad of factors. But if the vision set out here proves broadly correct, stockmarkets can continue on a healthy trend for many years, albeit with volatility likely to be higher than we have recently experienced. Investors who are prepared to weather such fluctuations can take a more or less direct exposure to the equity markets. Others may prefer investment strategies that, while maintaining broad exposure to the long-term uptrend that we envisage, also devote a portion of that potential return to dampening down volatility. ■

“... stock markets can continue on a healthy trend for many years ...”

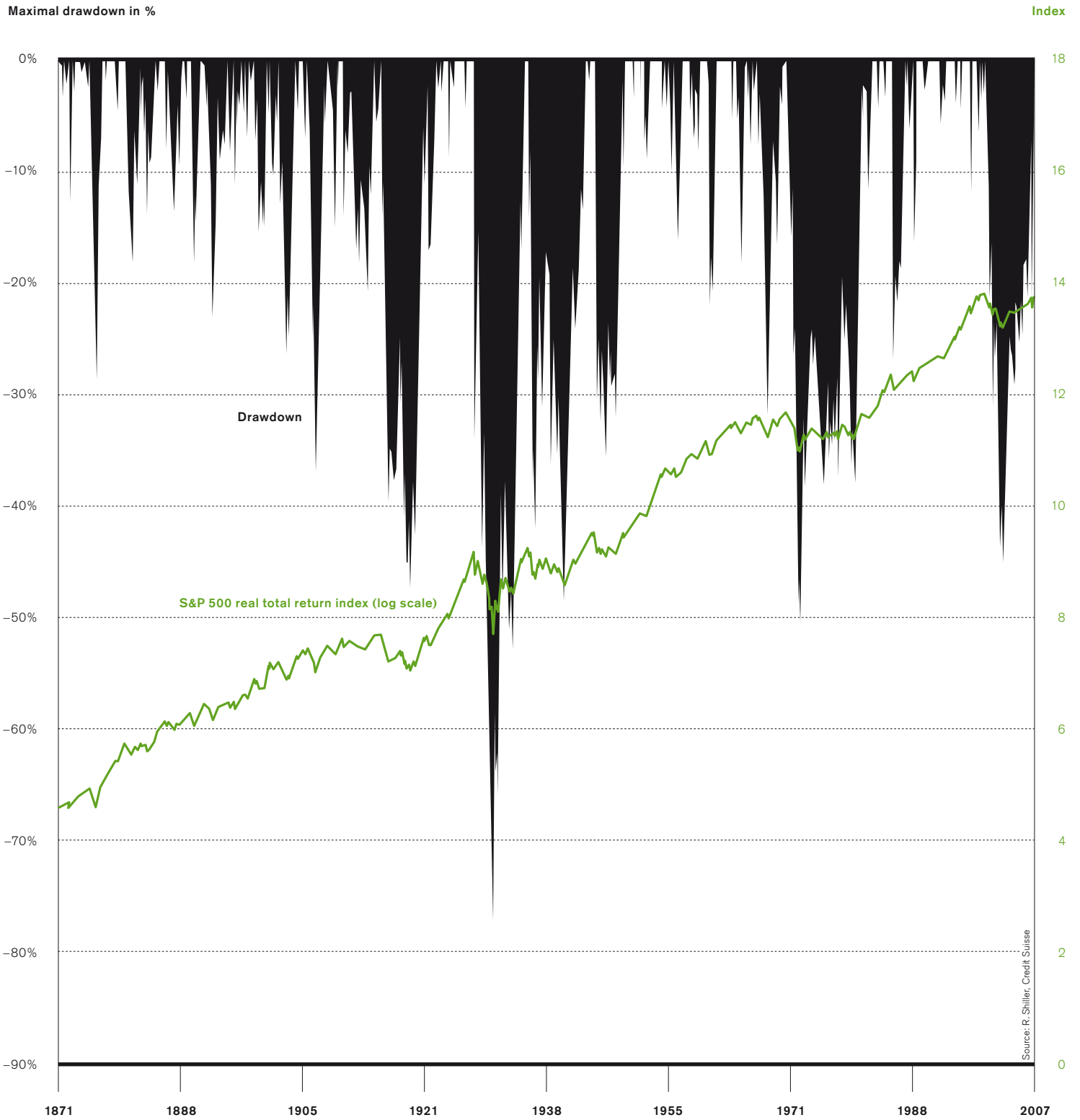


Figure 1
Long-term real S&P 500 chart with drawdowns

While equities may offer the best returns over the long run, 30% to 60% of equity investments were decimated by bear markets between 1871 and 2007, which underscores the need for active downside risk management.

Investing across cycles

Over the past 30 years, the dominant tenet of academic investment theory has been that investors should focus on strategic asset allocation, i.e. diversifying portfolio risk by investing in different asset classes such as bonds, equities, real estate and commodities, and then use modern portfolio theory introduced by Harry Markowitz in 1952 to build the best possible combination of assets with the adequate risk and return profile.

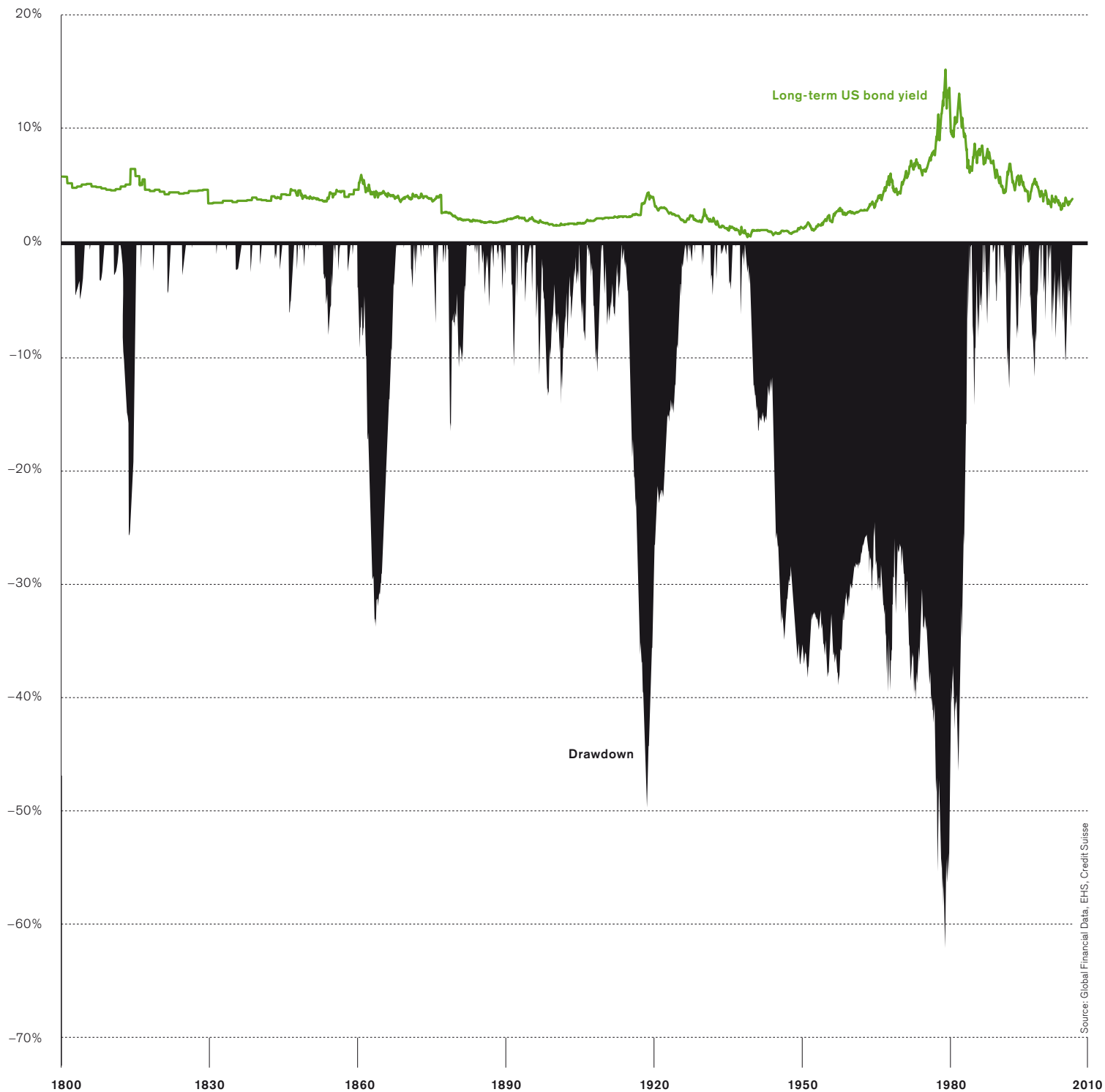
Cédric Spahr, Head of Alternative Investment Research and Portfolio Analytics, Reto Meneghetti, Alternative Investment Analyst

During this time, the leading finance academics were busy telling investors that, since investors were rational and markets perfectly efficient, trying to forecast their future movements was pointless. The best thing investors could do was to determine an asset allocation that corresponded to their financial goals, liquidity needs and risk tolerance. The longer the investment horizon was, the safer the returns on equities became. Jeremy Siegel authored a famous book titled “Stocks for the Long Run” epitomizing this standpoint. The problem remains that, in the worst case, during the period 1926 to 2006, it sometimes took over 20 years to achieve higher annualized returns on Swiss equities than on Swiss bonds, with the figures for the USA being fairly similar.

The key issue is that profit opportunities in financial markets come in waves that can last several decades and are then followed by severe periods where bonds or equities can suffer large losses over relatively short periods of time, as described in Giles Keating's

lead article on stock market cycles. If you invest at low tide, you might reap outsized benefits when the rising tide lifts all the boats, but at high tide, the risk of capital loss can be substantial. **Figure 1** shows the depth and length of cumulated losses in percent (draw-down) suffered by investors who bought US equities at the top of the market and how long it took them to recover their initial investment in real terms. Equity bear markets can easily destroy 20%–50% of the initial investment value. The time needed to recoup the initial investment has historically lasted between four and ten years. Experience reveals that US equity investors have at times had to stomach long periods of losses before reaping superior long-term returns on equities. That being said, equities have indeed offered superior returns over the long term, which makes sense, given that shareholders bear the most financial risk and should logically be entitled to higher returns than corporate bond holders for instance. Investors who had the nerves to buy at the

Maximal drawdown in %



Source: Global Financial Data, EHS, Credit Suisse

Figure 2
Long-term US bond yield and real drawdown

Government bonds have historically been safer investments than equities, but rising inflation has at times seriously eroded their real value. Since the bull bond market of 1981–2002, the return potential of bonds is now more moderate, in our view.

bottom could indeed achieve stellar returns, as illustrated in **Figure 1** which depicts the cumulated gains or losses between peaks and troughs for US equities since 1871.

Believing that bonds have always been a safe asset and always will be can be misleading indeed. A glance at the performance of US government bonds over the past two centuries shows that inflation has on some occasions seriously dented the real value (i.e. adjusted for the loss of purchasing power resulting from inflation) of US government bonds.

Asset bubbles and partial predictability of asset returns

It was only during the 1990s that the academic world finally came to realize a fact which many practitioners had long held for true. Anticipating market movements is to some extent possible. Investment opportunities and the risk premia offered by asset classes, such as equities and bonds, vary over time. Markets can be inefficient at times, more so when investors' psychological experience with an asset class has been strongly negative or positive for a number of years. There are times when some assets classes are extremely cheap – like equities and bonds in 1981 or emerging market equities in 2003 – and other times when they are very expensive. Technology and Internet stocks in 2000 immediately come to mind (with the benefit of hindsight, almost everybody now acknowledges it was a bubble). Investors were understandably shocked by losing about 55% of their investments in European equities (–45% in the USA, –54% in Japan and Switzerland) in three years from peak to trough between 2000 and 2003. Influenced by the bear market, they overreacted by shifting their portfolios into fixed income instruments, which resulted in low bond yields and narrow credit spreads for the ensuing three to four years. Equities were shunned by many investors and penalized with low valuations, but offered attractive returns for precisely this reason, and have been supported by robust earnings growth ever since.

Asset bubbles and financial market manias are a recurring phenomenon in financial markets. They have happened every six to seven years over the past 20 years, as investors' enthusiasm for a new fad tended to carry valuations to excessive levels. In the late 1980s, Japanese real estate and equities reached sky-high valuations with a price-earnings (P/E) ratio of 60 for the Nikkei 225 in December 1989. The surface of the Imperial Palace in Tokyo was at this time worth (at least in theory) more than the entire state of California and top locations in Tokyo commanded prices fetching over USD 1.5 million per square meter. The focus shifted to emerging Asian countries and their stock markets, which reached a P/E multiple of over 24 in 1994, before collapsing in 1997. Investors' attention then moved on to communication technology and the Internet in 1999, with the Nasdaq index reaching P/E multiples of over 80 in March 2000. The characteristics of a bubble can be summarized as follows:

- A genuine change in the economic landscape (technological innovation, the rise of a country as an economic power).
- Growing public awareness of this phenomenon through the media.
- Uncertainty about how to value the potential of this new opportunity, which leads to unrealistic valuations at the peak of the bubble as sentiment gets the upper hand.

Currently, themes drawing strong attention and representing ground-breaking changes in the geopolitical and economic landscape, such as energy scarcity/global warming and the rise of China and India as world economic powers, are the most likely

Figure 3

TAA example 1: Drawdown chart

Tactically shifting the exposure to equities, bonds and cash, based on our TAA model, we created a return profile that outperformed the S&P 500 and constituted a substantial improvement in terms of downside risk protection compared with equities. Source: Federal Reserve, R. Shiller, Global Financial Data, Datastream, Credit Suisse

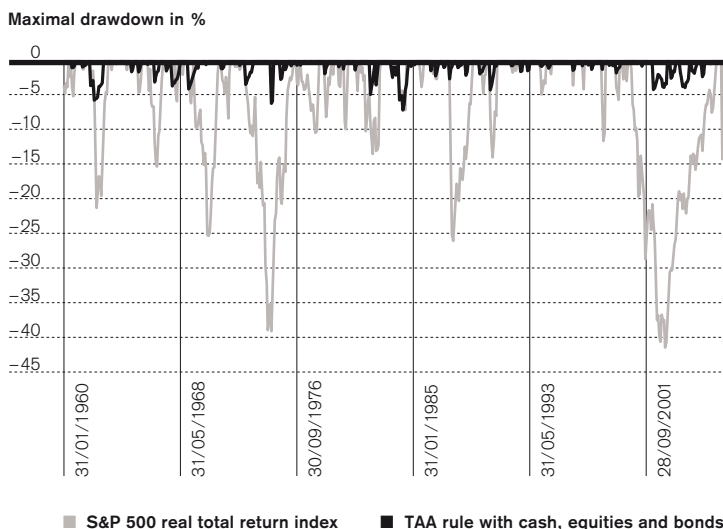


Figure 4

TAA example 1: Performance comparison

We designed a tactical asset allocation rule to generate tactical switch signals between equities, cash and bonds. From 1960 to 2007, our TAA rule slightly outperformed the S&P 500, with a lower volatility.

Source: Federal Reserve, R. Shiller, Global Financial Data, Datastream, Credit Suisse

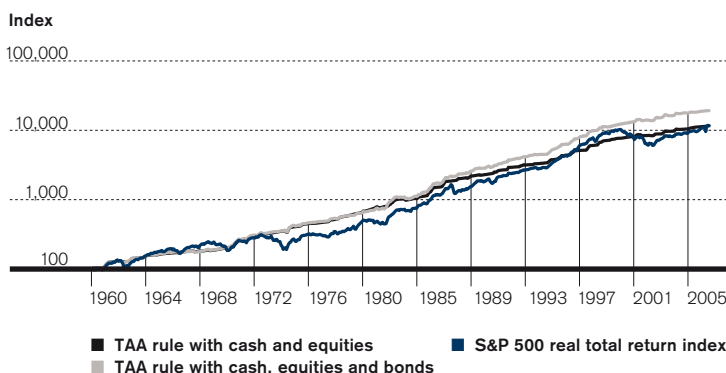


Figure 5

TAA example 2: Drawdown chart 1870–2007

We also tested a low-volatility strategy as a safety-first investment rule. Performance lagged US equities somewhat over the long run, but offered the advantage of low volatility and a strong reduction in maximum drawdowns. Source: Federal Reserve, R. Shiller, Global Financial Data, Datastream, Credit Suisse

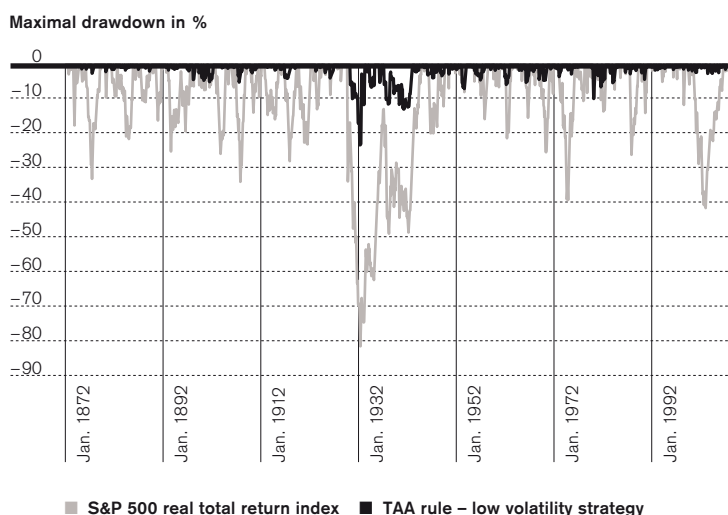


Table 1

Performance of TAA rules (1960–2007)

Designing a tactical asset allocation (TAA) system can be a complicated undertaking, but we believe there are a number of rules of thumb that have proved useful historically to limit downside risks for equity investors.

Source: Credit Suisse

	US equities	Seasonality rule	Momentum rule	Momentary policy rule	TAA rule cash equities	TAA rule cash, equities and bonds
Annualized returns in %	10.5	11.0	11.4	9.8	10.5	11.7
Volatility in %	12.4	8.3	8.6	9.2	5.3	6.2
Maximum cumulated loss in %	44.0	16.5	21	35	6.1	7.1

candidates for future bubbles. The expensive valuations of Chinese and Indian equities are an indication that the phenomenon is probably already underway.

Tactical asset allocation (TAA) can limit downside risk

Against this backdrop, investors need to be aware that although financial markets offer substantial opportunities, they at times hide considerable risks in specific asset classes. Standard methods of asset allocation are still valid, but the ability to anticipate short- and medium-term trends can vastly improve the risk/return trade-off of an investment strategy and limit the risk of capital loss. This is where tactical asset allocation comes into play. Most investors have a limited (emotional) ability to accumulate large (paper) losses on financial assets. Pension funds, theoretically the genuine long-term investors, which should be able to weather the storm in bear markets, were forced by regulators and shrinking reserves to re-allocate their investment portfolios away from equities in 2002–2003. The bear market from 2000 to 2003 wiped out about half the value of global equity markets. Figure 1 illustrates the drawdown of the American S&P 500 index starting in 1871. Preventing large cumulated losses has always been a major concern of hedge-fund managers and, to a lesser extent, asset managers following a tactical asset allocation model.

Factors to consider for tactical asset allocation

Designing a tactical asset allocation (TAA) system can be a complicated undertaking, but we believe there are a number of rules of thumb that have proved useful historically to limit downside risks for equity investors. They can, to some extent, be implemented by private investors, though monitoring time and transaction costs need to be taken into account. In the following paragraphs, we discuss the historical usefulness of our simple allocation rules. TAA rules generally involve a trade-off, as they offer downside protection, but tend to cap the total upside potential. For the sake of clarity, the performance figures of the tactical rules presented are displayed in Table 1.

Seasonality: The old rule “sell in May and go away” remains quite valid. Stock market returns have historically been higher from November to April than between May and October, while the risk of a stock market crash has also been substantially lower. The average annualized return on the US S&P 500 index was 12% higher from November to April than between May and October over the period from 1960 to 2007. A buy-and-hold investor in the S&P 500 index would have earned approximately the same returns as a seasonal investor investing 100% in equities from November to April and then switching into cash between May and October. This result must be balanced against the transaction costs, but applying the tactical seasonality rule would have had the benefit of reducing volatility noticeably and curtailing the maximum cumulated loss.

Momentum: Investing with the maxim “go with the flow” has historically been rewarding. Buying equities if the previous month’s performance was positive or selling them and switching into cash after a month of negative performance is another simple wealth preservation strategy. Though, historically, it might have been expensive due to the high turnover, it can easily be implemented today at reasonable costs by asset managers with instruments such as index futures. A pure momentum strategy focusing on the S&P 500 would have substantially limited the downside risk over

the period from 1960 to 2007, while offering comparable returns and lower volatility.

Monetary policy: Another well-known principle for equity investors is “don’t fight the Fed.” As long as the US Federal Reserve was raising interest rates, equities have generally performed poorly, as investors were anticipating an economic slowdown and remained risk-averse. Conversely, when the Fed stopped tightening or even loosened its monetary stance, stock markets have performed remarkably well on balance – the most notable exception being the period from 2001 to 2002, where the stock market failed to recover mainly due to its large overvaluation. From 1960 to 2007, being fully invested in equities when US monetary policy was neutral or expansive, and being fully invested in cash when Fed policy was restrictive returned lower returns than a buy-and-hold strategy, but had the advantage of lower volatility.

Value: Investors can beat the market over the long term by investing in cheaply valued stocks (measured in terms of P/E ratio or dividend yield). A depressed P/E ratio or a high dividend yield is often symptomatic of companies that miss earnings targets repeatedly, have weak management, are in need of a strategic turnaround or simply belong to an out-of-favor industry. Ostensibly, Warren Buffet was an eccentric loner when he started buying carpet and brick makers or paint producers in 2001 – all unattractive, “low-tech” industries at this time, which participated strongly in the ensuing residential real estate boom in the USA. Arguably, owning stocks of companies that contribute to negative headlines or do not have a compelling investment story (like new technology/new market) requires some inner conviction and patience. Value investors are contrarians by necessity.

Yield curve: The yield difference between long-term and short-term interest rates is widely considered by economists to be the most reliable business-cycle indicator. Periods when money market rates are higher than bond yields (inverted yield curve) generally foreshadow an economic slowdown and a period of weak performance for equities. Combined with the momentum and seasonality indicators, the yield curve indicator has produced investment guidelines with a very attractive risk/reward ratio (see Figures 3 and 4). Interestingly, our TAA rule (without transaction costs) did not lag the S&P 500 in terms of returns, despite the substantial reduction of downside risk from 1960 to 2007. An extension of our analysis over a longer period (1870–2007) suggests that the benefits of our TAA rules have not changed materially over the very long term (see Figures 5 and 6).

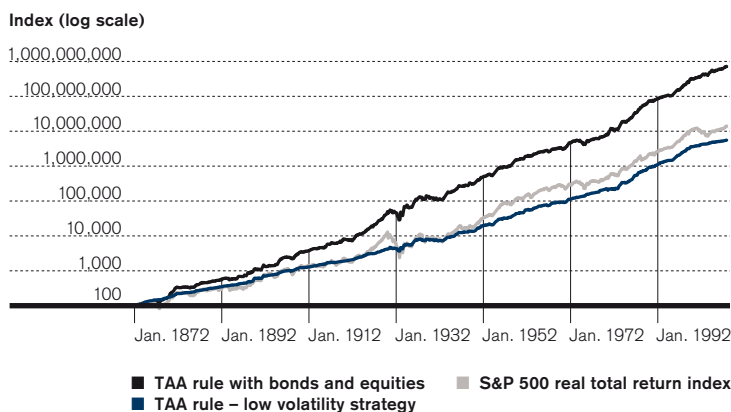
Passive investing has the disadvantage of delegating investment decisions to the whims or exaggerations of markets. While our historical back-testing results do not include transaction costs, these naïve examples of active investing underscore the potential benefits of using tactical asset allocation methods to limit downside risk and achieve attractive risk/return combinations. ■

Figure 6

TAA example 2: Performance comparison 1870–2007

Our tactical indicators switching allocation between equities and bonds have proven useful over a very long horizon. This investment strategy was superior to an equities-only strategy and reduced overall risk.

Source: Federal Reserve, R. Shiller, Global Financial Data, Datastream, Credit Suisse



“The costs and benefits of total return”

Professor **Heinz Zimmermann**, an eminent finance scholar and Head of the Department of Finance at the University of Basel, comments on total or absolute return strategies that have become popular with many investors, especially with the dotcom crash still fresh in people’s minds.

Interview: **Ulrich Kaiser**, Equity Sector Analyst, and **Cédric Spahr**, Head of Alternative Investment Research and Portfolio Analytics

Ulrich Kaiser: Professor Zimmermann, what do you understand by the terms “total” or “absolute return”?

Heinz Zimmermann: These are strategies that seek to avoid or limit investment losses or that offer a certain minimum return. In earlier days, these strategies were also known as portfolio insurance strategies.

Ulrich Kaiser: Why have these strategies become so well established?

Heinz Zimmermann: A bear market is what usually prompts the widespread adoption of such strategies. Total or absolute return strategies can also come to fore when new investment segments emerge because the actual diversification effect of these new segments, particularly during phases of general market stress, often cannot be tested with a high degree of reliability. In such cases, people seek some form of hedge protection within the investment category itself. Absolute return strategies also play an important role in connection with hedge funds.

Cédric Spahr: You mentioned total or absolute return with regard to hedge funds?

Heinz Zimmermann: Yes, that’s right. Total return strategies have always been used in the hedge fund industry because they do not rely on standard benchmarks,

but set or target an absolute return instead. Hedge funds will try to achieve a return of, say, 4% with whatever strategy they are pursuing, even during times of market stress, and a considerably higher return when markets are performing well. There might be increasing pressure for change here, because institutional investors are calling for benchmarks for hedge fund investment categories.

Cédric Spahr: In recent years, the amount of money allocated in private and institutional portfolios to alternative investment categories such as commodities, real estate, hedge funds and private equity has clearly increased. Do you see a comprehensible, theoretical connection for this?

Heinz Zimmermann: The pricing of risk in traditional investment categories became increasingly similar as financial

“Total return strategies ... do not rely on standard benchmarks, but set or target an absolute return instead.”

markets around the world became more integrated. This made it harder to achieve effective portfolio diversification. Alternative asset classes enhance a portfolio’s diversification considerably and they also promise high potential returns. One only needs to think of private equity or the investment returns in high-growth markets. Of course, the higher potential returns entail higher risks and perhaps a longer investment horizon.

Cédric Spahr: What are the advantages and disadvantages of an absolute return strategy for investors?

Heinz Zimmermann: Many investors like the idea of a targeted nominal investment return because it enhances financial planning. On the other hand, the main objective investors should be pursuing is portfolio diversification. If investors focus too much on hedging risk through individual absolute return products, however, they might lose sight of the overall picture, ultimately leading to an inadequately diversified portfolio. After all, various studies have shown that investors tend to focus too much on individual positions while neglecting the overall portfolio structure, a behavior known as “mental accounting.”

Ulrich Kaiser: What influence does a total return strategy have, and are there also

“I believe that demand for such strategies will increase whenever adverse market environments are expected.”

tactical aspects to consider with absolute return products, especially in relation to economic cycles?

Heinz Zimmermann: I believe that demand for such strategies will increase whenever adverse market environments are expected. For example, rising interest rates could increase demand for such products in the equities segment. There is always a significant tactical aspect with regard to market demand for these kinds of strategies. In this respect, it is important that investors are aware of the opportunity costs of such strategies because the guarantee of an absolute return is, of course, ultimately derived at the expense of limited upside participation, which would become evident if markets trend unexpectedly higher instead.

Cédric Spahr: The volatility of all asset classes is currently relatively low compared to historical levels. What kind of an impact does this have on total return strategies, for example, on the pricing of basic products such as derivatives?

Heinz Zimmermann: There are two things that must always be taken into consideration with regard to the pricing of these products: interest rates and volatility. It is, of course, very difficult or expensive to implement an absolute return strategy when interest rates are low, meaning the participation surrendered on the upside is relatively high during periods of low interest rates. With regard to volatility, it must be noted that pricing is not based on the actual or current volatility, but on the expected volatility throughout the life

of the product. Attractive products can be offered when expectations of volatility are low. If volatility rises later, investors benefit from the previously low entry prices.

Ulrich Kaiser: Are total return strategies the measure of all things nowadays? Have they replaced the benchmark approach or can these strategies coexist?

Heinz Zimmermann: In the end both will coexist. Investors should always be aware, however, that diversification is the overriding objective and not avoiding losses on every single position in their portfolios, which is an illusion. First of all, this isn't practical and, secondly, it would be too costly. Total return strategies should be used only in areas where investors are uncertain about the diversification effects or where they don't want to risk a loss on a specific position for some particular reason. It might also make tactical sense to pursue such a strategy for a certain period of time, say for several months. In the end, I think that both investment styles are complementary to a certain extent.

Ulrich Kaiser: Is it the high costs, Mr Zimmermann? Is that why you don't think absolute return strategies are so spectacular from a scientific standpoint?

Heinz Zimmermann: The cost argument is one aspect. But if investors see a clear benefit, then costs are likely to play a subordinate role. It is more a question of transparency. Investors need to know the exact costs of a total return strategy and what benefits they stand to gain from it. The other reason for my somewhat hesitant opinion pertains to the broader economic picture. There can't be an absolute positive return for the market as a whole. Capital markets are exposed to fluctuations in overall economic wealth that cannot be avoided by the entire investment community. Therefore, absolute return strategies need a natural counterweight – which means risk-taking in phases of market stress. The cyclical pattern of risk premiums just creates these incentives. ■



Photo: Thomas Eugster

Professor Dr. Heinz Zimmermann is Head of the Department of Finance at the University of Basel (Switzerland). He has published around 200 scientific papers in books or journals on empirical finance, with special emphasis on asset pricing, derivatives, risk management and corporate finance.

“Focusing on and targeting an absolute return”

Dr. Hermann Pomberger, Head of Asset Management at Allianz Switzerland, shares his views with us about total and absolute return strategies, and how they are used in practice. Interview: **Ulrich Kaiser**, Equity Sector Analyst, and **Cédric Spahr**, Head of Alternative Investment Research and Portfolio Analytics

Cédric Spahr: How do you define an absolute return strategy?

Hermann Pomberger: Of course, an absolute return strategy plays a special role at Allianz as an insurance company, because our portfolio managers are constantly focusing on and targeting an absolute return. Independent of market conditions, we have the responsibility to realize a specific percentage rate of return on the capital at our disposal across all asset classes. We define this rate as the absolute return.

Cédric Spahr: Are absolute return strategies the industry yardstick today, even supplanting benchmarking and relative return strategies, or do you believe that both approaches can coexist?

Hermann Pomberger: Yes. I believe both strategies can exist side by side, even in the future. There are always focal points in one direction or another. But when the monthly data are released and our CEO sees that we are right on track with our targeted absolute return, he immediately raises the question: as a group, have we underperformed or outperformed our excellent competitors? Where do we stand in this regard? And, of course, this is always perceived from the perspective of the benchmark. Hence, according to my

experience, I would say that absolute return strategies will not totally eliminate benchmarking. Indeed, we are oriented toward the market, which we have outperformed in recent years.

Ulrich Kaiser: Which asset classes do you take into consideration when utilizing a total or absolute return strategy, and to what extent with regard to the portfolio structure?

Hermann Pomberger: In our view, the question should be formulated differently: which allocation can I afford to assign to a particular asset class from my pool of assets? What reserves are at my disposal, and how much investment capital? I can also pursue a total or absolute return strategy depending on the solvency

“Independent of market conditions, we have the responsibility to realize a specific percentage rate of return on the capital at our disposal across all asset classes.”

requirements that insurance companies must comply with, and ultimately based on the various calculations that relate to current risk capital. And internal risk-capital models play a very significant role here as well. Our risk manager then raises the warning flag and says: Watch out – we have a corresponding increase in risk-capital, how do you want to counter it? We strive to deal with risk-capital in a cautious way and very carefully assess what it means when we ask for a hundred million of additional risk-capital – what kind of returns can be generated, and what does this mean for our risk-capital burden?

Ulrich Kaiser: What risks do absolute return strategies harbor?

Hermann Pomberger: I would say, to that effect, that the risks lie in attempting to realize a targeted return by all means and also being content with the result. Of course, the inherent risk is that, starting in September, a portfolio manager says: “Look. I have achieved my target; it’s time to kick back, and the year is already over.” At Allianz, such a risk is not so pronounced insofar as we also track the relative performance very closely. In the monthly investment meeting, we apply controlling mechanisms to review: a) where we stand

in the course of fulfilling our targets, and b) how the individual portfolio managers have employed their special instruments, investment vehicles, whether it's currently bonds or various funds that we manage, or whether it's various country-specific equity investments.

Cédric Spahr: The allocation in so-called alternative asset classes – such as commodities, real estate hedge funds and private equity – has increased noticeably in recent years, in private as well as institutional portfolios. What significance do these asset classes hold for you, and how do you manage the risks?

Hermann Pomberger: Perhaps it comes as a surprise to you, but up to now, we have not yet invested in alternative asset classes. Indeed, we have gone through the authorization process. Insurance companies, of course, have been obliged since last year to obtain special authorization when they include alternative asset classes in their asset allocation. We will most likely invest in these asset classes as well in the medium term, but with a very cautious stance, not overexuberantly and always with the appropriate degree of prudence. Furthermore, one of our considerations is this: what additional returns can alternative asset classes generate versus equities?

We certainly do not want to be a player; we strive to constantly be an investor, and perceive this from the perspective of an ongoing investment policy. In the interim, our finance committee, the highest supervisory body, has authorized investments in alternative asset classes. We will not start out investing substantial sums of money and plan to gradually invest in hedge funds as well as private equity in the medium term, with the expectation that the return – i.e. the total return – in any case turns out to be higher than the return on traditional equity investments. We expect an additional premium of between 3.5% and 5.0%, which is in line with expectations and reflected by our calculations.

Cédric Spahr: As the stock markets retreated at the outset of the decade, the returns were rather low. As an asset manager, how did you overcome the situation? Which strategy did you choose to avoid the pitfalls caused by that environment?

Hermann Pomberger: At the time, there were still three large insurance businesses: Elvia, Berner and Allianz. Reserves at Berner were very tight, so we actually considered, already in May 2001, what would happen if the market started falling for once. What could we do? How could we protect ourselves from the loss of capital?

We took into consideration the long-term average stock-market returns (i.e. normalized returns). We presumed that, over time, risk-free returns hovered in a range between 3.5% and 4.0%. Additionally, by adding an estimated risk premium for equities of about 5%, we assumed the normalized stock-market return amounted to 8.75% at the time. It was the year 2001, and the stock-market returns recorded in the previous year far exceeded the average, normalized return based on long-term calculations. We believed that the performance on the stock markets would be in line with the trend in the economy. We therefore applied a hedge at that time, using a slight part of the portfolio to hedge our risky portfolio positions already in 2001.

Despite the events of September 2001, this hedge expired without value. However, this did not discourage us, and we decided to hedge once again in 2002 in order to safeguard significant risky positions. Insurance companies held at this time on average between 25% and 30% of their investments in equities. Our objective was simply capital protection. We had decided to protect our balance sheet for the financial year 2002. Our put option started to pay off only in August, when the stock markets tested their low points, which saved our investment capital. ■



Photo: Thomas Eugster

Dr. Hermann Pomberger is a member of the Management Board and Head of Asset Management at Allianz Switzerland, one of Switzerland's largest insurers. Dr. Pomberger holds a Ph.D. in economics from Linz University in Austria, where he also lectures in finance.



Challenge for carry trades

Investment opportunities in foreign exchange (FX) tend to move in phases, driven by long up- or downtrends in the US dollar, by fixed rates that become unsustainable, and recently by carry trades (borrow low-yielders, buy high-yielders). These trades rely on wide interest-rate gaps and low volatility. With these factors likely to start unwinding in the coming months, we look at various ways investors can protect their portfolios.

Marcus Hettinger, Head of Global Forex Research

• 22/09/1985
 • Plaza Accord: By G5 desired depreciation of US dollar vs. Japanese yen and deutsche mark to reduce US current account deficit and to help US economy to emerge from recession.

• 22/02/1987
 • Louvre Accord: Aim to halt the decline in the US dollar, aim of G5 for exchange rate stability.

Figure 1

1970s and 1980s: Long-term US dollar appreciation and depreciation trends

Since the breakdown of the Bretton Woods system in 1973, we have seen the US dollar rise sharply in the early 1980s, peak with the Plaza Accord in 1985, and then trend downward until 1987 and the Louvre Accord. Source: Bloomberg, Credit Suisse



Figure 2

“Carry is king”: Forward-rate bias strategy

Since January 1990, the average yearly return from a forward-rate bias strategy investing into G10 currencies has been 7.6%, with an annualized standard deviation of 7.67%. This gives a Sharpe ratio of almost 1.

Source: Bloomberg, Credit Suisse

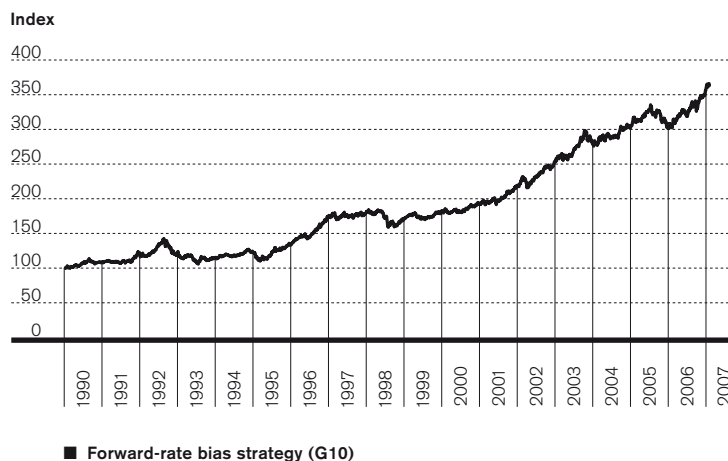


Table 1

Interest-rate differentials and implied volatility (deviation from average)

A supportive factor for carry trades has been that interest-rate differentials between currencies are larger than in the past, and that implied FX volatility has been below average. Source: Bloomberg, Credit Suisse

Exchange rate	3-month interest rates			Implied FX volatility (3-month)		
	13 July 2007	Average 1999–2007	Difference	13 July 2007	Average 1999–2007	Difference
USD/JPY	4.58%	3.57%	1.01%	7.05%	10.11%	-3.06%
EUR/JPY	3.42%	2.95%	0.47%	7.35%	10.61%	-3.26%
USD/CHF	2.64%	2.23%	0.41%	6.75%	10.42%	-3.67%
EUR/CHF	1.49%	1.62%	-0.13%	3.40%	3.70%	-0.30%

Favorable deviations for carry trades

Market participants in the FX market range from commercial companies who need foreign exchange to pay for goods and services from abroad, to investors who need foreign currency because they invest in assets denominated in foreign currency. While the former use of FX is more linked to international trade flows, the latter results from investment decisions of individual investors (asset management, retail investors, hedge funds). The use of FX can even go one step beyond if it is seen as a separate asset class, where investors buy mutual funds with an explicit strategy on currencies. Finally, there are central banks that perform significant FX operations when managing their reserves, and commercial banks that act as counterparties for the above market participants, but also take proprietary positions of their own.

FX investing in the past 25 years: Themes and trends

Investing in FX over the past 25 years has been fascinating. Figure 1 gives an overview of the different themes and trends that have occurred since 1980. These range from the strong appreciation of the US dollar (USD) in the early 1980s, which peaked with the Plaza Accord in 1985 and subsequently gave way to the downtrend in the dollar, which ended in 1987 with the Louvre Accord. Fixed exchange rates have broken down in past decades, mainly because domestic fiscal and monetary policies were not in line with fixed exchange rate systems. These episodes of currency crises included the exit of sterling from the European Exchange Rate Mechanism in 1992, the large devaluations in Mexico (1994), Asia (1997), Russia (1998) and Brazil (1999). The Russian default in 1998 also coincided with the end of carry trades in Japanese yen (JPY).

The carry trade has remained a major theme in foreign exchange markets over the past 12 months, i.e. borrowing in low-yielding currencies to invest in high-yielding ones. Figure 2 shows that this strategy, the forward-rate bias strategy, has been profitable for some time, particularly in recent years, with a Sharpe ratio of almost 1 (see glossary on page 31). However, the chart also confirms that there have been episodes of substantial drawdown, when other risky markets sold off. There are carry trade strategies that are more sophisticated, which take into account correlations between currencies. These strategies optimize a carry trade portfolio. But, in essence, they invest in high-yielding currencies and fund this position with low-yielding currencies.

Wide interest-rate differentials and low volatility

Two factors have been important drivers for carry trades: historically wide interest-rate differentials between low-yielding currencies like the Japanese yen and the Swiss franc (CHF) on the one hand, and generally depressed levels of implied volatility in FX markets on the other. An environment of wide interest-rate gaps in combination with low volatility is very favorable for carry trades. The attractiveness of carry trades can be measured by the expected risk-adjusted return or Sharpe ratio. High levels of risk-adjusted returns can either be the result of wide interest-rate gaps or low volatility, or a combination of both of them. For example, the interest-rate gap between USD and JPY has, in the past 12 months, been at historically high levels. In addition, implied volatility in USD/JPY has shown a generally downward trend. This explains why the yen has remained weak against the dollar over the past 12 months, despite USD weakness against other currencies. Low volatility was also one of the main drivers for the weakness of the Swiss franc against the euro (EUR) (see Table 1).

1990s: Break up of fixed exchange rate systems and currency crises in emerging markets

New Millennium The JPY carry trade

2000 until now. The JPY carry trade. Expansive monetary policy by Bank of Japan to fight deflation and ample global liquidity. Source: Bloomberg, Credit Suisse

EUR/JPY



EUR/JPY exchange rate

July 1997 Asian crises

Fixed exchange rates and high interest rates in Asia led to capital inflows and large current account deficits. Source: Bloomberg, Credit Suisse

USD/THB



USD/THB exchange rate

16/09/1992 Sterling ERM crisis

High interest rates in the UK to maintain parity with the deutsche mark were incompatible with weak domestic demand in the UK. Source: Bloomberg, Credit Suisse

GBP/USD

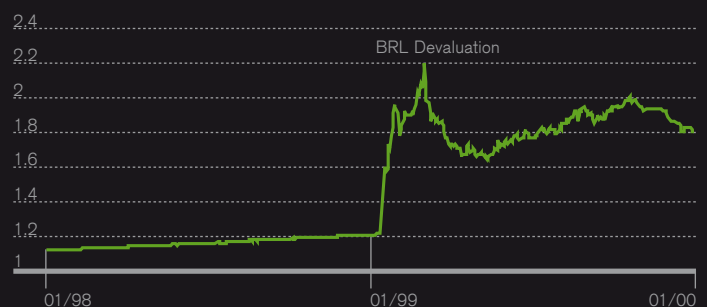


GBP/USD exchange rate

January 1999 Brazil devaluation

Quasi-fixed exchange rate replaced by inflation targeting policy. Source: Bloomberg, Credit Suisse

USD/BRL



USD/BRL exchange rate

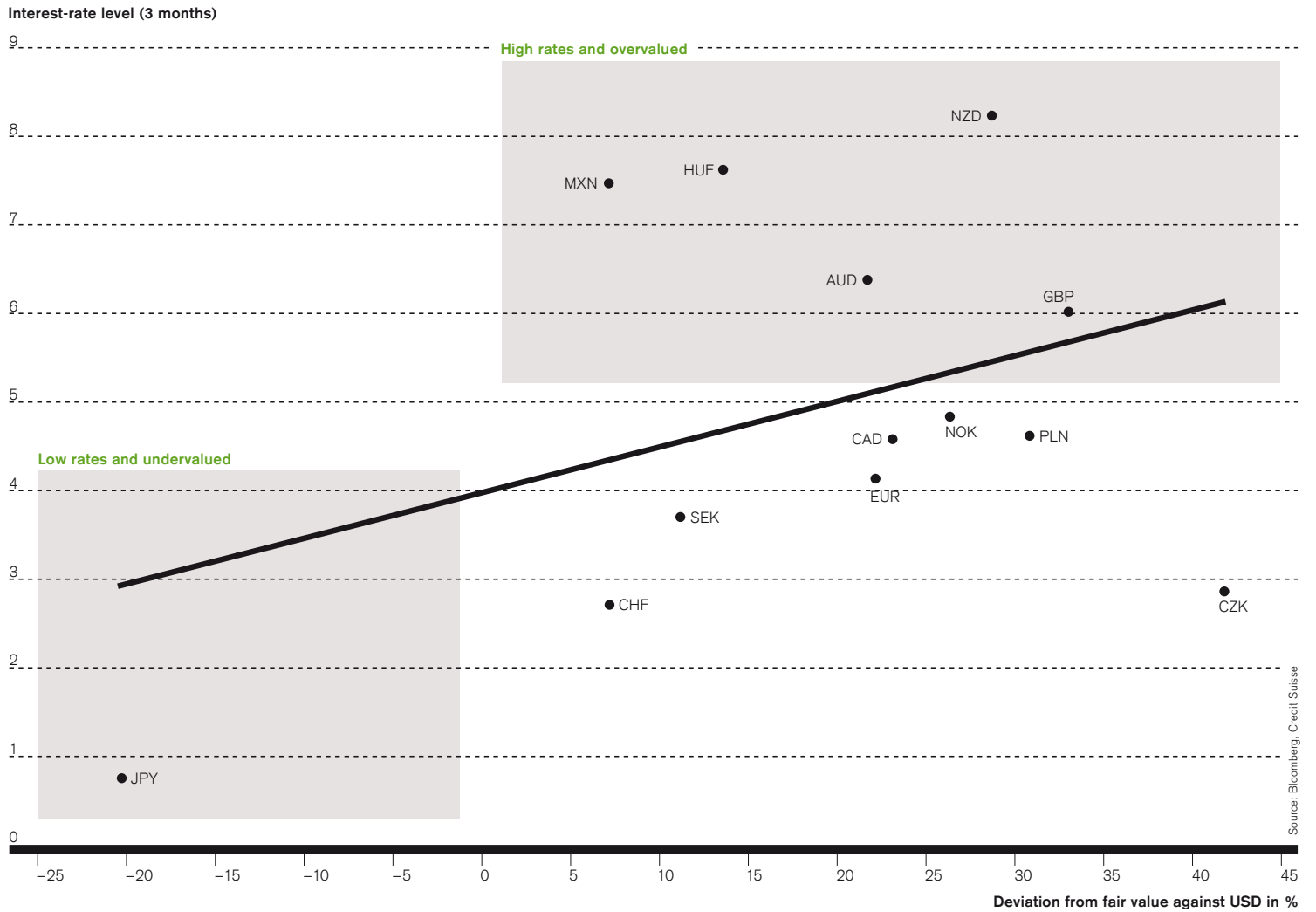


Figure 3

Interest-rate level and valuation

With carry trades a popular theme and interest-rate differentials and levels so important, misalignments in currencies from fundamental values based on fair values have increased. While the low-yielding currencies have become cheap, high-yielding currencies have moved more into overvalued territory.

The favorable environment for carry trades over much of the past year was a prime factor behind the increasing misalignment of currencies with their fair values (see Figure 3). Generally speaking, the Swiss franc and the yen have moved further into undervalued territory, while current levels of high-yielding currencies like sterling and the dollar-bloc currencies are now at stretched valuations. In the longer term, currencies tend to mean revert to their fair value, but this process could take several years. It is therefore not surprising that currency strategies based on valuations have performed poorly in this environment because, as explained above, those currencies that are overvalued for the most part have the highest interest-rate levels and these currencies have strengthened in a friendly environment for carry trades (see Table 2). However, we expect to see a more challenging environment for carry trades going into next year.

Removing excess global liquidity

Following the equity market crash in 2000 and the downturn in economic growth at the beginning of the century, central banks have injected liquidity by lowering interest rates to unprecedented low levels, for example, the Fed Funds rate at 1% and the SNB Libor target rate at 0.25%. As global growth started to accelerate in 2003 and remained robust for the next few years, central banks began removing excess liquidity with a very foreseeable path for interest rates. This normalization process, which is ongoing at the time of writing, has helped reduce volatility in equity markets and other risky assets, and also underpinned the trend for falling implied volatilities in FX markets. In the longer run, we do not expect the current status of wide interest-rate differentials to be sustained. Central banks in Switzerland and Japan have already started raising rates, although at a slow pace. This trend of normalization in the last providers of liquidity will, in our view, continue over the next 12 months, but will probably not be the most important factor in expecting some pressure on carry trades later in the year.

Higher volatility a risk for carry trades

While the narrowing of interest-rate differentials is a very slow process and unlikely to be a danger for carry trades, the second ingredient for measuring the attractiveness of carry trades in terms of risk-adjusted return, namely implied volatility, is more of a concern. In our view, the financial environment will be more challenging for risky assets (equities, carry trades) later in 2007 and into 2008. We expect volatility to increase gradually over the next 12 months, but investors should be prepared for short-term spikes that could lead to fairly sharp movements in exchange rates. Figure 4 shows that, already in summer, positioning in the short-term-oriented investment community (mostly hedge funds) appeared stretched. These short-term investors are, in our view, more likely to reduce positions at a rapid pace when volatility increases or if they have to reduce risk more generally in their portfolios due to other factors (widening of credit spreads, higher equity volatility). This could result in contagion from other asset classes to FX markets.

But there are also other types of investors investing in carry trades (retail investors, real money accounts). If, for example, an investor buys a bond denominated in a foreign currency with a higher yield and does not hedge the currency risk, this also constitutes a carry trade. However we think it is unlikely that these investors will liquidate their holdings of foreign assets immediately due

G10 currencies: The G10 currencies include the US dollar (USD), euro (EUR), Japanese yen (JPY), British pound (GBP), Swiss franc (CHF), Australian dollar (AUD), New Zealand dollar (NZD), Canadian dollar (CAD), Swedish krona (SEK), and Norwegian krone (NOK).

FX market: The foreign exchange (FX) market is a global market with 24-hour trading and an average daily turnover of an estimated USD 1,880 billion, according to the Bank for International Settlements (BIS).

Forward-rate bias strategy: This simple trading strategy invests in currencies in the G10 universe. The strategy involves buying the three currencies with the highest interest-rate level (3-month LIBOR) and funding this investment from the three G10 currencies with the lowest interest rates. In theory, the forward of an exchange rate should, on average, be an unbiased predictor of the future spot rate. The longer-term expected return from a forward-rate bias strategy should therefore be zero, under the assumption that there is no risk premium. However, empirical literature has shown that these returns have been positive in the past, meaning that the uncovered interest-rate parity does not hold.

Market participants in the FX market: Corporates, investment management firms (asset managers), pension funds, retail investors, hedge funds, commercial banks and central banks.

Sharpe ratio: The Sharpe ratio measures the return in volatility units, i.e. characterizing how well the return of an asset compensates for the risk taken. The risk-adjusted carry (return) on a 3-month horizon is calculated by dividing the interest-rate differential between the 3-month money market rates of two currencies by the implied volatility. This gives an expected return per unit of volatility.

Hedging: Currency hedging is a strategy to reduce risk in a portfolio from unfavorable exchange rate movements. This can be done by forward contracts or options.

Forward contract: A forward contract is an agreement between two parties to buy or sell a currency pair at a pre-agreed future point and price (forward price). The forward price at any point in time is given by the interest-rate differential between the two currencies (arbitrage condition).

Option: An option gives the buyer the right, but not the obligation, to buy (call)/sell (put) a specified amount of currency at a strike price at some point in time (or before expiration).

Figure 4

Positioning in carry trades in July 2007

This chart shows the amount in US dollars that short-term investors are net-long positioned in the two high-yielding currencies GBP and AUD minus the short positions in the two funding currencies JPY and CHF. The calculation takes the development of the USD exchange rate since 1999 into account. Source: Bloomberg, Credit Suisse

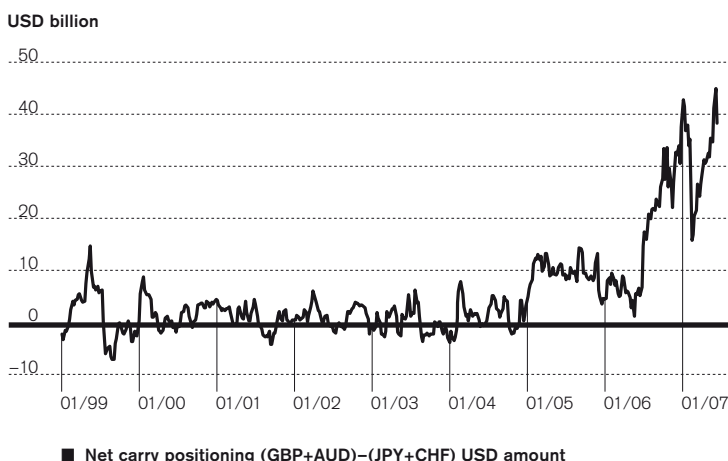


Table 2

Performance of currency indices with different styles

Carry styles have outperformed strategies based on valuation and also trend strategies. This is not surprising as there have been less trends in exchange rates in the past years. For example, the USD/CHF exchange rate has been broadly trading in a 1.20–1.30 range since the start of 2005, while USD/CHF has trended down from 1.80 to 1.20 in the period from 2000 to 2004. Source: Bloomberg, Credit Suisse

FX investment style indices	2005	2006	2007 (until June)
ABN Amro Valuation Style	-1.5%	-0.60%	-4.50%
ABN Amro Trend Style	-10.7%	-7.10%	-4.70%
ABN Amro Carry Style	-11.50%	-5.60%	-2.50%
ABN Amro Volatility Style	-2.40%	-2.40%	1%

to the longer investment horizon. For example, in Japan, we see a structural shift going on, where Japanese retail investors are becoming less risk-averse due to the recovery of the Japanese economy and will probably continue to invest in foreign-denominated assets in high-yielding currencies.

Protection strategies: Hedging and options

As investors have probably accumulated larger positions of foreign bond holdings on an unhedged basis, the challenging environment we expect later in the year could be circumvented with several strategies. One strategy would be to hedge existing portfolios by forward contracts on a revolving basis. Hedging has been expensive for Japanese- and Swiss-based investors, as interest-rate differentials have been at wide levels. But as we expect these interest-rate differentials to narrow in the longer term, hedging should become less expensive and, in our view, probably more important. A certain portion of investors' portfolios could be devoted to hedging strategies. A second strategy would be to use option strategies to protect existing positions in portfolios against unfavorable currency developments. Since the price of an option – be it a put option or a call option – rises if implied volatility increases, this is a cheap way to protect portfolios and reduce risk. Although these strategies incur costs and therefore reduce returns, we believe the benefits would outweigh the costs.

Relative value strategies

A further possibility would be to focus on relative value carry trades. In times of risk aversion, currencies of countries with a current account deficit tend to come under pressure as investors become more risk-averse. It is therefore more difficult for these countries to attract foreign capital, as investors demand a risk premium. One strategy would therefore consist of investing in currencies that have a current account surplus versus those that have a current account deficit. In emerging markets, for example, this would correspond to investing more in the Brazilian real versus the South African rand. Another possibility would be to focus on currencies that are misaligned to their fair values (purchasing power parity for example). Since most overvalued currencies are those with the highest interest rates, one strategy for the coming shaky periods could be to invest in undervalued currencies. Finally, investors can also protect themselves through structured products that provide protection if volatility increases or which take advantage of a rise in volatility. ■

“As part of a larger portfolio, total return can be a safety valve”

Daniel Hausammann and Arun Ratra explain the world of total return, where a highly flexible selection of assets and allocation strategies is governed by a number of portfolio-specific risk measurements. Interview: James Gavin, freelance writer

James Gavin: What is the purpose of “total return”?

Daniel Hausammann: In short, “total return” is right for clients who don’t mind missing out on the bumper years so long as they don’t suffer the worst drops. To achieve these kinds of stable returns, we also have to avoid heavy losses, as can happen when risky assets such as equities go through bear markets. We are not promising zero losses. It is not a guaranteed capital strategy. But we are looking to minimize shortfall risk. To do so, we are prepared to forgo some of the upside to riskier assets.

How does total return achieve stable returns?

Daniel Hausammann: All our total return strategies are based on three success factors: portfolio diversification, highly flexible asset allocation and disciplined risk management. Most of the returns will come merely from being in the right asset class and markets at the right time, but the ambit of total return is the whole investment world. We can go into equities, high-yield or investment-grade bonds, cash, commodities, hedge funds and even private equity and real estate if they are liquid enough. But we

are never forced to invest in any asset class or markets if the short- to medium-term outlook is negative. We can even go short in equities, to make money from their depreciation. Liquidity and transparency are key criteria for us, so, for example, we generally would not make direct investments in a hedge fund with a long lock-in period.

What are total return investors looking for?

Arun Ratra: Within the total return world, there are two types of investors. The first type of investor defines total return as a target return in excess of



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money market rates such as Libor – for example Libor plus 200 as a target return. But there are also those investors who think of total return as a long-term concept, where you have very long time horizons and you go into illiquid assets such as private equity or timber, which offer substantial returns above those offered by public markets. Basically, you get paid for the risk of holding illiquid assets over a long time horizon. This is the kind of strategy that has been followed by endowments in the USA.

How does total return fit in the whole concept of managing people's wealth?

Arun Ratra: We use a three-pillar model when thinking of structuring the wealth of our clients from a holistic point of view. The three pillars stand for “protect,” “participate” and “power” (see the enclosed Credit Suisse Wealth Management Guide). This means that, in practice, we construct the portfolios of our clients in such a way that part of a portfolio is meant to preserve wealth, other parts are meant to participate fully in the returns offered by financial markets, and the last part called “power” offers access to a range of very bespoke investment strategies meant to build up the wealth creation possibilities for our clients. In this concept, total return fits in the “protect”/limited participation space.

How can clients decide on the optimal allocation to those three pillars?

Arun Ratra: Credit Suisse has a client advisory process through which the risk profile of a client is defined, based on the client's return target, risk appetite and time horizon. The more conservative clients will have a higher proportion in “protect”/limited participation and the clients willing to bear a larger risk will have more in “participate”/“power.”

How are these optimal allocations translated into the portfolio managed for the client?

Arun Ratra: This is done through allocation and/or structuring, as suggested in financial theory and practice. Allocation does this by creating a strategic asset allocation per risk profile, whereby allocating different proportions of a portfolio to different asset classes, such as increasing the equity quota, is representative of the client's risk profile and expected return. What is important to understand is that one needs to hold the portfolio for a longer time horizon to realize this expected return and therefore must bear the volatility. The second way is through structuring, where by making use of derivatives and risk management techniques, one tries to create a targeted payoff profile which can be achieved with a degree of certainty.

This degree of certainty is achieved in allocation through time, but the cost is that one has to bear the volatility which applies to our relative return-oriented discretionary mandates. Total return strategies use structuring, whereby the degree of certainty is achieved through the explicit costs that investors are willing to pay either in costs of the derivative instruments and/or foregone returns.

What are then the main differences between your traditional mandates, which some people call “relative return-driven,” and total return strategies, which have been introduced much more recently?

Arun Ratra: When people talk about performance or judge performance, it is always relative to something. It might be zero, Libor plus 200 or a combination of returns on bond and equity markets. So there is always a benchmark relative to which you measure performance and satisfaction with that performance.

The question is then: what kind of returns are you looking for? And then what kind of risks are you willing to take and feel comfortable in taking? What is your time horizon?

As explained earlier, in our traditional mandates the emphasis is clearly on allocation, while in total return we stress structuring techniques. All our products are driven off the same investment strategy, but it is how this investment strategy is applied when building a portfolio where the difference comes in. For example, we have been bearish on bond markets since last year. Our relative return portfolios have an interest rate sensitivity that is 50% less sensitive to adverse interest rate movements than the bond market in general, whereas in our total return strategies, we might not have held bonds at all during that period.

That kind of flexibility makes total return sound like a global macro hedge fund strategy, or fund of hedge funds. What are the differences?

Daniel Hausammann: Our Total Return Family solutions are regulated by different legal bodies, such as the Swiss Banking Association, and comply

with European fund regulations. So they are more regulated than most hedge funds. We can short equities, but only using index derivatives, and our strategies do not embed direct leverage. Our investments are characterized by a reasonable liquidity, high transparency and regulation.

Arun Ratra: Hedge funds usually promise a lot of alpha, or investment skill above and independent of market returns. But if you look at the correlation of hedge fund strategies to the equity market, then this has increased sharply during the last four years. We, on the other hand, are trying to achieve a certain targeted return while limiting the downside.

But total return is an evolution of traditional investing versus a benchmark such as MSCI European equities?

Daniel Hausammann: Certainly. It is always difficult for an active manager to explain to a client that the product has succeeded by outperforming the benchmark, while the overall performance has still been negative. One of the reasons we have a totally flexible asset allocation is to provide a buffer against shortfall risks. So we can be 100% invested in any

asset class or 0%. We can turn the risk up or down, depending on market conditions.

Arun Ratra: True in the sense that clients have become much more cautious after the equity market bubble burst in the early part of the decade. They have realized that equity investing does not deliver only outstanding positive returns. The value of diversification was felt when equity markets headed south. This has also led clients to become more cognizant of their goals, namely the kind of return that they want to achieve and the risks they want to take. Total return, using a true multi-asset class portfolio approach, tries to deliver that targeted return as we discussed earlier.

So total return will suffer some falls, but not as much as traditional active or passive investing?

Arun Ratra: Yes, but it will also not be able to fully participate when markets rise. If you target a certain return every year, then you have to manage your risks very well, which means that you cannot take risk continuously and have to adhere to risk budgets. Since there is no such thing as a free lunch in investing, you limit your returns on the upside. I want to stress that we do not think of total return as a panacea for all market conditions. That does not exist. Total return should be an additional consideration for investors within our TPM framework.

Daniel Hausammann: We are not promising there will never be losses with total return, but it does aid wealth preservation over the longer time horizon, as a dynamic overlay within a client's portfolio. Whatever strategic allocations to bonds, equities and alternatives have been made, the extreme flexibility of total return reduces any risks that market conditions bring to bear on that under-

“It is always difficult for an active manager to explain to a client that the product has succeeded by outperforming the benchmark, while the overall performance has still been negative.”

Daniel Hausammann

lying allocation. We can turn up any asset class to 100% or exit it entirely. If equities are performing poorly, we can fashion total return as a bond-like overlay. As part of a larger portfolio, total return can be a safety valve.

Avoiding serious losses seems to be a major selling point for total return strategies. Does this infer you expect a bear market or even a crash sometime soon?

Arun Ratra: The last four years have seen very impressive growth in equity markets. Everything has supported them: earnings growth, valuations, sentiment, bond yields and liquidity. This was the first part of the bull market. The world economy is still in good shape. But we think the second part of this bull market will be more volatile. Calling the markets, however, is notoriously difficult. As the earlier article by my colleague Giles Keating explains, the probability that we will have a serious pullback in markets in the coming months is rather likely. That correction could be substantial, but it would be from a starting point above current levels. Furthermore, after the pullback and a period of consolidation, we expect markets to broadly continue the healthy trend for a number of subsequent years, but with phases of higher volatility than we have recently experienced.

So what should be the optimal proportion between relative return and total return investment strategies in the client's portfolio?

Arun Ratra: Given the above-mentioned three-pillar model, one should therefore consider both total and relative return strategies when building one's investment portfolio. Whereas total return strategies emphasize "protect"/limited participation, our traditional mandates put more emphasis on creating wealth. This also corresponds to the twin

“The world economy is still in good shape. But we think the second part of this bull market will be more volatile. Calling the markets, however, is notoriously difficult.”

Arun Ratra

objectives and functions of wealth management, namely wealth preservation and wealth creation. An investor needs to decide which part of his wealth he/she wants to appropriate to which objective/function. If markets are correcting, then the total return strategies add value by virtue of limiting the downside in volatile periods, while our traditional types of mandate strategies will do well if stock markets can continue on a broadly healthy trend upwards, as discussed earlier.

Does the Total Return Family employ modern risk techniques such as “value-at-risk”?

Daniel Hausammann: – Yes, value-at-risk and shortfall risk are both important, but there are always assumptions behind these metrics. Value-at-risk can thus vary from user to user. We prefer to look at how portfolios would fare under different risk parameters. Obtaining a sense of the impact on the portfolio value is more important than attempting to produce a cast-iron single number for likely losses. So we do a lot of scenario testing and modeling because, although you cannot manage returns, you can manage risks.

Does the new emphasis on total returns imply a wider disengagement from traditional investment concepts?

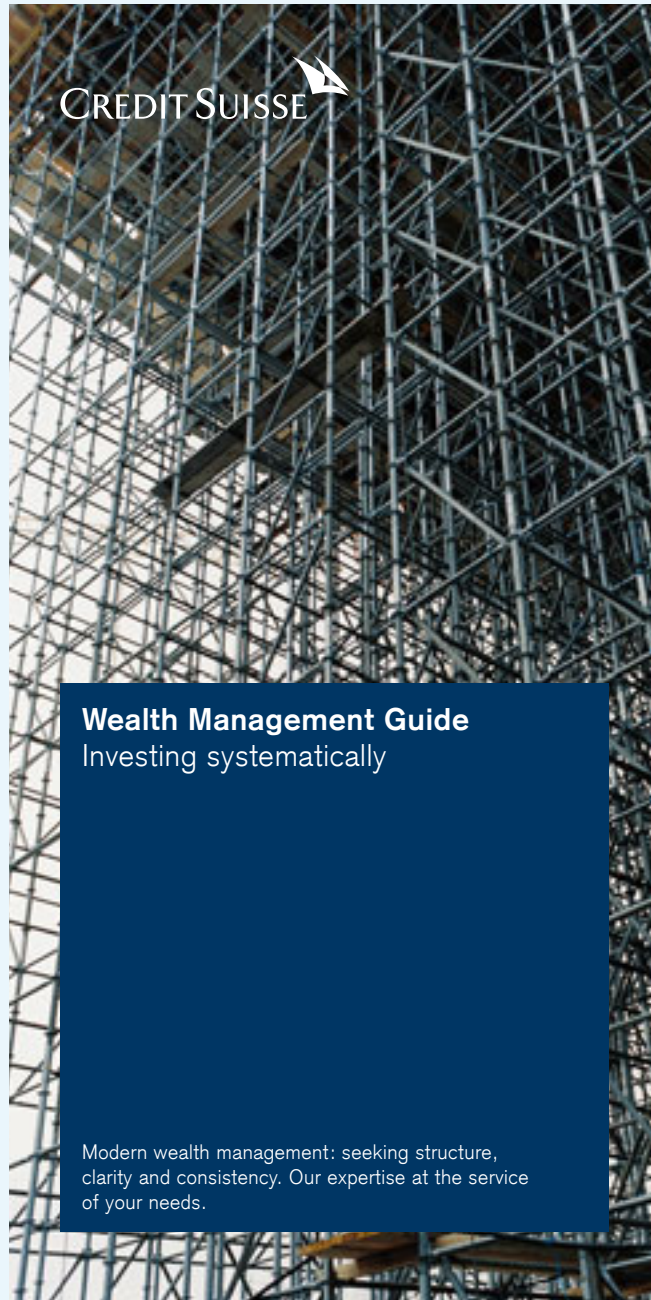
Arun Ratra: No. The strategic view we are taking is that total return is an important space and we would like to really provide our clients a good offering within that space. Both total and relative return products complement each other, as we discussed earlier.

Has your total return strategy been crafted in response to a perceived demand from your client base?

Arun Ratra: Yes. Therefore, we are putting a solutions suite in there that will address these clients' needs. ■

Read more about Credit Suisse's comprehensive wealth management solutions and its core-satellite approach toward helping clients achieve their financial objectives in our **Wealth Management Guide**.

To receive a copy of the **Credit Suisse Wealth Management Guide**, please contact your Relationship Manager.



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Investing systematically

Modern wealth management: seeking structure, clarity and consistency. Our expertise at the service of your needs.

An answer to increasing volatility

Total return strategies suit all investor types and are very interesting at present, as we expect volatility in financial markets to increase. Portfolio diversification, a flexible investment strategy and stringent risk management aim at achieving an asymmetric return distribution, which means limiting potential losses, without forsaking performance opportunities as markets advance.

Daniel Hausammann, Head of Multi Asset Class Solutions (MACS) Total Return Family

In financial theory, the term “total return” refers to the overall return generated by an investment or a portfolio. Total return consists of recurring investment income (interest earned, dividends and any other payouts) over a certain period of time plus whatever capital gains are made during that time. A total return can be calculated for every kind of investment, so that every financial investment could theoretically be considered a total return product. It comes as no surprise, then, that Google produces 2.2 million hits for the words “total return.” Going through the results of the search, however, one can easily tell that “total return” is used most often in connection with investment strategies that are designed to function largely independently of general market movements. In the short term, capital preservation is the overriding objective; in the medium term, an appropriate excess return over the risk-free rate is targeted. Furthermore, these targets should be reached with the highest possible degree of probability.

Three main aspects of total return strategy

What sounds simple in theory is a major challenge in practice for portfolio managers. In order to achieve the given ambitious goals, three strategic pillars were defined in the Multi Asset Class Solu-

tions (MACS) of the Asset Management Division. All of the total return solutions at Credit Suisse are based upon these three strategic pillars.

1.

As many sources of return as possible. Having a global investment universe and putting different asset classes and investment instruments to use improves the distribution of risk (diversification) and creates investment opportunities no matter what the current market environment is like. Therefore, the total return solutions that are developed and offered in MACS are allowed to invest in a global spectrum of traditional investment assets (equities, bonds) and alternative investments (hedge funds, private equity, real estate, commodities and insurance-linked securities). Investments are made either directly or through collective investment vehicles (actively and passively managed investment funds) or through derivative instruments.

2.

A highly flexible investment strategy. Empirical studies have shown that 80% to 90% of the total return of a portfolio is determined by judicious asset allocation, and that only 10% to

20% is generated by security selection and transaction timing. This is precisely where total return strategies seek to excel: they strive always to be invested in the asset classes with the best return potential. Broad allocation ranges allow portfolio managers to selectively increase or decrease exposure to each asset class. Portfolio managers can even shun an asset class entirely if its return potential looks doubtful or insufficient. Derivatives (futures, options, swaps) and exchange-traded funds add even more flexibility to the investment strategy because these instruments can be used to alter the portfolio asset mix within a very short period of time, and they also permit quick reactions to any upward or downward trends. For example, when stockmarkets started to correct by the end of February 2007, the equity allocation in the portfolios could be reduced by means of derivative instruments. Later, these hedges were liquidated at a profit and the equity exposure increased again.

3.

Stringent risk management. Due to the large number of sources of return and the extremely flexible investment strategy, effective risk management is imperative in order to ensure capital preservation during periods of market stress. Therefore, a risk budget has been defined for every total return solution based upon the concept of value-at-risk (VaR; see explanation on page 40). But even the value-at-risk concept entails certain assumptions and cannot accurately capture extreme market events. Consequently, more thorough (risk) analyses are performed. In so-called stress tests, simulations such as a 10% stockmarket correction or a 1% rise in interest rates are performed to determine what impact this would have on the portfolio. "Expected shortfall" is another method used to quantify the expected loss in these extreme situations that are not captured in the risk budgets. Many investors might think that such analyses are very technical and theoretical. But in practice they are very useful for portfolio managers. For example, planned portfolio transactions are first simulated and the effects of these transactions on a portfolio's risk structure and their expected return contribution are calculated. Transactions are then implemented in the portfolio only if the corresponding risk/return profile is positive.

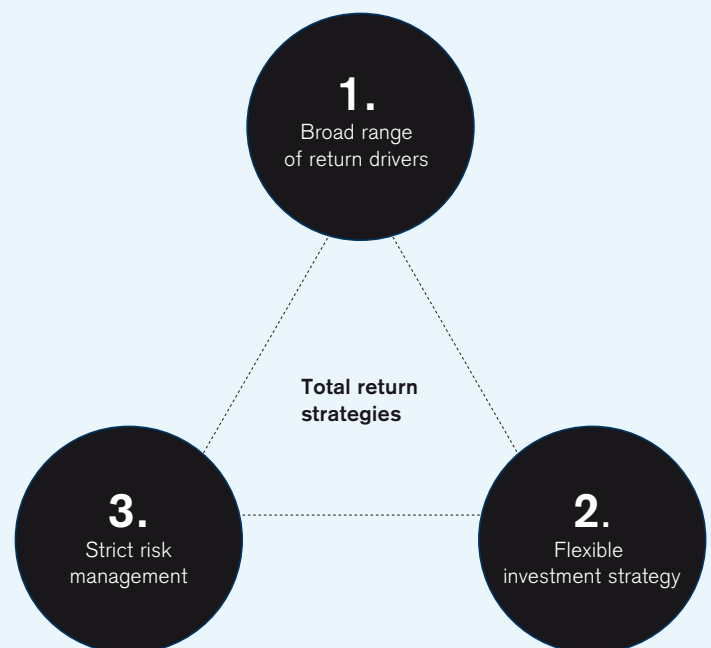
Investment process designed for flexibility

Total return strategies pose major challenges in the investment process. On the one hand, the medium- and long-term financial market outlook determined by Credit Suisse Asset Management needs to be taken into consideration in the tactical asset alloca-

Figure 1

The total return concept

The concept for a professional and successful implementation of all total return strategies is based on three major key drivers: wide range of performance contributors, transition to a flexible asset allocation and a very rigorous risk management. Source: Credit Suisse Asset Management



tion and the existing risk budget (value-at-risk) optimally adhered to. On the other hand, portfolio managers must be very quick and flexible in their response to changing market conditions. Therefore, the asset allocation process for the total return strategies was divided into two parts. In the Market Area MACS, a specialized team headed by the Chief Investment Officer defines the medium-term investment outlook for the various asset classes and markets. The investment outlook is then calculated in quantitative terms, taking into consideration the risk contribution of each asset class to the overall portfolio risk. This results in a recommended medium-term portfolio allocation mix. The second part of the investment process concentrates on the very short-term management of portfolio risk. An investment committee of the total return team convenes on a weekly basis to analyze current developments using a broad range of technical tools and then makes recommendations on the use of derivatives and exchange-traded funds. This committee can also meet at very short notice in the event of extraordinary market developments, and can therefore make decisions at very short notice and have them implemented immediately thereafter since all portfolio managers also attend these meetings.

Although asset allocation clearly has the greatest impact on investment returns, security selection and transaction timing are also taken into consideration within the scope of the investment process of the MACS Total Return Solutions. Recommendations from Private Banking Global Research and Investment Banking professionals, based on fundamental and technical analyses, serve as a guide here. Investments are primarily made in securities that are fundamentally significantly undervalued and whose technical indicators are signaling optimal entry points.

Solutions for investors with different risk-tolerance levels

There is a specific risk budget for every total return solution. A return target is derived, based on the risk budget. This target should be reached in all likelihood over the specified (usually medium-term) investment horizon. The targeted return consists of the money market interest rate (LIBOR) plus a premium for the risk assumed (e.g. LIBOR plus 4% p.a.). Since risk budgets vary from solution to solution, the investment horizons and expected returns also vary, and they can meet the needs of more risk-averse or more risk-tolerant investors. It is important to note that negative returns cannot be entirely ruled out even with total return solutions. Since the portfolios are always managed in accordance with the given risk budget, however, the fixed target returns should be reached with a high degree of probability. ■

Value-at-risk (VaR)

Value-at-risk is a risk indicator/ratio used in securities trading or portfolio management to calculate the market risk of an investment portfolio. It measures the potential loss in the value of an investment or portfolio over a specific period of time (for example, 1 day or 1 month), with a high degree of probability (confidence levels are often set at 95% or 99%). Example: an investment portfolio has a value-at-risk of 2% (1 day, 99% confidence level). This means that, with a 99% degree of probability, the projected daily loss should not exceed 2% or that, in 99 days out of 100, the potential loss should not be higher than 2%.

Basics of hedge funds

The 2000–2003 equity bear market contributed largely to the popularity of hedge funds, as they generally delivered at least modest gains, while equity markets entered their worst bear market since the oil shock of 1973. Private and institutional investors have been piling up a significant amount of capital in hedge funds since then.

Cédric Spahr, Head of Alternative Investment Research and Portfolio Analytics, **Reto Meneghetti**, Alternative Investment Analyst

Estimates of assets under management in the hedge fund industry oscillate between USD 1.5 trillion and USD 1.8 trillion, with persistently high growth rates. Not surprisingly, we are starting to see capacity problems, and obtaining access to the better hedge funds has become more challenging. Despite sometimes overblown return expectations, the risk/return profile of hedge fund portfolios usually makes a useful contribution to portfolio diversification. Hedge funds do not represent a panacea that delivers high returns with low risk, but offer a useful combination of reasonable returns with low-to-medium volatility for diversified hedge fund portfolios.

Hedge funds: In search of absolute returns

From 1994 to 2007, the Swiss Market Index delivered an annualized average return of 10.4%, the S&P 500 9.7% and the CS Tremont hedge fund index 9.9%. The drawdown chart (**Figure 1**) shows that hedge fund investments limit downside risk in times of equity bear markets. Some specific styles, such as equity long/short, event-driven or global macro, outperformed equities from 1993 to 2007, reflecting superior manager skills. This underscores the importance of manager selection, since many of those funds are closed to new investors. While top managers can outperform, average

hedge fund investments can be expected to lag equity performance somewhat over the long term, as they necessarily sacrifice some upside potential to achieve reduced volatility. In other words, hedge funds should sail the seas with the comfort of an ocean liner, while equity investors should on balance reap higher returns, but with the reduced comfort of a sailboat. Both ways of traveling appeal to specific groups of people, and investors can determine for themselves how forceful their investment styles should be. Hedge fund investments can help smooth out the return pattern of a portfolio and should usually act as a building block for all modern asset allocation strategies. Given the decreased attractiveness of bonds, which might suffer from a further rise in bond yields over the medium term, the role of hedge funds in portfolio construction is especially important at the current stage.

The hedge fund industry in a nutshell

Hedge funds have evolved from a minor asset class to a major industry since 1990. Hedge fund assets under management have approximately grown by an average of 22.4% per year over the last 16 years (**see Figure 2**). The fast growth of the industry can mainly be attributed to hedge funds' greater freedom to invest in different

Figure 1

Hedge fund investments limit downside risk

The maximum cumulated loss (maximum drawdown) investors could suffer has historically been much higher for equities than for hedge funds (index vs. S&P 500). Source: Bloomberg

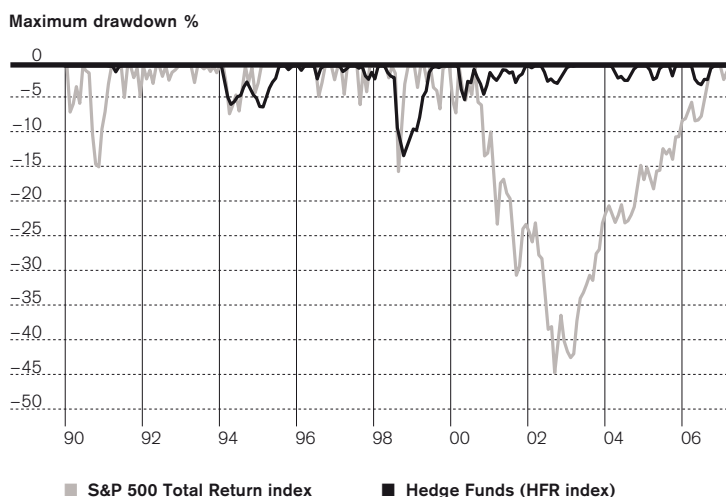
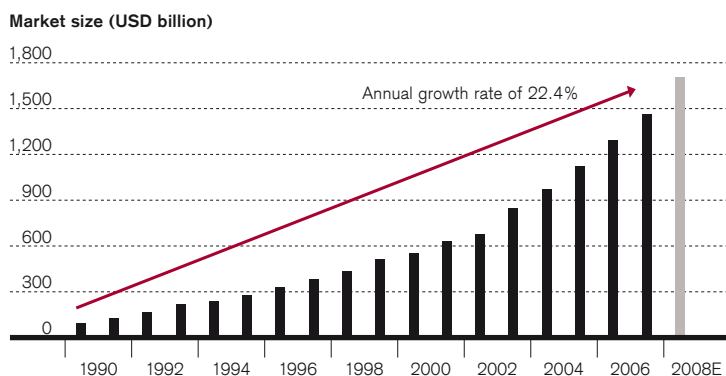


Figure 2

Strong growth in hedge fund assets

Assets in the hedge fund industry have experienced an impressive annual growth rate of 22.4% since 1990. Source: Credit Suisse, Van Hedge Fund Advisors



markets, the multiple opportunities their strategies offer to diversify a current portfolio, and the demand for high risk/return products. In comparison to global financial markets, the hedge fund industry is still rather small (1%). According to McKinsey & Company, total global financial assets expanded to USD 140 trillion by the end of 2005, including USD 44 trillion in equity securities, USD 35 trillion in private debt securities, USD 23 trillion in government debt securities and USD 38 trillion in bank deposits. In 2006, the 100 largest hedge funds increased their share of assets under management as a percentage of total assets managed by hedge funds to 65% from 54% in 2003. Hedge funds account for 15% of all transactions in US fixed income markets and for 45% to 60% in emerging market bonds, distressed debt and credit derivatives, according to Greenwich Associates and Financial Stability Forum.

Institutional investors have started to displace wealthy private investors as the largest group of hedge fund investors. The share of assets managed by hedge funds for high-net-worth individuals has declined from 61% in 1997 to 40% in 2006, as the share of institutional investors has risen. Investments from institutional investors from North America and Europe account for 90% of total investments of institutional investors in hedge funds. Public pension funds (23.6%), endowment plans (16.7%) and family offices/foundations (12.4%) still dominate the field among institutional investors (total 52.7%), according to Private Equity Intelligence. The CS Tremont index includes a broad universe of hedge fund styles. Figure 3 illustrates the percentage of assets allocated to each hedge fund style in relation to the total assets in the broad index.

Risk and return characteristics of hedge funds

What distinguishes hedge funds from traditional funds is mainly their investment strategies and the absence of regulatory or investment constraints on their asset allocation. In contrast to traditional funds, hedge funds can make use of more aggressive strategies, including leverage, short selling, arbitrage (long and short positions) and the use of derivatives. Hedge funds engage in a broad number of different investment strategies. Besides taking exposure to different sorts of financial market risks (equity risk, interest-rate risk, term-structure risk, credit risk, currency risk) by investing in equities, bonds, foreign exchange (FX) or commodities, hedge funds are also able to create exposure to non-conventional risks (so called "alternative betas") such as liquidity risk or volatility risk.

Investors should also have a clear view about the role of their hedge fund portfolio in their global asset allocation. Figure 5 illustrates the different risk/return patterns available to investors across the different hedge fund styles for the 1994–2007 period (CS Tremont index family). Investors who desire to stress the role of hedge funds as return enhancers with reduced risk, and accept returns which are more highly correlated with equity markets, should focus on directional strategies such as equity long/short or event-driven. Conversely, clients concerned mostly with diversification and risk reduction should favor relative value strategies, such as equity market neutral, fixed income arbitrage and convertible arbitrage. In their pure form, such strategies try to arbitrage value differences between single securities and are, to a large extent, less sensitive to financial market movements. Arbitrage strategies provide good diversification potential, but offer a lower return potential. Figure 5 shows the risk/return patterns for a directional index (60% equity long/short, 30% global macro, 10% managed

Figure 3

Assets allocated by hedge fund style

Share of different investment styles in % (03/2007). Equity long/short and event-driven funds represent close to 60% of total assets under management in the hedge fund industry. Source: CS Tremont, Credit Suisse

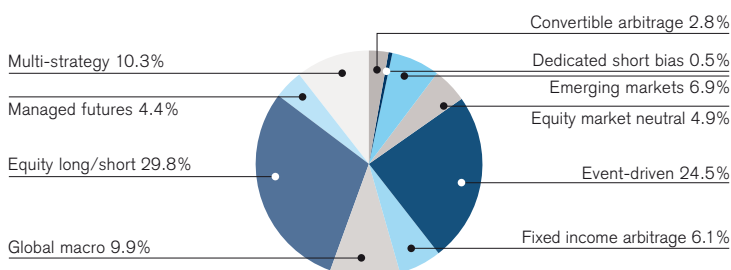
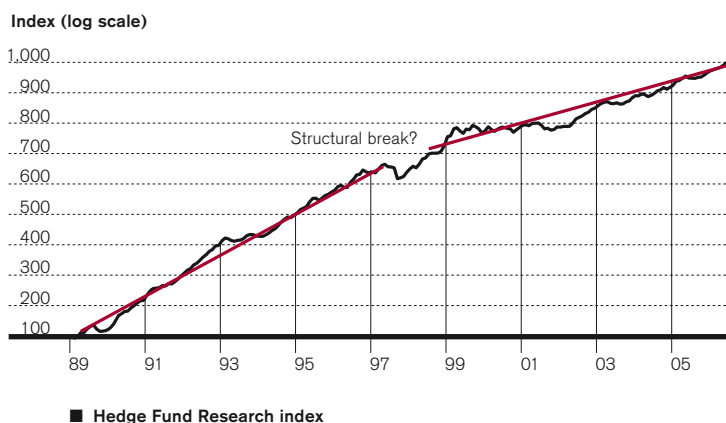


Figure 4

Structural decline in hedge fund returns

A logarithmic chart (slope is equal to annualized rate of return) of the HFR index shows that rates of return have decreased since 1998–2000, likely due to structural changes. Source: HFR, Bloomberg



futures), a relative value/arbitrage index (fixed income arbitrage 40%, equity market neutral 30%, convertible arbitrage 30%) and an event-driven index.

Return potential of hedge fund investments

Assessing the return potential of hedge fund investments is fraught with difficulties, as hedge funds do not constitute a real asset class generating their own risk premia like corporate bonds or equities. They represent a set of different investment strategies that strive to exploit classical and alternative sources of risk premia across financial markets. A classical source of risk premia results from a directional exposure to equity or bond markets.

Though, historically, hedge fund returns have been quite attractive, we believe they have structurally declined over the past few years (see Figure 4), which also reflects the stronger role played by institutional investors in the hedge fund industry. A cursory look at the logarithmic chart of the Hedge Fund Research index (HFR) since 1990 suggests a structural break in the return patterns occurred between mid-1998 and early 2000, a period characterized by a major emerging market crisis. From January 1990 to July 1998, the HFR index returned an annualized performance of 17.9%, with a volatility of 5.7%. From January 2000 to June 2007, the average return dropped to 8.9% while the annualized volatility rose modestly to 6.3%. In our view, the main reasons for this development are:

- Large inflows of capital in the industry, which have eroded the potential of a number of standard strategies and given managers the incentive to maximize assets under management in order to increase management fees.
- More risk-averse hedge fund managers following the volatile period of 1998–2002.
- The growing role of institutional investors in the hedge fund business (they make up 30% of total hedge fund assets). Institutional investors tend to favor equity-like returns (8%–10% range), with low volatility and primarily targeting large, established hedge funds with professional risk management and operations.

At the same time, the sector composition of the industry has undergone substantial changes. The market share of global macro funds declined from 66% in early 1994 to 10% in May 2007. Long/short equity funds have become increasingly popular (up from 15% to 30%), as the asset base of the industry has expanded from USD 100 billion to approximately USD 1.5–1.8 trillion. Returns for CS Tremont and HFR indices since 2000 have oscillated between 7% and 9% per annum, a range that is presently our best estimate of the return generation potential for a diversified hedge fund investment. This is similar to long-term expected returns for equities but offers the advantage of lower volatility. If the positive stock market environment persists, as we expect, returns up to 10% on diversified strategies look quite achievable. Fund of hedge fund managers typically charge fees worth an additional 1%–2% of assets under management. Investors will now probably watch more closely to see whether the performance delivered offsets the additional incurred costs.

Use of leverage by hedge funds – an example

One of the key characteristics that defines and distinguishes hedge funds from other asset classes is the use of leverage to enhance returns. Basically, a hedge fund can achieve leverage in two complementary ways – either by taking on debt (broker loan) or by taking off-balance sheet positions to boost returns, such as

derivatives and structured notes. To keep it simple, let us assume the risk-free rate to borrow or lend funds would be 5%. Hence, a hedge fund managing USD 20 million could borrow USD 80 million to finance the purchase of securities worth USD 100 million. If the securities increase in value to USD 120 million, the return on equity capital is 80% $((120-100-4)/20)$. The same result could have been achieved by using derivatives, such as futures or options. It is not possible to measure exactly the amount of leverage used by hedge funds, since they do not disclose their balance sheet positions. Furthermore, they often own off-balance sheet derivative positions.

Leverage is a powerful instrument to boost returns. However, higher returns almost always imply higher risks. It should be noted that the amount of leverage applied varies strongly from one investment strategy to another. Equity long/short hedge funds are usually conservative in their use of leverage, since they already have equity market exposure. Hedge funds active in fixed income markets, which deal with narrow and often stable interest-rate differences, have a strong incentive to use a leverage ratio that can oscillate between 10 and 20 (ratio of borrowed funds to own capital). Hedge funds that apply such levels of leverage are highly exposed to event risks. For example, in 1998, the LTCM Long-Term Capital Management had approximately USD 4 billion of equity and controlled positions worth about USD 100 billion. This represented a leverage factor of roughly 25 to 1. Turmoil in financial markets and the Russian credit default crisis rapidly eroded LTCM's capital base, with LTCM avoiding bankruptcy through a rescue action engineered by the US Federal Reserve.

The Collateralized Debt Obligation (CDO) market, where several hedge funds recently ran into severe financial distress, is a good example of how hedge funds can use multiple opportunities to leverage returns (Figure 6). **1.** The CDO structure can take on credit to buy additional bonds, which are integrated in the CDO structure. **2.** Hedge funds can buy CDO securities (senior and junior notes, equity tranches) with varying risk profiles using credit, which constitutes the standard form of leverage. **3.** Owing to their option-like payoffs, equity tranches are similar to derivatives. An equity tranche is a call option on residual cash flows in the case of no (few) defaults. Hedge funds usually invest in equity tranches or lowly rated junior notes, thereby creating a leveraged position relative to the performance of the CDO vehicle.

Figure 5

Risk/return patterns of hedge fund strategies

Investors can choose between three main categories of hedge fund strategies: directional ones with higher risk and return, event-driven and arbitrage ones with lower risk and return. Source: Credit Suisse

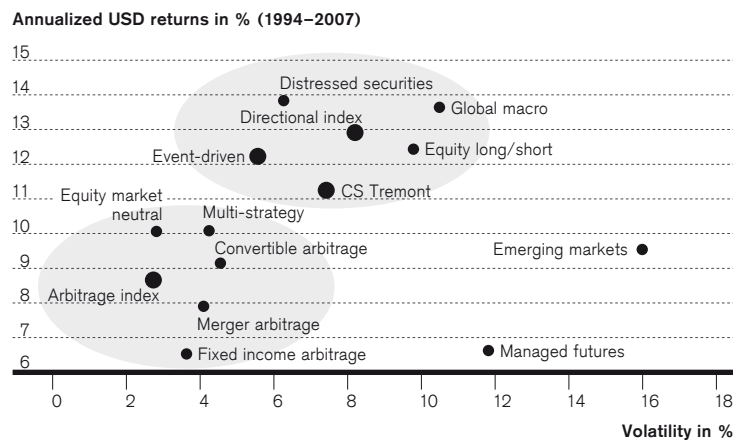
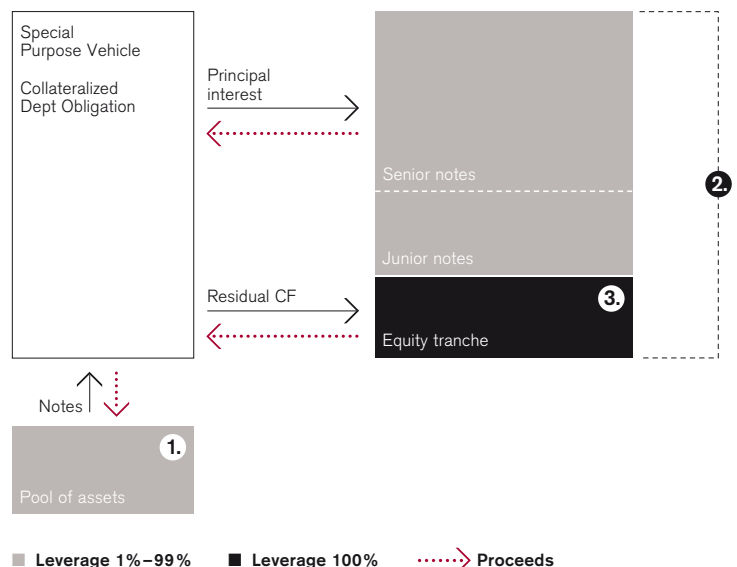


Figure 6

How much leverage?

The use of leverage in a CDO structure reduces the size of the equity tranche, which increases the risk profile of higher-rated tranches. Source: Credit Suisse



“The goal is to preserve and grow capital”

Mr. Chris Goekjian, an experienced fund of hedge funds manager, gives us his personal views concerning the characteristics of hedge fund investments and total return strategies. Interview: **Ulrich Kaiser**, Equity Sector Analyst, and **Cédric Spahr**, Head of Alternative Investment Research and Portfolio Analytics

Cédric Spahr: Mr. Goekjian, could you briefly describe what a fund of hedge funds does?

Chris Goekjian: A fund of hedge funds (FoHF) is a fund which targets absolute returns by investing in a diversified portfolio of underlying hedge funds. FoHFs are widely used vehicles for hedge fund investment. In fact, it has been estimated that between 50% and 60% of all investments into hedge funds go through FoHFs.

The reason that these investment vehicles are so popular is because FoHFs are professionally managed vehicles, which achieve instant diversification for investors with smaller investment minimums than individual hedge funds. So FoHFs are a very good way to access hedge fund investments for investors who are not experts in the field.

Ulrich Kaiser: How big and how liquid are these funds?

Chris Goekjian: Some of the largest individual funds of hedge funds I'm aware of are approximately five billion dollars,

but there are of course many smaller ones as well. There can be advantages and disadvantages to size – in particular larger FoHFs will be restricted in their choice of investments to the larger hedge funds.

Typically, FoHFs accept subscriptions monthly, and redemptions monthly or quarterly, depending on the liquidity of the underlying hedge fund investments. So FoHFs are unfortunately not as liquid as traditional bond or equity investments, but typically much more liquid than private equity or property investments.

Ulrich Kaiser: In what kind of hedge funds do you invest?

Chris Goekjian: This depends very much on the specific risk, return and correlation targets we set for each of our FoHF portfolios. In Altedge's lower-risk FoHF portfolios, with a typical risk profile akin to that of a bond portfolio, we would choose relatively conservative hedge funds across a range of hedge fund strategies that do not have large market exposures. In our more aggressive FoHF portfolios, we might choose more aggressive hedge

funds with larger market exposures.

However, across all our hedge fund investments, we always look for managers who have realized strong risk-adjusted returns across market cycles with strong risk management and low operational risk. This “safety first” approach insures that our investors are well protected in difficult market environments.

Cédric Spahr: Do age and size of hedge funds have an influence on their risk/return profile?

Chris Goekjian: Absolutely! Typically, the trend is that the larger and therefore typically older hedge funds tend to have more stable returns. This is mainly because of two reasons. First, for a hedge fund that is managing larger assets, the opportunity set in which you can invest tends to be more restricted in that they typically can only invest in the largest transactions in their sector, whereas if you're running a smaller hedge fund, you can invest in smaller transactions as well as the larger ones. The second reason is that more and more institutional inves-



Chris Goekjian is the CEO and CIO of Altedge Capital, an independent fund of hedge funds manager based in London. He is responsible for the overall management of the firm and oversees the investment process, with particular focus on strategy and trading evaluation, and risk management. Prior to founding Altedge in 2001, Mr. Goekjian spent ten years as a senior manager at Credit Suisse First Boston.

tors have started investing in hedge funds over the past ten years, and they are typically conservative investors who prefer lower risk/return investments. So many of the larger hedge funds that have taken large amounts of institutional money have a lower risk/return profile.

Cédric Spahr: What are the criteria for selecting hedge fund managers?

Chris Goekjian: At Altedge, we perform an initial filter that requires hedge fund managers to have an identifiable track record, so that we can evaluate the hedge fund's performance against other like hedge funds. The second thing we require is that the manager has what's called in the industry strong "pedigree." This means that the manager has a strong trading or portfolio management background from a tier one investment bank, asset manager or other hedge fund. Third, we look for managers that have enough assets to sustain their operations, i.e. a minimum amount of assets under management which would allow them to cover their expenses for rent, staff etc. For us, that would mean a minimum of a hundred to two hundred million in assets under management. Then, most importantly, if a hedge fund meets those three initial criteria, we will perform an in-depth risk/return and peer group analysis to compare that fund's performance and risk to other funds engaged in a similar strategy. If a hedge fund's performance scores strongly from a risk-adjusted return perspective, we would typically decide to perform further investment due diligence by carrying out manager interviews.

These interviews focus on how those returns were achieved, on how the managers' investment strategy is carried out and on how they manage their risk and their investments. This process allows us to gain an in-depth understanding of what to expect from that potential investment from a risk/return and market perspective. If, after this in-depth research, we are comfortable from an investment perspective, we would ask our Head of Risk Management to perform an operational

due diligence, which focuses on operational, legal, pricing liquidity and other non-investment risks of the potential investment. At Altedge, we have a low tolerance for operational risk, as we feel our investors do not get compensated for taking on operational risk, versus market risk where they do. If all of the above steps are satisfactory, a potential investment would be presented to the Investment Committee for approval and inclusion on our approved list.

We construct our FoHF portfolios from the approved list subject to strict strategy and manager limits. We also perform several portfolio-level statistical analyses to satisfy ourselves that the expected performance of the portfolios will be in line with their respective risk, return and correlation targets.

Cédric Spahr: What matters most, selecting the right manager or the right investment style?

Chris Goekjian: We performed an in-house study which demonstrates that allocating assets to the best-performing investment style (or strategy) is an important contributor to investment returns in our fund of hedge funds. However, by far the largest contributor to performance is picking the right hedge fund managers within a strategy.

Ulrich Kaiser: Is it difficult to find enough investment capacity with managers?

Chris Goekjian: This is very much an area of focus for us. We try to ensure that we have sufficient investment capacity with all our hedge fund managers so as not to suffer from any deterioration in per-

"...our investors are well protected in difficult market environments."

formance of our FoHF portfolios as new assets are invested. Securing investment capacity is a critical issue for the FoHF industry as a whole, but is particularly challenging for the managers of the largest FoHFs.

Cédric Spahr: Which hedge fund strategies offer the best risk/reward profile on a three to four year horizon?

Chris Goekjian: Currently we are positive on event-driven, equity long/short and macro. We think at this juncture in the market there are some good opportunities in the equity market, which provides a positive environment for long/short managers. In event-driven strategies, there has been an increase in corporate activity across the board, including the corporate activity driven by private equity funds. This has driven up the volume of merger and acquisition activity and has meant that there are very good returns to be had in the event-driven space. Finally, if you look at the opportunity set in the foreign exchange market, the different interest rate markets as well as the trends of the equity market, there are substantial opportunities for macro managers. So these would be the three areas that I would highlight as potentially doing very well over the next three to four years.

Cédric Spahr: What kind of clients do you have, institutions such as pension funds, insurances, endowments, or more private clients?

Chris Goekjian: Altedge has a diverse client base comprising private banks, family offices, high net worth individuals, independent asset managers, insurance companies and other institutions. And, of course, our partners are heavily invested in our own products.

Ulrich Kaiser: How would you define an absolute or total return strategy?

Chris Goekjian: We define an absolute return strategy as an investment strategy which is designed to target an absolute (positive) return over a defined period (usually one year) and whose performance is not dependent on the performance of an underlying market benchmark. It is impor-

“Many investors are not satisfied with just beating the market ...”

tant to note that this definition makes capital preservation (over a defined period) a top priority for absolute return strategies. Ulrich Kaiser: Is the total return approach really different from other investment strategies?

Chris Goekjian: Absolutely! The starting point is to define what your investment goals are, and particularly what your risk tolerance is and if you are an absolute or relative return investor. If, as an investor, you are happy to earn the return of the equity or bond market in the next 12 months and are happy with that risk profile, then you are a relative return investor and should invest in long-only strategies. If, on the other hand, you are an absolute return investor with a given risk profile, you need to make sure that your investment portfolio comprises investments which are consistent with that goal – hedge fund investments, capital guaranteed notes, money market investments etc.

Clearly, the investment returns and risk profiles from the two portfolios above will most likely be very different. Not surprisingly, there is a much greater chance of loss of capital over 12 months in the relative return portfolio than in the absolute return portfolio.

There's been a trend over the last ten years towards absolute return investing, particularly for the individual investor. Many investors are not satisfied with just beating the market or having the average market return. Indeed, their goal is to preserve and grow their capital. In response to this, many of the private banks have started developing absolute return mandates which are focused on the preservation of capital first and then incre-

mental return thereafter. Typically, these mandates would contain a large allocation to alternative investments.

Cédric Spahr: If we distinguish between absolute return strategies based on static methods like derivatives and dynamic trading strategies, are both useful or do you see the emphasis on one or the other side?

Chris Goekjian: We think both are useful. You can use derivatives, for example capital guaranteed notes or long option strategies, as part of an absolute return strategy, but it is a quite conservative way to invest, and the investor will be paying for the cost of that protection or option. That can be appropriate as part of the overall strategy or of an asset allocation, depending on the underlying asset or investment trend that one wants to capture. Equally, dynamic trading strategies such as hedge funds are also a valid approach and have provided historically strong risk-adjusted returns. Both approaches are valid and I think you have to use both. Diversification in all these things is your friend, so diversifying your portfolio across different absolute return strategies can be a very positive thing.

Ulrich Kaiser: Are there any risks involved for a client if he chooses a total return strategy?

Chris Goekjian: The main risk the investor is taking is the fundamental decision to invest in absolute return strategies to begin with. This can be particularly frustrating in years where the equity markets do very well and an investor runs a “frustration risk,” where an absolute return investor might underperform a relative return investor because he did not benefit in that equity market rally. But if one defines risk as a potential loss of capital (as we do), and one is diversified across strategies and investments, then I see absolute return investing as being the low-risk strategy from an investment perspective. ■

Sustainability creates opportunities

Credit Suisse will soon include sustainability scores in its company analyses. The primarily qualitative information will be compiled and evaluated by the renowned consultancy firm Innovest Strategic Value Advisors. Interview: Zoé Arnold, freelance writer

Zoé Arnold: Sustainability is becoming an increasingly important issue also to investors. What does that mean for Credit Suisse?

Bernhard Felder: It's not as if Credit Suisse just jumped on the bandwagon here; we have a long tradition in the area of sustainability. We have affirmed our commitment to sustainability through our signing of various international accords, such as the United Nations Environment Program's (UNEP) Sustainable Banking Declaration in 1992 and the UN Global Compact in 2000. As a consequence, Credit Suisse shares were subsequently added to leading sustainability indices. In addition, an internal committee at Credit Suisse continually reviews our business operations and corporate culture with regard to sustainability, and we continue to develop further initiatives in this area. In the research department, we will be working together with Innovest Strategic

Value Advisors, a consultancy firm that specializes in rating companies from a sustainability standpoint.

On what criteria does Innovest base its assessments?

Bernhard Felder: Traditional valuation methods focus on a company's financial figures, with broader factors such as management ability and strategic direction seen as important, but ultimately used as an input to the financial calculations. Innovest, in contrast, assigns the financial data only a 30% weighting. Its assessments are 70% based on intangible value drivers in the four areas Strategic Governance, Environment, Human Capital and Stakeholder Capital.

What aspects are examined in the assessment process?

Bernhard Felder: Corporate strategy is scrutinized of course. In addition, Innovest evaluates, for example, how fast a company adapts to societal changes and how

it minimizes environmental risks. Other aspects such as workplace practices, employment equality and interactions with alliances are also examined. Company appraisals by nongovernmental organizations are taken into consideration as well. This assessment process produces more than 100 individual indicators that are converted into a single overall rating ranging from AAA to CCC, and point out whether a given company is top or more of a flop in its industry with regard to sustainability.

So the criteria here are mainly qualitative.

How objective are the company assessments?

Bernhard Felder: The challenge is to draw together qualitative and quantitative data. In some cases, though not others, companies publish relevant quantitative indicators, while there are also some useful figures available from external sources. But usually, these have to be combined with a degree of qualitative judgment. Since Innovest discloses the 100-plus rating factors and publishes the calculation model, this enables us to reconstruct the analytical process, which makes it easier to understand the source of their assessments and judge how objective they are.

What methodology does Innovest employ?

Bernhard Felder: In order to standardize the factors as much as possible, Innovest uses a six-stage model. The Innovest analysts first ascertain the characteristics of the sector that a given company operates in. In a second step, they collect data on the company from annual reports or government filings, for example. On the basis of their analysis of the data, they work up a preliminary assessment,

Focusing on intangible value drivers

Innovest Strategic Value Advisors has been providing enterprise sustainability assessments since 1995. The objective is to ascertain how a given company deals with social and ecological risks and to estimate the impact on its earnings potential. The sustainability assessment focuses less on a company's financial figures and concentrates more on its intangible value drivers. Innovest currently covers approximately 2,300 companies in 60 different sectors. The assessments are fundamentally redone once a year, but up-to-the-minute changes are continually monitored and ratings are adjusted if necessary. Innovest also furnishes analyses for nongovernmental organizations, such as UNICEF and the WWF.

which is then reviewed in the subsequent deeper examination phase, with the aid of personal discussions with company executives. The preliminary assessment is then revised. The analyst in charge must defend his assessment before a committee prior to it being published. Experience shows that a systematic procedure of this kind produces good results.

How will Credit Suisse clients benefit from the collaboration with Innovest?

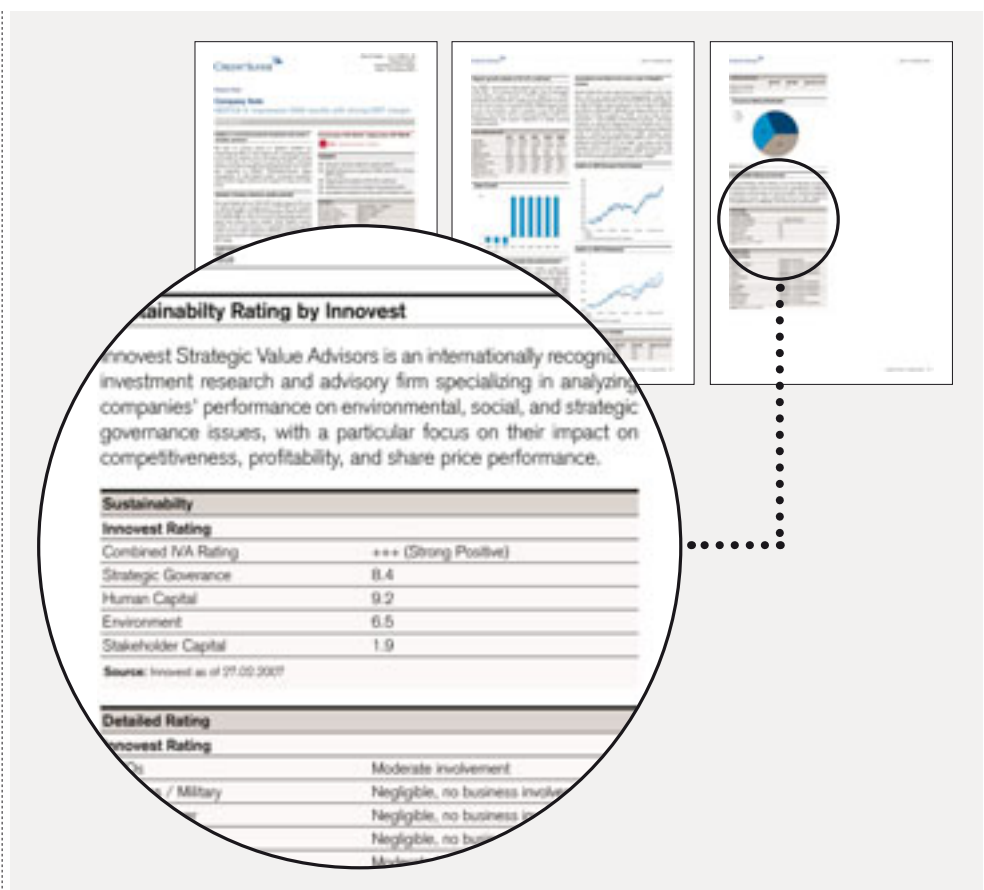
Bernhard Felder: The collaboration will enable clients to pursue a sustainable investment style. We will use the data we receive from Innovest to provide a specific sustainability rating for our clients as a supplement to our company analyses (company notes). This added information service enhances transparency. Moreover, our unlimited access to Innovest's database will assist us in thematic analysis, for instance in the area of alternative energy. The resulting findings will be used to develop new products, such as funds or indices that give clients interesting investment options.

Will the Innovest appraisals thus not be incorporated into Credit Suisse's overall company assessments?

Bernhard Felder: Yes, they will be. The Innovest appraisal will be a significant component of the overall assessment, and will reflect in our stock ratings. Is the desire for sustainability mainly a societal trend, or does sustainability truly have an impact on earnings potential?

Bernhard Felder: Sustainability is naturally a hot topic at the moment. At the same time, though, the financial markets feature plenty of good examples of sustainability-oriented products that deliver high returns. It's always a matter of risk and return. Companies that have risk under control often exhibit greater earnings potential over a longer time horizon. And environmental changes – whether

“Sustainability is precisely the type of complex matter that requires top-notch expertise.”



Credit Suisse will use data from Innovest to provide clients with sustainability ratings as a supplement to its company analyses. In addition, analysts will work with Innovest specialists to develop investment themes and products like funds or indices (note that the above example is for illustrative purposes only).

ecological or societal – always entail risk, but they also present opportunities. For as the Brundtland Report from the World Commission on Environment and Development so elegantly stated back in 1987, sustainability means meeting “the needs of the present without compromising the ability of future generations to meet their own needs.”

Why do the analysts at Credit Suisse rely on external consultants in this area?

Bernhard Felder: Our philosophy is to provide our clients with the best research. We employ certified specialists to perform fundamental and technical stock analysis. We additionally procure the best available information. We therefore bring in external analyses on top of all our internal sources. We then crunch and interpret the data for our clients. Sustainability is precisely the type of complex matter that requires top-notch expertise. The services provided by Innovest will be an excellent supplement to our own analysis activities.

What distinguishes Innovest from other consultancy firms?

Bernhard Felder: Innovest has been providing sustainability assessments on companies for a decade now. Moreover, Innovest's coverage has turned out to be ideal for Credit Suisse, enabling us to draw on professional sustainability information for all of the stocks in our universe. Does the collaboration with Innovest add up to a competitive advantage?

Bernhard Felder: The question is what we make out of the data. Our analysts will work directly with the specialists at Innovest to develop interesting investment themes, and this procedure holds a lot of promise. ■



Bernhard Felder is Chief Operating Officer of Global Research, and is responsible for the integration of Innovest sustainability analysis into the Global Research environment.

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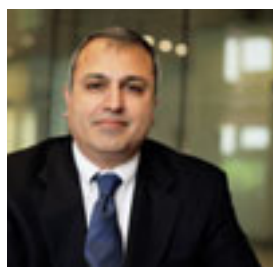
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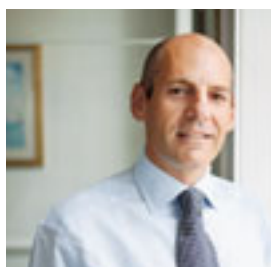
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AA	Obligor's capacity to meet its financial commitments is very strong
A	Obligor's capacity to meet its financial commitments is strong
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