CREDIT SUISSE

Scope

CREDIT SUISSE ASSET MANAGEMENT (SWITZERLAND) LTD.
Q2/2017

Security & Safety

Black or White
How Risks Become Opportunities

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Security Megatrend

Eric Varvel
Global Head of Asset Management

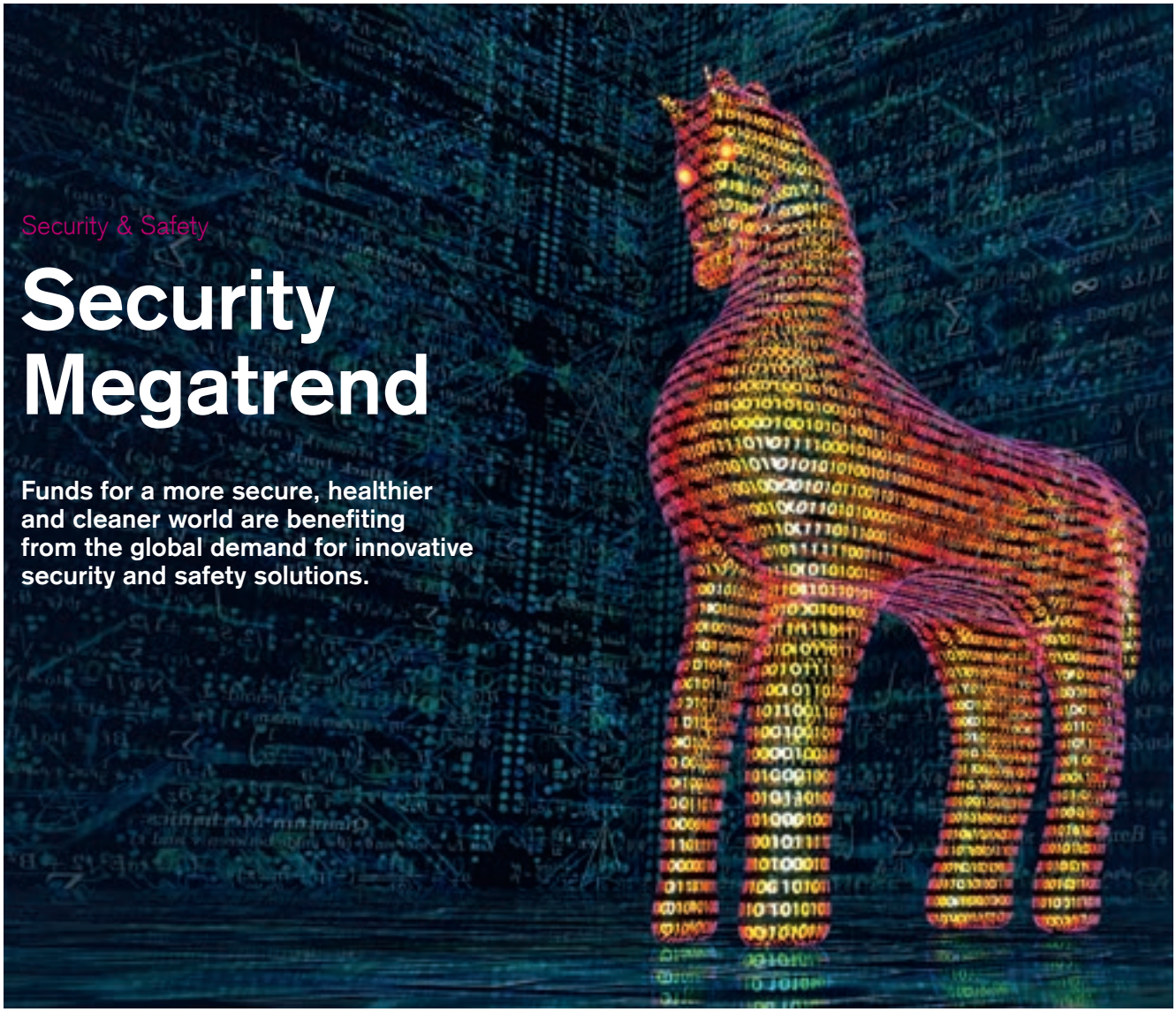
Are you familiar with the fear of crime paradox? It asserts that some people are very afraid of crime, although they are not particularly threatened by it, whereas other people have no fear of it, even though their threat is above average. Recognized some years ago, this paradox was confirmed in 2017 in a security survey conducted by ETH Zurich. Overall, the results of the survey are very gratifying. Nine out of ten Swiss people feel secure.

However, security isn't a condition. It's a value. This means that security also comes at a price. And that – in simplified form – is a key theme of the second issue of "Scope." We show you how the increasing global demand for solutions to security and safety is becoming a megatrend and leading to interesting investment opportunities. We also address the challenges the Swiss pension system is facing. The 2017 Credit Suisse Pension Fund Survey makes clear how urgent the need for action is. As Credit Suisse Asset Management, we have the expertise to support pension managers through words and deeds. This includes specific solutions such as investing in the Swiss energy infrastructure and Index Solutions.

Our article on Supply Chain Finance will give you insight into how we help CFOs of suppliers and other companies to gain an edge through this innovative concept. It enables suppliers to receive payment immediately after delivery of goods, while at the same time granting buyers a longer payment period customary for the industry and country. Credit Suisse Asset Management has launched a fund that invests in Supply Chain Finance programs, allowing investors to invest their funds on a short-term basis, similar to the money market, and achieve attractive returns.

I wish you an enlightening read.

Eric Varvel



Security & Safety

Security Megatrend

Funds for a more secure, healthier and cleaner world are benefiting from the global demand for innovative security and safety solutions.

Contents

The Scope Interview
André Helfenstein
Head of Institutional Clients

Pension funds have to compensate for today's low return expectations by expanding the investment universe, even when this leads to higher investment risks. André Helfenstein explains what Credit Suisse is doing to support institutional investors.

Investment Solutions
Good Mood Included
Supply Chain Finance

Trade receivables are a still relatively unknown asset class that, similar to the money market, enables investors to invest funds on a short-term basis and to achieve significant returns.

Investment Solutions
Premium Investments
Index Solutions

With multi-factor index funds investors can keep costs in check, diversify their portfolio and achieve excess return over longer periods.

Miscellaneous

Legal information

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André Helfenstein
André Helfenstein took over as Head of Institutional Clients at Credit Suisse in 2017. Previously, he was responsible successively for Private & Wealth Management Clients, Zurich Region and Corporate & Institutional Clients. Before joining Credit Suisse in 2007, he was at Boston Consulting Group in Zurich and New York for 12 years, ultimately as Partner & Managing Director. He is a member of the Executive Board of Credit Suisse (Schweiz) AG and of the Management Committee of the Swiss Universal Bank Division.

How to Rethink Returns

Interview with André Helfenstein
Head of Institutional Clients at Credit Suisse

As Head of Institutional Clients, André Helfenstein is confronted with the strategic challenges of the pension funds every day. He is convinced that the low return expectations for low-risk investments must be compensated by expanding the investment universe – even if that leads to higher investment risks. In the following interview, Helfenstein explains how Credit Suisse goes about advising and supporting the pension funds.* In this context, Global Custody Solutions and Private Label Funds have an important role to play.

** The statements in this interview are based on the Credit Suisse Pension Fund Survey published in May 2017.*

Mr. Helfenstein, what is the significance of the (new) Institutional Clients business area for clients?
André Helfenstein: Together with the Private Client business and the Corporate Client business, the Institutional Clients business is one of the three pillars of Credit Suisse in Switzerland, and consequently for us a key business area. As we see it, the primary advantage for our 5,000 institutional clients is that we can support them from a single point of contact, invest specifically in our institutional solutions and services, guarantee our local presence in eight regions and work closely with our Asset Management and Investment Banking divisions.

What do you currently see as the greatest challenges for the Institutional Clients business, and how are you responding to them?
The greatest challenges are undoubtedly demographic change and the low interest rate environment. Both of these issues have massive implications for the structure of pension funds, the skills required to successfully invest in global financial markets, and the need to invest in asset classes and solutions that represent new territory for some of the pension funds. Accordingly, we are supporting our clients by continuously expanding our solutions and services to include new asset classes and products. Moreover, we advise our clients from one point of contact to ensure that the overall solution is consistently applied, whether that's to investments, Global Custody, Private Label Fund structures as well as trading and FX management. Finally, we are also investing comprehensively in our IT platform, investment and risk analytics and our reporting.

How do you estimate the growth opportunities for the Institutional Clients business over the next five years?
The Swiss Institutional Clients business represents an absolute top priority for Credit Suisse. Moreover, we are convinced that the business will continue to develop very positively over the next

"Most pension funds have adapted to the low interest rates by adjusting their investment strategy and subsequently reducing the proportion of bonds from over 40% to 31%."

few years. The needs of clients are becoming more complex in every respect, and all segments in the institutional business are steadily consolidating. As the market leader, we are convinced that we stand to profit from these developments. To that end, we are striving to work together with our clients for the long term and to achieve mutual success.

Pension funds are facing hard times. How are you experiencing this investment environment?
We are very pleased to note that investment returns for the last year were generally positive, which was reflected in an average return for pension funds of 3.9%. The first quarter of 2017 also produced positive returns amounting to 2.1% on average. But occupational pensions are facing significant challenges. Low, and even negative (in Swiss francs), interest rates are making investment decisions much harder. That in turn means that it is increasingly difficult, if not impossible, to achieve the necessary returns employing an investment strategy that is based on bonds.

Will the low interest rates continue?
A return of interest rates to the high levels of the past seems rather unlikely even in the medium term.

What does that mean specifically?
Pension funds need to reorient their thinking and endeavor to compensate the low expectations for low-risk investments by expanding the investment universe to cover the global market as well as all asset classes, even if that leads to higher investment risks. An important point to emphasize here is that the assets must be accurately matched with the liabilities (*see also the report on page 12*).

Are these kinds of changes already evident?
Yes. In the Credit Suisse 2016 Pension Fund Survey, 60% of participants reported having altered their investment strategy. The proportion of bonds was reduced from more than 40% to an estimated 31% at present. In contrast, allocation to equities increased to 30% and real estate to nearly 19%.

One challenge is also the fact that beneficiaries are living longer than ever.
Yes. The increasing life expectancy means that the accrued insurance cover must last for a longer period of time, so pensions are actually falling. When the obligatory BVG (2nd pillar) was introduced in 1985, a fund had to pay out a pension over a period for 15 years. In the meanwhile, it's already more than 19 years.

Does that mean that the service profile of the pension funds also has to be adjusted?
Of course. Adjustments are urgently needed to guarantee the long-term financial equilibrium of the pension funds. That includes lowering the technical interest rate and the conversion rate, raising the retirement age and increasing premiums to cover risks and associated costs.

Have pension funds taken such measures?
Yes, some have acted. Based on our survey, the conversion rate has been lowered from 6.8% in 2010 to 6.2% at present. During the same period, the technical interest rate was decreased from 3.5% to 2.5%. Over the next five years the pension funds are planning a further lowering of the conversion rate to 5.5% and the technical interest rate to 2.0%.

How does Credit Suisse support the pension funds?
The most important thing is to understand the strategic asset allocation and to demonstrate how risks and returns can be better optimized. Based on this, solutions are implemented individually by means of asset management mandates, as well as funds and Investment Foundation products. To enable our clients to monitor and control the success of their investment decisions, we support them through cutting-edge Asset Servicing solutions.

Asset Servicing is also your responsibility. What is the significance of this area for institutional clients?
Asset Servicing comprises all of the services that make it possible to offer institutional and professional investors efficient administration and monitoring of their financial assets. Chief among these services in this case are Global Custody, Investment Reporting and Private Label Fund solutions, which are precisely tailored to the specific needs of the client.

What challenges do institutional clients face in the area of administration?
First of all, the general conditions of the last few years have meant that pension funds have been paying even greater attention to the costs of administration. At the same time, however, the regulatory and legal requirements as well as the pension fund industry's own demands with respect to timely oversight and monitoring have increased significantly.

"A clear trend toward a decrease in nominal value in favor of tangible assets is also evident."

How specifically can Asset Servicing solutions help here?
Global Custody refers to a way of allowing clients to reduce their administrative activity – for example, investment reporting, monitoring investment guidelines and investment accounting – to a minimum by handing it over to a single Global Custodian, enabling them to take advantage of economies of scale and a cost-effective solution. Our specialists make sure that our solutions are oriented toward the client's specific portfolio structure and processes – in particular Investment Reporting.

Conversion rate and technical interest rate
The conversion rate converts the assets accrued in the pension pot of each individual to an annual lifetime pension upon retirement. The pension fund experts must make assumptions about the expected duration of the pension payments as well as on the expected return on the residual capital. This expected return is termed the technical interest rate.

If these two parameters are set incorrectly, the available pension capital will not be sufficient to finance the pensions. In this case, the active insured must step in and make up the difference. This leads to an unintended redistribution within the 2nd pillar, from the active insured to pension recipients. Credit Suisse estimates that this redistribution amounted to CHF 5.3 billion in 2015.

You stress Investment Reporting. Why is that so important?
Investment Reporting plays a central role because it serves as a significant risk management tool for the client and establishes the analytical basis of support for investment decisions. By means of online reporting, clients can maintain an overview of their portfolio's assets at all times, the performance of their investments compared with their overall strategy and the risks associated with their strategy. In addition, even more detailed information is possible, for example, determining the performance contribution of the individual decision stages within the investment process. In recent years specialized analyses, such as focused reports on private equity exposure, have also become more important.

What other solutions does Asset Servicing offer?
In addition to Global Custody and Investment Reporting, we also offer Private Label Fund solutions. These solutions are custom-tailored to the specific requirements of clients. Clients may, for instance, be pension funds, insurers, banks, asset managers, family offices or ultra high net worth individuals. Private Label Fund clients contribute their already-held securities to their own collective investment scheme. In so doing, they benefit from even greater relief and increased governance by delegating the full responsibility for complying with ever more comprehensive legal and regulatory requirements to the fund management, which is monitored by FINMA.

How extensive is this business?
We currently have over 640 such funds under management. That amounts to assets of more than CHF 300 billion. In the last seven years, the volume has more than doubled.

What is Credit Suisse doing to help prepare the Foundation's trustees for the increasing challenges they are facing?
For quite some time Credit Suisse has been offering a successful training program for Foundation trustees. This is conducted by a team of Relationship Management specialists. Beginning this year, we are offering part of this training through the Pension Fund Academy, an innovative online course. In this way, every Foundation trustee can acquire more know-how anywhere, anytime. We have also included a practical day to expand and deepen the knowledge gained.

Mr. Helfenstein, you are also a member of the board of the Tonhalle Society of Zurich. How important is music to you?
Music and contact with the music world are very important to me, even though I don't play an instrument myself. My involvement with the Tonhalle is a source of great joy to me. I am very eager to see how the conversion of the Maag site into a temporary concert hall will be received by the public.

■ *May 2017*

Benefits for Investors in Private Label Funds

Delegate responsibility for governance

The external fund management is responsible for all regulatory and legal requirements (FINMA, CISA, investment guidelines, etc.). The processes, interfaces, monitoring and responsibilities are clearly defined. The client and investor is freed from this time-consuming activity and as a result is able to concentrate on the most important task: determining and implementing the investment strategy.

Greater efficiency

By consolidating assets at the custodian bank and outsourcing administrative procedures, investors are able to save time and money. The custodian bank is regularly monitored.

More transparency

Investors receive audited reporting on an ongoing basis, which lists all individual positions and contains important additional information on performance and risks, broken down by investment class, sector and country. The valuation criterion is the net asset value, which corresponds to the closing price of each trading day less costs.

Tax efficiency

Fund transactions in Switzerland are not subject to Swiss stamp duty.
Services for investment funds are free of VAT.

Flexibility

The client retains full flexibility in investment and asset management. He or she decides which services and which asset manager to use.

One-stop shop

Credit Suisse covers the entire value chain internally. Every client receives individual solutions from a single source. Despite its global presence, the Private Label Funds business is rooted in Switzerland as part of the Swiss Universal Bank.

Source: Credit Suisse Funds AG
The above list represents only a sampling of Private Label Fund solutions.
There are opportunities and risks associated with all investment funds.

Can We Expect a Trend Reversal with Bond Yields?

A return of interest rates to the high levels of the past seems rather unlikely even in the medium term. That being the case, pension funds are going to have to adapt the structure of their portfolios.

Since December 2015, the US Federal Reserve has raised its key interest rate four times, most recently in June 2017. Further interest rate moves are anticipated. Although the US was one of the first industrialized countries to begin normalizing monetary policy, the question arises whether these actions are signaling a fundamental transition toward higher interest rates and, consequently, higher bond yields. Specifically, what does this mean for Swiss pension funds?

In the last 30 years, both the nominal and real interest rates in many developed countries fell repeatedly to extremely low levels. The trend to lower interest rates was sustained over several economic cycles and had become entrenched long before the financial crisis, which hints at the structural nature of this trend. Some of the main drivers of this downward trend, for example, capital flight from the emerging countries, have in the meanwhile ebbed somewhat as a result of the lower growth rates. Other factors, however, such as the demographic aging of the population, will most probably have a further dampening effect on interest rates.

The findings of the latest empirical surveys have shown that contrary to the predictions of the life cycle hypothesis, retirement is not associated with overall net negative savings. The savings rate among older cohorts may be decreasing, but it continues to remain positive. In addition, the aging of the population is supporting the trend toward precautionary savings as well as a relative preference for safe investments such as bonds. But increasingly stricter financial regulation is also expected to support demand for investment. Consequently, in our opinion, and also from a fundamentals perspective, a trend reversal to a significantly higher interest rate is rather unlikely.

This insight is consistent with the findings from the most recent survey of nearly 200 pension funds that we carried out in conjunction with the Credit Suisse 2017 Pension Fund Survey. The expectation of the majority of participants is that there will be only a very modest increase in the interest rate in the next few years. Consequently, the average estimated return for 10-year government bonds for 2017 and 2018 is 0%, and for 2020 it amounts to a mere 0.8%.* However, should the interest rate rise sharply, in contrast to our expectations, the value of bond portfolios would clearly drop in the short term. This loss would, however, be offset by the reinvestment of repayments and coupons at higher interest rates over the long term, because the yield on the bond portfolio would adjust to the market environment by virtue of reinvestment.

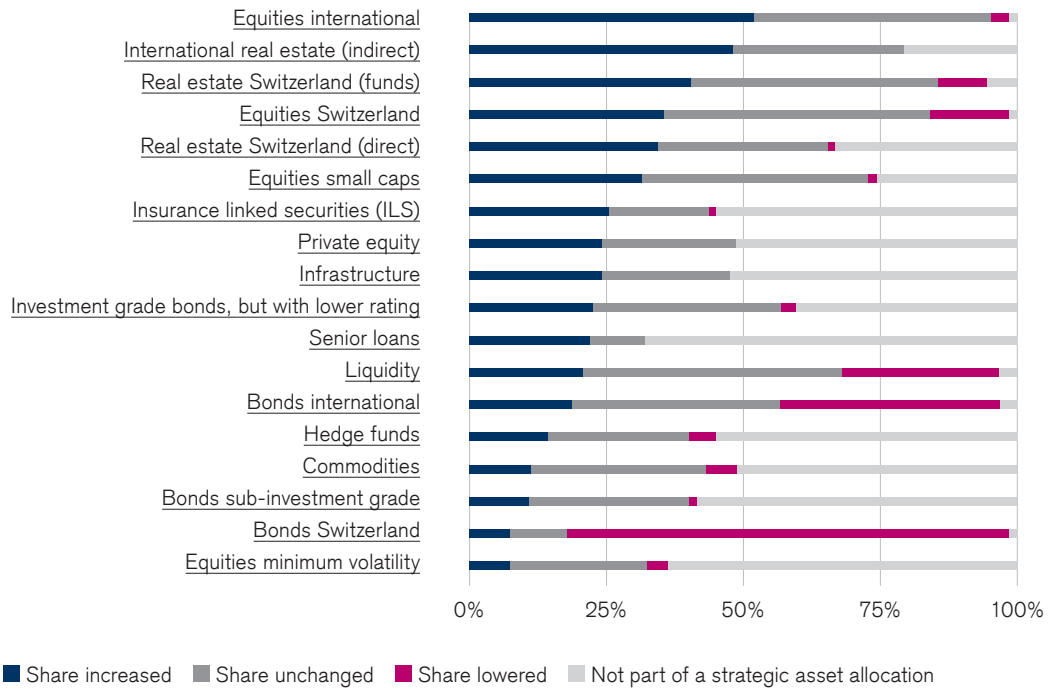
Nonetheless, given the expectation in the best case of a moderate medium-term increase in interest rates, the yield expectations of traditional fixed-income investments are very low. In addition, the risk of bond investments considered safe has risen. This is because, on the one hand, lower interest rates automatically lead to longer duration. On the other hand, many issuers have seized the opportunity offered by historically low interest rates to raise capital on a very long-term basis.

In this respect, it is less surprising to find that 60% of survey participants have already begun to adapt their investment strategy on the basis of prevailing low in-

** These forecasts are no reliable indicators of future performance.*

Adjustment of the investment strategy in response to a sustained low interest rate environment

Share of pension funds that have adjusted their investment strategy due to the low interest rate environment by changing the weights



Source: Credit Suisse 2016 Pension Fund Survey

terest rates. At the same time, a clear trend toward a decrease in nominal value in favor of tangible assets is also evident.

In cases where an adjustment of the portfolio structure was made, 81% of the allocation to Swiss bonds and 40% of the allocation to international bonds was decreased (*see graphic*). The proportion of tangible assets such as international equities, international real estate and Swiss real estate, on the other hand, was increased. But alternative investments, such as infrastructure, insurance linked securities and private equity also gained in importance. Thus, in many instances these subcategories were reintroduced and expanded. For many participants, however, these asset classes still play no role in their investment strategy. Thus, according to the Credit Suisse Pension Fund Index, at 6.2% for the first quarter of 2017 the proportion of alternative investments was far below the maximum limit of 15% set by BVV 2 (Ordinance 2 on the BVG). Exploiting this legal limit could lead to higher potential returns and better risk diversification.

Even within each asset class, diversification can be helpful in the search for new sources of returns. For example, because of its location-specific nature and correspondingly lower correlation to the domestic market, international real estate can offer an interesting broadening of the investment spectrum. Investments in lower credit quality and emerging countries serve to expand the investment universe for bonds. Where equities are concerned, emerging countries and small-cap companies represent interesting investments. In summary, low return expectations for low-risk investments must be compensated for by expanding the investment universe, even if this leads to higher investment risk. In this connection, it is important that the assets be accurately matched with the liabilities. Among other things, this also requires comprehensive cash flow planning. An asset liability analysis must be conducted to clarify whether the additional risk related to decreasing the bond allocation is tolerable, and what the target return needs to be to put the pension fund on firm financial footing over the long term.

"The pace of change creates opportunity in Asia"

Things look bright for Credit Suisse Asset Management: Michael Levin, Head of Asset Management Asia Pacific, sees the bank as well-placed to meet the new needs of clients and expects that China and India will become more heavily weighted in the asset allocations of both institutional and high net worth investors.

Differentiation required
Although, with China, Asia has the world's strongest growth machine, economic and demographic development among the markets differ and must be approached with differentiation. Besides China, India in particular shows great potential when it comes to asset management.

Michael Levin has been based in Hong Kong since October 2011. Since then, he and his team have constantly thought about the two intersecting dynamics of a rapidly developing business landscape in Asia and how they adapt to meet the evolving needs of their clients. "Asia is home to over half of the world population and has become the largest contributor to global growth. With the generation of wealth and high savings rates, Asia has surpassed the US as the leader in High-Net-Worth assets," he emphasizes.

Michael Levin
Michael Levin has been Head of Asset Management Asia Pacific in Hong Kong since 2015. In 2011 he joined Credit Suisse as an alternative investments specialist in Asia Pacific. He previously worked for various financial services providers and in the IT industry. Levin has a bachelor of science in economics (BSE) and finance from The Wharton School at the University of Pennsylvania.

While it is easy to aggregate the metrics that demonstrate the incredible progress and importance of Asia, it is hard to generalize among countries. Asia is heterogeneous with rich, diverse cultures, varying demographics and economies at different stages of development. The pace of change creates opportunity in Asia that has naturally been matched by increased competition. "This healthy development motivates us to sharpen our focus on differentiation and the value we deliver to clients. We also see a notable acceleration in the sophistication of investors with Asian institutions asserting greater global influence and High-Net-Worth individuals demanding institutional-quality offerings", says Levin. To effectively service clients across geographies, Credit Suisse Asset Management (CSAM) has honed the ability to be flexible in providing a range of relevant investment solutions.

A predicament for investors

These investment offerings have to reflect an environment in which investors are challenged by low or even negative yields and the risk of eroding wealth over time. Levin defines this situation as "a predicament for investors" since global monetary policy has been designed to penalize savings and induce risk-taking. Yields and returns from low-risk assets have declined to historically low levels, causing investors to stretch for yield by going down the credit curve and investing in less liquid or riskier assets. Unchecked risks have largely been rewarded in buoyant fixed income and equity markets, with excess liquidity also dampening volatility.

The premiums for assuming risk have now compressed to levels that warrant investors adapting their portfolios to better manage downside exposure going forward. Levin: "It is fortunate that the market's recent 'panic attacks' such as Brexit and the Trump election have been short-lived, providing us an opportunity to learn the lessons of the direct correlation between risk and expected return without having to pay the price of a permanent loss of capital. We have been working closely with our clients to migrate their portfolios into pockets of the markets where returns remain fair relative to the risk in order to deliver more stable returns and mitigate the potential erosion of purchasing power."

To help increase portfolio efficiency with less correlated investment strategies, Levin believes "alternatives are a good alternative." Investment opportunities always exist for the patient investor. In addition to an allocation to a diversified portfolio of hedge funds and private equity, areas that he sees as more attractive in the current environment include Asian corporate bonds and senior secured bank loans. Rather than go down the credit curve or assume longer maturities in the US or Europe, investors can gain a yield pickup in Asian corporate bonds while retaining credit quality with shorter duration. Senior secured bank loans is also an area that is not well understood by investors and provides attractive yields that are also floating rate.

Realistic expectations

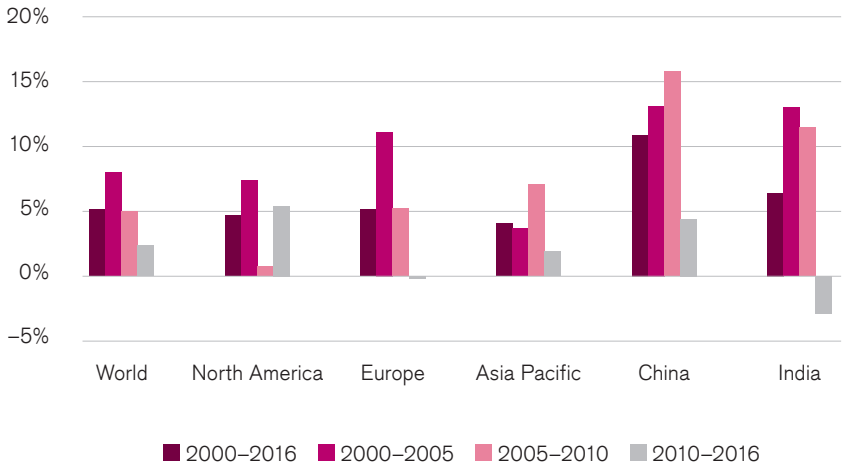
Asked what he considers the biggest risk that investors in Asia Pacific may not be factoring into their investment decisions, Levin replies: "The investment backdrop has globalized in a manner similar to trade, with capital moving more freely and excess liquidity affecting all markets. The perspective of investors in Asia is adjusting to these market conditions in a constructive way and expectations are realistic. There is a greater willingness in Asia to accept lower returns in exchange for predictability of investment outcomes rather than assume undue risk for which they may not be compensated."

There has been a change in both the mix of underlying assets and the nature of the investments in client portfolios. With the level of market uncertainty, Levin's team is seeing investors shift toward lower risk, yield substitutes and becoming more receptive to alternative investment strategies. "We see a recognition that the traditional asset allocation strategy of 60% equities and 40% bonds may not work going forward."

Investors in Asia are also realizing the benefits of managed investment strategies such as funds and discretionary mandates. Levin: "We believe this type of challenging environment provides an opportunity for us to work more

China and India on top

A long-term comparison shows China and India to have the highest average annual growth in private household wealth.



Source: Global Wealth Report 2016, Credit Suisse

closely with our clients to meet their objectives of achieving more stable returns and preserve capital during volatile markets. There are several risks that we try to help investors factor into their portfolios. We have all become acclimated to accommodative monetary policy driving down yields, supporting liquidity and dampening volatility. It's hard for investors to avoid becoming complacent about the risk of inflation driving up interest rates, corporate financing tightening, liquidity evaporating and volatility spiking." Leverage has also been creeping up in the portfolios in Asia. While it's unpopular, he tries to sensitize investors to the potential for a compounded risk scenario if a market sell-off is coupled with increased borrowing costs and a lack of liquidity.

"We have been working closely with our clients to migrate their portfolios into pockets of the markets where returns remain fair relative to the risk in order to deliver more stable returns and mitigate the potential erosion of purchasing power."

The cornerstones of CSAM's strategy in Asia Pacific

CSAM's strategy in Asia Pacific is built on the simple premise of serving local clients more effectively. Levin states: "While it sounds like a cliché, all of our decisions flow easily from having a client-centric foundation." The three pillars of the business that support this objective are (1) People, (2) Products and (3) Partnerships. CSAM has built a presence in five countries in APAC to localize its client coverage, developed strong regional investment capabilities and enhanced its leading partnerships.

Michael Levin's focus is on having the right people on his team to effectively service the needs of clients across geographies and segments, from large institutions to private banking clients. "It's equally important for us to cultivate a culture of collaboration, mutual respect, personal fulfillment and professional excellence," says Levin. "Our product initiatives are designed to deliver relevant investment solutions to a diverse client base. This includes leveraging our differentiated, global capabilities as well as building leading portfolio management teams in Asia."

> "There is a greater willingness in Asia to accept lower returns in exchange for predictability of investment outcomes rather than assume undue risk for which they may not be compensated."

Three leading partnerships in the largest markets
CSAM globally has taken an unusual and self-aware approach for a large asset manager. Each of the specialized investment teams is independently empowered and resourced to deliver the best investment results while benefiting from the institutional infrastructure of CSAM. This includes a strong operational platform and independent governance, controls and risk management sought by investors. Where CSAM does not have the ability to become a top player, it seeks to partner with best-in-class managers. Levin: "My predecessors had the vision to create a resilient competitive advantage by establishing premiere partnerships in the region. These relationships are critical to our strategy of delivering value to our clients." The three leading partnerships in the three largest markets in Asia are:

- ICBC Credit Suisse Asset Management ("ICBCCS"), the second-largest asset manager in China
- HDFC AMC, the largest equity mutual fund manager in India
- KIMCO, a top-performing hedge fund in Japan

The ability to provide investors access to this on-the-ground expertise in each market is something that no other asset manager can match.

Strategic priorities
Levin's priorities are based on enhancing the strengths within each of the strategic pillars of People, Products and Partners to better service CSAM clients. "We have to ensure that attracting and inspiring talent is always treated as a necessity. Our team also embraces a philosophy of continuous improvement. For example, we believe that we can do a better job of leveraging our deep understanding of the needs of investors within the Credit Suisse Private Bank to effectively support our third-party wealth management partners. We have been investing in our regional portfolio management teams in fixed income, equities and real estate. The proximity of our teams enables them to come up with new funds based on requirements from clients in Asia." Working closely with the Credit Suisse Private Bank resulted in the launch of pioneering Fixed Maturity solutions. CSAM will build and extend products based on these strengths and local client requirements.

CSAM has meaningful initiatives that are a direct result of their unique partnerships. "We strive to develop these important relationships and offer investors access to their leading investment capabilities. I believe the attractive fundamentals and under-allocation from global investors into China and India represents the greatest potential for a geographic redistribution of assets in the next two decades." Through ICBCCS and HDFC AMC, CSAM is positioned to become the preferred asset manager offering access to fixed income and equity investments in both China and India.

To summarize in Michael Levin's words: "These are exciting times for CSAM in APAC. Our ambition is to become the leading asset manager in Asia for our clients, people and partners".

The art of esteem
In Asian cultures, the offering of tea and its skillful preparation constitute a sign of respect, of appreciation and of friendship toward a guest.

The Partners

About ICBCCS

Since 2005, Credit Suisse has been partnering with the Industrial and Commercial Bank of China (ICBC), the world's largest bank by total assets (as of February 2017). This joint venture was China's first fund manager to be created as a partnership between a domestic commercial bank and a foreign asset manager. As of Q1 2017, ICBCCS was the second-largest asset manager in China, with over RMB 1.4 trillion (approximately USD 204 billion) of AUM. ICBCCS is also one of the few fully licensed fund managers in China to provide a broad range of asset management services to both Chinese and foreign investors.

About HDFC AMC

Founded in 1999, HDFC AMC is a joint venture between HDFC Ltd., one of India's most reputable financial institutions, and Standard Life Investments. HDFC AMC has deep local knowledge and an established track record of investing in Indian markets. HDFC AMC is the largest equity mutual fund manager in India with over USD 36 billion in AUM across Indian equity and fixed income. Led by HDFC AMC's CEO Milind Barve and CIO Prashant Jain, the Mumbai-based investment team has 25 professionals specializing in Indian equities and fixed income with a total of more than 425 years of combined investment experience in the Indian markets.

About KIMCO

KIMCO International Pte. Ltd., a highly experienced Japanese equity long/short manager, was founded in 2006. In 2010, Credit Suisse signed an exclusive distribution agreement with KIMCO, with distribution aimed mainly at Japanese pension investors and APAC private-banking investors. Toshikatsu Kimura, CEO of KIMCO, and the team have 20+ years of industry experience with a well-established track record of producing positive returns and preserving capital through market cycles in Japan.

Source: Credit Suisse Asset Management

Supertrends
Angry societies – multipolar world

As investors wonder how best to handle high valuations of many assets, they automatically turn to thematic investments that can benefit from long-term societal trends. Demographics, transformational socioeconomic and political developments as well as technological and scientific progress are at their core. In this context, IS&R (Investment Strategy & Research) published Credit Suisse's Supertrends: Angry Societies – Multipolar World, Infrastructure – Closing the Gap, Technology at the Service of Humanity, Silver Economy – Investing for Demographic Change and Millennials' Values. These are the long-term themes we expect to dominate in the coming years and provide investment opportunities. In this article we shed more light on Angry Societies – one of the five Supertrends.

Daniel Rupli
Head of Single Security Research
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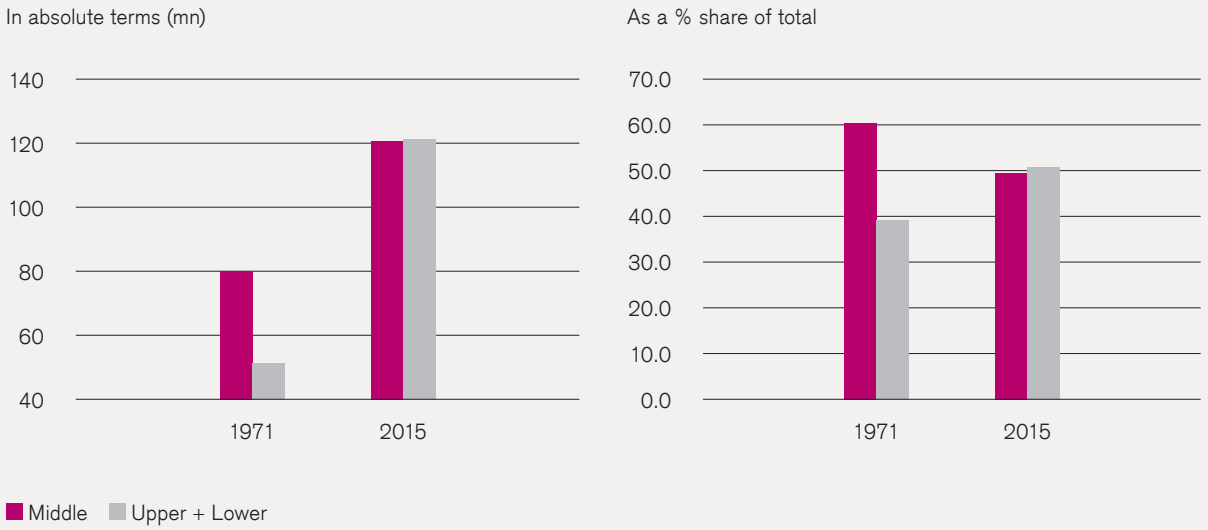
Angry Societies – Multipolar World
Rising inequalities within Western countries and frustration over perceived or real failures of the political establishment to deal with current societal challenges are leading disenchanted middle-class voters to demand change. This brings to power governments with strong mandates for policies more oriented to supporting the domestic economy, creating jobs at home and addressing some of the pain felt by the Western middle class.

Disenchanted Western middle class
Since the financial crisis of 2008, inequalities have grown globally, not so much among countries but within them, and especially in the developed countries. The economic policy mix of fiscal austerity and very loose monetary policy adopted in most developed economies to face the crisis proved particularly detrimental to the Western middle class. Tough labor market conditions with persistently high unemployment and stagnating incomes following the economic recession were exacerbated by hyperglobalization and disruptive technologies. This combination left many middle-class households permanently worse off after the crisis. At the same time, and in stark contrast, the wealthiest 1% of households significantly increased their wealth, which led to the widespread sense among the Western middle class of having lost out the most in the last eight years.

Figure 1: Middle-income Americans are no longer in the majority



Sources: Pew Research Center, Credit Suisse; Last data point: 2015

Furthermore, that same middle class grew more and more frustrated about the apparent inability of the political establishment to deal with key problems such as seemingly uncontrolled migration and the rise of terrorism. This led citizens across the developed world to mobilize to drive political change, the results of which have become increasingly apparent. Therefore, the next four to seven years are likely to bring about economic policy measures aimed at appeasing the Western middle class in the developed markets.

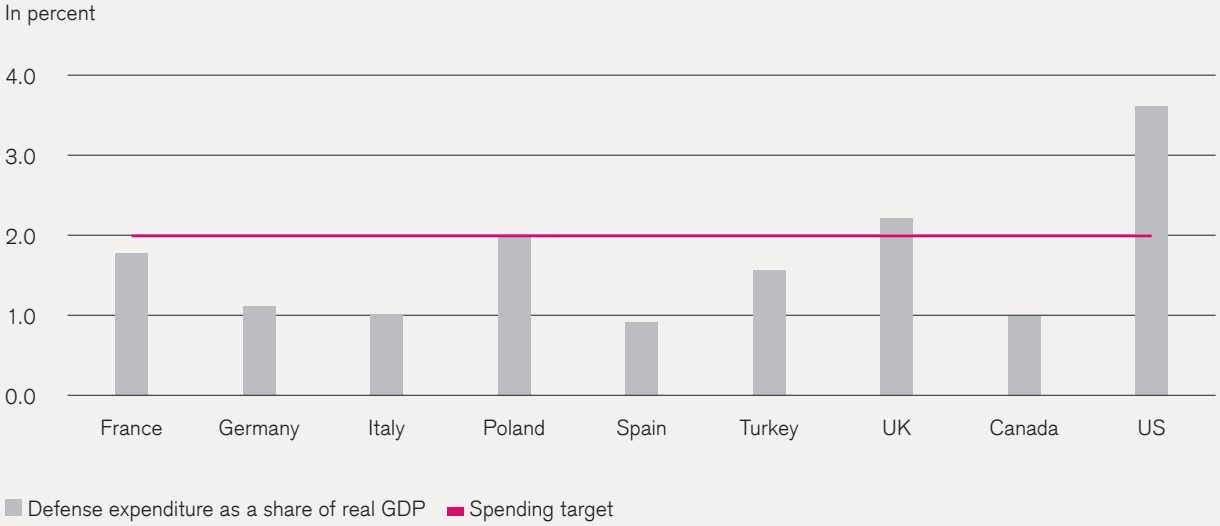
Issues important to the Western middle class

The middle class attaches great importance to safety and security, whether it is job security or simply individual security. Therefore, we believe that incoming governments will seek to strengthen domestic economies through job creation, wage increases and potentially regulation or taxation of industries that are seen as eliminating jobs. These new governments are likely to strive to restore the prosperity of the middle class, invest in national security and defense and stimulate private consumption. Investors can expect sectors and companies that benefit from such policies to see an upswing in sales, revenues and market valuations.

Focus on national champions and brands

So-called national champions spring to mind in this context. These companies can be the subject of soft mercantilist measures like government incentives to build factories at home, of public shaming if they outsource production and of a reduction or suspension of corporate taxes if they invest domestically. Such large companies have an inherent multiplier effect that politicians can use to drive their agenda. National champions further employ a large workforce in their home market. This reduces their vulnerability to protectionist measures and dependence on globally integrated manufacturing processes. Finally, national champions generally are a strategic interest for their home country. In the present context, strategically important industries are likely to create jobs for low-skilled workers, the "forgotten" group in Western societies. Such industries include general manufacturing, construction, telecom equipment and IT manufacturing. A second important group includes manufacturers of cars or airplanes that employ a large part of the domestic workforce. Beneficiaries of "buy local" initiatives can be found in the materials sector as well as the retail and wholesale industries. Healthcare in Europe is seen as a future jobs creator for better-educated young workers, considering the demographic

Figure 2: Defense expenditure as a share of real GDP



Sources: NATO, 2016, Credit Suisse

trends of the continent. National brands, meanwhile, are an extension of the national champions. Such brands are well recognized, have global reach and recognition and are associated with a national champion. Most national brands are found in the consumer sectors.

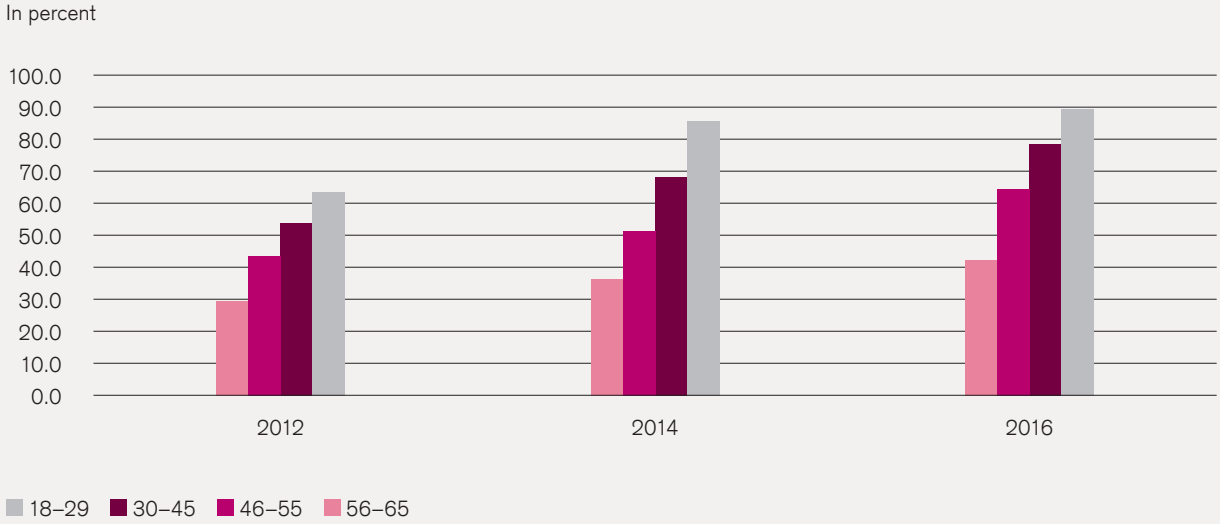
Spotlight on security and defense

Politicians naturally focus on defense companies since they are the main recipients of government grants for defense contracts. European NATO countries' defense spending today is just 1.5% of GDP compared to 3.6% in the US, 2.1% in China and 4.5% in Russia. The new US administration has proposed an increase in US defense spending, and guides to an increase for the National Nuclear Security Administration. It has also increased pressure on NATO allies to fulfill the NATO target of defense spending. This requires not only the procurement of airplanes, helicopters and drones, but also an increased focus on research and development as well as cyber security. In Europe, NATO guidelines call for defense spending of a minimum of 2% of GDP. Of the biggest European NATO members, only the UK and Poland currently meet this target, while Germany, Canada and Spain spend much less. Germany and France, the two nations that have an increased need for defense spending and have pledged to increase their defense budget to meet the NATO targets, account for about 5% of all defense spending by NATO. Higher spending by these two countries will likely drive European defense companies' earnings. Urban safety, safety of traffic and the protection of health and human lives are key priorities. As such, we also expect the market for homeland security technology to grow rapidly. Infrastructure protection and surveillance of public places are among the areas where IT hardware and software such as drones, robotics and artificial intelligence algorithms come into play. According to the research and consultancy firm MarketsandMarkets, the information security market will grow to USD 170 billion by 2020 from USD 70 billion today.

Increased focus on EM consumers

Since emerging markets (EMs) were the big beneficiaries of the decade of hyperglobalization, it is often assumed that they would suffer in a more multipolar world. However, EMs are not as exposed to international trade as people generally think. In a majority of EM countries exports only make up a third or less of GDP. In fact, many EMs are now at a stage of development where they can transform into more consumer and service-driven economies. We expect EM consumers to be at the heart of

Figure 3: Consumers with internet access by age – growth across all cohorts



Source: Emerging Consumer Survey, 2017

policy focus in the future. Credit Suisse's latest Emerging Consumer Survey yielded the following conclusions:

1. Improving consumer sentiment
Consumers' responses reveal that there is more optimism when it comes to personal finances, the possibility of a major purchase and the outlook for inflation.

2. Pickup in discretionary spending
Survey responses suggest that the outlook for discretionary spending remains positive, with spending intentions strongest in categories such as holidays, fashion items and personal care products. Spending intentions for holidays are particularly strong, though they are mostly focused on domestic travel.

3. Consumers turning to domestic brands as the US dollar strengthens
The terms of trade for EMs have tended to deteriorate, and domestically produced items are therefore becoming more attractive. National consumer champions will likely benefit from this trend. Indian consumers, for example, report a strong and growing preference for domestically produced auto brands. The strength of domestic brands is not just the result of increasing reliability and lower prices, but at times also regulation. In Brazil, the pharmaceutical market is dominated by domestic players thanks, among other factors, to stringent regulatory requirements that protect the market from imports.

4. Healthier and more connected
More affluent lifestyles and demographic change are giving rise to a trend toward healthy living. Consumers surveyed this year are reporting a strong willingness to spend on skincare, quality food and sportswear. Declining consumption of unhealthy products, including tobacco and alcohol, appears to be a broad-based trend. Furthermore, consumers are increasingly connected. In Brazil, 91% of those surveyed have internet access. 57% of low-income consumers had internet access last year, compared to just 36% in 2012. Younger generations, including Millennials, are significantly more likely to be connected. In addition, nearly a third of consumers shop online today, a share that has more than doubled since 2011.

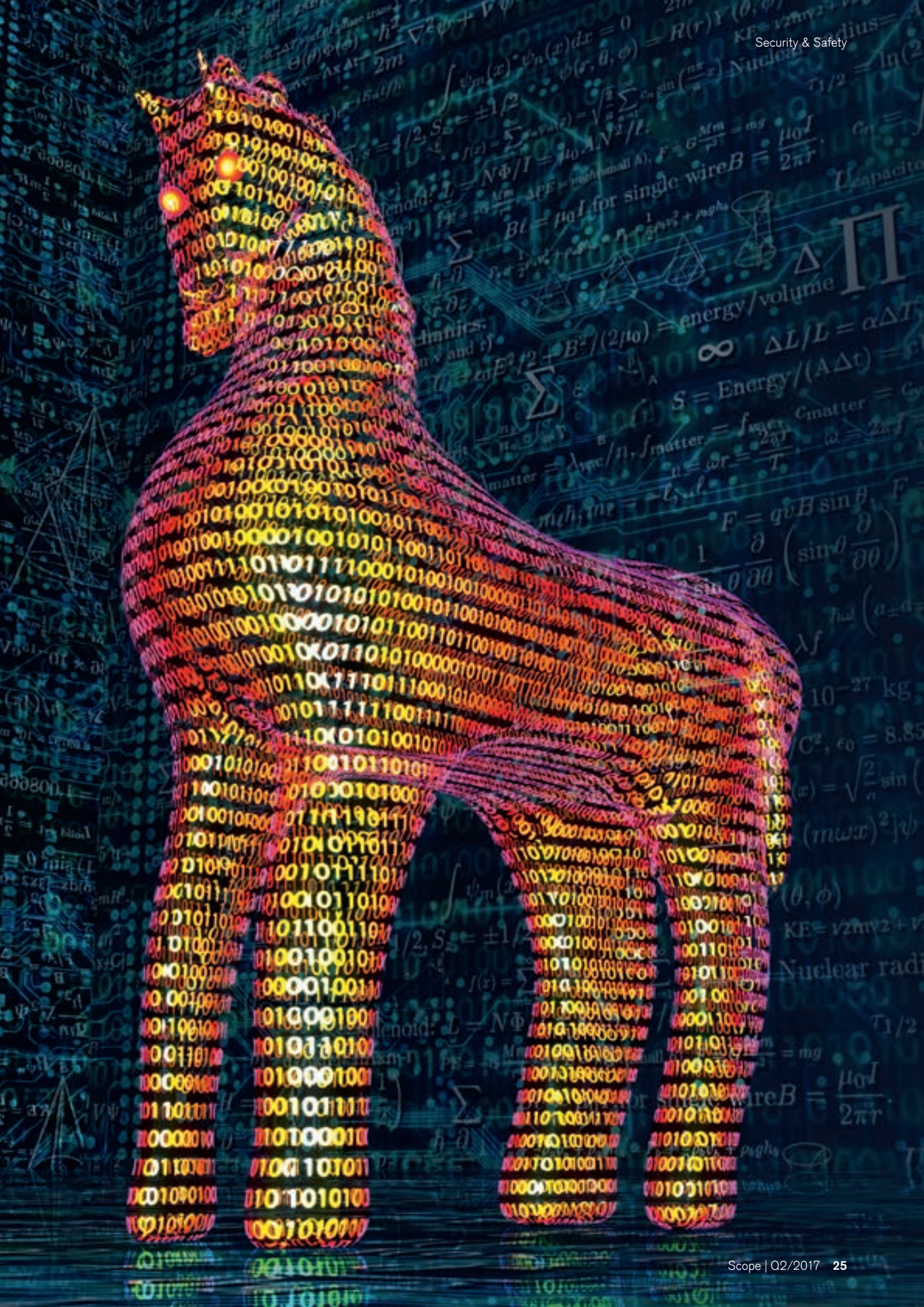
Risks Are Opportunities

Fund for a safer, healthier and cleaner world

Advancements in technology entail an increase in threats, driving the demand for innovative solutions to address issues of security and safety. This growth benefits companies in a wide range of industries. Together they make up the investment universe of a Credit Suisse fund designed for security and safety.

The desire for security reflects a fundamental human need. According to the American psychologist Abraham Maslow, security ranks second only to basic physiological needs such as food, water and sleep. It is foreseeable that the need for security and safety will continue to increase all around the world. The growth drivers include the swelling global population, migration, digitalization, the need to safeguard critical infrastructure and stricter regulation. All of these trends are beneficial for companies that are able to offer intelligent answers, specific solutions and more reliable products. The annual expenditure for security solutions is estimated to be several hundred billion US dollars. According to US consulting services company Gartner, in 2017 the market for IT security alone reached USD 90 billion. By 2020, it could potentially top USD 113 billion.[1] In keeping with this trend, demand is rapidly shifting from programs that are focused on preventive measures to effective means of detecting and defending against attacks.

1 http://www.gartner.com/newsroom/id/3638017



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From airbags to antivirus software

Five attractive investment themes in the area of Security & Safety

IT security

Examples
- Antivirus software, firewalls
- Electronic payment systems
- Big Data, etc.

Access control

Examples
- Access control
- Surveillance systems
- Identity protection, etc.

Transport safety

Examples
- Airbags
- Inspection and scanning systems at airports and ports
- Signal and braking technologies, etc.

Health protection

Examples
- Food/water monitoring and inspection
- Monitoring of epidemics
- Vaccines, diagnostics, etc.

Environmental protection

Examples
- Health of livestock and domestic animals
- Waste management/recycling
- Testing, inspection, certification, etc.

Sources: Autoliv Inc., Eurofins Scientific SE, IDEXX Labs Inc., Credit Suisse

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Credit Suisse fund with a focus on security and safety

Credit Suisse Asset Management recognized the growth potential in the security and safety sector years ago and subsequently launched a fund that is currently registered to operate in 15 European countries as well as Singapore. The fund invests worldwide in companies that derive at least half of their revenues from security and safety products. Funds are invested in shares of 40 to 60 companies active in the technology, healthcare and industrial sectors.

The customers of these providers include the public sector and private companies as well as private individuals. The scope for application is broad. It comprises, for example, ensuring critical infrastructure, monitoring the movement of persons and goods, crime prevention, quality control in the areas of healthcare, food, water and the environment, data exchange and the increasingly important area of protection against cyberattacks worldwide.

Broad universe, clear focus

The fund invests in a universe that essentially consists of three categories.

Around 50% of the investment universe involves industry. This includes airbags, surveillance systems, security for airports and seaports, management of dangerous goods and the increasing number of challenges associated with Industry 4.0.

Some 30% of the investment universe is reserved for technology, for example, products such as antivirus software, firewalls, Big Data and electronic payment systems.

The third category covers products and healthcare applications. Examples include vaccines, medical robotics, patient monitoring systems as well as analysis of water, air and soil.

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Just between us? Using mass data to create an individual profile

A prolonged conversation with a cardiologist, repeated visits to a heart disease foundation website, calls to a hotline for a drug that treats arrhythmia – the data collected from these events make it exceedingly easy to conclude that the person in question has a heart problem. Weddings, pregnancies, divorce, occupational changes, leisure activities, consumer preferences, memberships, political attitudes and social affiliations are likewise not hard to determine as a consequence of the data traces they leave behind. The boundaries between the legally permissible analysis of public data and the misuse of information procured illegally are increasingly becoming blurred.

White collar crime
Tax avoider?

- Border Agency data shows four day-trips to Zurich in past six months
- Mobile phone location data show visits to private bank: In Conrad-Ferdinand-Meyer-Strasse in Zurich; mobile data also shows two visits to Guernsey
- Mobile records show two answered and six missed calls from HMRC in the past month

Radical politics
Eco-activist?

- Visits Greenpeace website 74 times in three months
- Emails a known
- activist three times in the same period
- Downloads Climate Counts app for iPhone that rates companies on climate impact

Medical Record
A health scare?

- Receives lengthy call from cardiac visit of a London hospital
- Repeated visits over the next six weeks to the British Heart Foundation website
- Three calls to a pharmaceuticals hotline for a drug that treats arrhythmia

Street criminal
Drug dealer?

- Visits online hydroponics store six times in two days
- Mobile phone location data shows regular visits to CrowHigh, a store selling drugs paraphermalia
- Volume of text messages triples and calls quadruples against last year

Source: Gonzalo Viña, "Surveillance: Taking liberties?", Financial Times, August 9, 2016

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Megatrends and growth drivers
Players in the security and safety industry who benefit from this growth get an additional boost as a consequence, among other things, of the following megatrends:

Digitalization

Whereas in the past only PCs and IT networks were confronted with security problems, today data security touches nearly every area of daily life. One new, still unfamiliar and potentially high-risk technology is the Internet of Things (IoT). This connects electronic devices to the internet, one result of which will be to enable driverless cars. But the downside cannot be ignored. For example, around half of all automotive components are estimated to contain vulnerabilities and thus are susceptible to hacking. In 2015, Fiat Chrysler was forced to recall 1.4 million cars after hackers succeeded in taking control of a Jeep Cherokee.

Big Data and algorithms

More powerful computers and innovative mapping technologies are making it ever easier to create individual profiles and to track patterns of consumption. Personal data can be revealed through telephone metadata (information about calls and SMS messages, e.g. participants, time and duration). The barriers to accessing these data are, in part, very low, as has been lamented in the US scientific journal PNAS (Proceedings of the National Academy of Sciences of the United States of America).

Web tracking (tracking users when they visit sites) is also very fruitful. “Tracking gives rise to genuine threats and risks,” says the Fraunhofer Institute for Secure Information Technology’s “Web Tracking Report 2014.” Examples include the following:

- Stalking (following consumers as they surf the web)
- Gathering connecting data
- Creating profiles on the basis of very personal data, interests and behaviors
- Manipulating citizens and consumers
- Discrimination in online retailing
- Unfair treatment of job applicants
- Facilitating crimes such as burglary

Aging US infrastructure

The partially dismal state of US infrastructure requires comprehensive investment to monitor security and to determine the need for action. Estimates of investment required to renovate roads, bridges and water systems are as follows:

- Surface transport: USD 2,000 billion
- Water/waste systems: USD 150 billion
- Electricity: USD 934 billion
- Airports: USD 157 billion
- Inland waterways/seaports: USD 37 billion

Hacking

Hacking, phishing and malicious attacks are appealing to criminals, ideologically motivated protestors and some governments. A few data:

- More than 4,000 companies were hacked in 2014
- More than 800 million people were victims of cybercrime through theft of their personal data
- 70% of the most frequently used Internet of Things devices contain vulnerabilities
- 97% of mobile device apps unwittingly provide information that is useful to hackers
- An average of 1.5 million attacks take place each week

Security and safety has become an issue that will continue to be a subject of great concern to humankind in the coming decades. New ways of thinking, new behaviors and secure solutions are required that will give rise to promising opportunities for investors.

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Social engineering is the number one threat

The top ten threats in manufacturing and process automation

Social engineering and phishing have established themselves at the top in a ranking of the most critical threats to manufacturing and process automation systems (Industrial Control Systems, ICS), according to a 2016 publication put out by the Federal Office for Information Security. Social engineering designates a methodology that exploits human characteristics such as fear, helpfulness, curiosity and trust, with the goal of enabling attackers to gain unauthorized access to information and IT systems.

Potential associated damage

- Loss of availability of the Industrial Control Systems/loss of production
- Data leakage/loss of know-how (intellectual property)
- Causing physical damage to the facilities
- Triggering of safety procedures or interfering with safety systems
- Deterioration of product quality

No. (2014)	Top 10 2016	Top 10 2014
1 (3)	Social engineering and phishing[1]	Malware infection via internet and intranet
2 (2)	Infiltration of malware via removable media and external hardware	Infiltration of malware via removable media and external hardware
3 (1)	Malware infection via internet and intranet	Social engineering
4 (5)	Intrusion via remote access	Human error and sabotage
5 (4)	Human error and sabotage	Intrusion via remote access
6 (6)	Control components connected to the internet	Control components connected to the internet
7 (7)	Technical malfunctions and force majeure	Technical malfunctions and force majeure
8 (9)	Compromising of extranet and cloud components	Compromising of smartphones in the production environment
9 (10)	Denial-of-service (DoS) attacks	Compromising of extranet and cloud components
10 (8)	Compromising of smartphones in the production environment	Denial-of-service (DoS) attacks

1 New
Source: BSI Publications on Cyber-Security, BSI-CS 005, version 1.20 of 08/01/2016

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Ivano Somaini
Ivano Somaini is Regional Manager Bern for Compass Security Schweiz AG. He holds a master of science (MSc) degree in information security from ETH Zurich. Over the course of his studies, he deepened his knowledge of a range of topics such as encryption protocols, network security and e-privacy. In 2015 and 2016, he underwent training in the US as an expert in social engineering and open-source intelligence. As a social engineer, he has benefited from his experience as an amateur actor at the Kantonsschule Chur. Somaini is a much sought-after speaker and a popular interview partner for the media.

“Hackers have to think and behave like criminals”

In conversation with Ivano Somaini
Social Engineer

The whole question of individual identity is fundamental to his job as a social engineer and security analyst. Ivano Somaini’s responsibilities include attacks that he launches on behalf of clients. So-called penetration testing simulates an attacker who has managed to gain unauthorized access to a computer or network. This exercise provides clients with important information about where the vulnerabilities of their system or organization are to be found, and which measures they can take to improve the level of security. The ultimate goal is to successfully defend against attackers, whose own identity more often than not remains shrouded in mystery.

Cybercriminals generate revenues of CHF 450 billion
According to estimates, cybercriminals account for overall annual sales of CHF 450 billion. That is more than global sales for the drug trade. Ransomware – software that blocks computers and encrypts data – already contributes some fraction of the total. Today's hackers are frequently no longer just IT freaks who experiment in their free time, but rather highly qualified specialists. Behind them are tightly controlled organizations like the Russian mafia. The world was and (still) is essentially powerless against them. "As long as it's everyone playing against everyone else, and secret service agencies like the NSA either do not share information or do so only with the greatest reluctance, then attackers have an easy time of it," says Somaini.

"Patient data are much in demand and fetch high prices on the black market."

Banks are best at protecting themselves and their clients
Based on Somaini's experience, the level of IT security varies significantly depending on the industry. He has found security to be highest at banks. The insurance business and government agencies also subscribe to a culture of sound security and safety practices. Hospitals, however, have shown themselves to be precarious. In the UK, they were particularly hard hit in May 2017 by the "Wanna Cry" cyberattack. According to Somaini, there are two reasons for this:

"First, hospitals often have their own systems, which are only compatible with older systems like Windows XP. Second, patient data are much in demand and fetch high prices on the black market. Confidential information regarding actual or presumed health conditions can be misused, for instance to compel celebrities to pay hush money or to financially advantage healthcare insurers."

"Psychology and empathy are tried-and-tested door openers."

Yet, the greatest vulnerability is not computing per se but instead a piece of software known as "humans." Somaini frequently produces evidence of this, for example, when as an outsider – and

Hacking-Lab
Hacking-Lab an online ethical hacking, computer network and security challenge platform, dedicated to finding and educating cybersecurity talents. Hacking-Lab conducts international challenges such as the European Cyber Security Challenge with participants from Switzerland, Germany, Austria, UK, Spain and Romania. Hacking-Lab has 50,000 registered users and is used by numerous universities, companies and other organizations for competitions, classes and training sessions, among other things.

Compass Security Schweiz AG
Compass Security Schweiz AG is a Swiss Company with 45 employees in Switzerland and Germany. The core service of the company, which was founded in 1999, is security reviews, including penetration tests.

naturally without a badge – he makes use of the employee entrance. On such an occasion, Somaini will carry a box in his hands and at the same time simulate a very animated phone conversation to avoid having to engage with any employees. "It works every single time," grins Somaini. "Psychology and empathy are tried-and-tested door openers." How fortunate for such companies that he is there purely on an ethical hacking mission.

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Prevention is better than cure

Prevent infection – train your staff

- Ignore emails from unknown senders
- Be cautious even with emails from senders you know
- Don't open attachments
- Keep your system updated
- Use only legally obtained software from trusted sources

Prevent damage

- Maintain regular backups
- Test your recovery systems
- Keep backups on separate media
- Use the security function of your operating system
- Restrict write permission (on file servers)
- Use virus protection software

Source: Compass Security Schweiz AG

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Pay securely? Yes, you can!

The fact that fraudulent sales account for only a small percentage of total sales volume is thanks in large part to ongoing intensive security measures. As a result, credit cards are the most secure means of payment. Swisscard's success in combating fraud provides some insight into how it works.

In the last three years, only 5% of credit card owners have reported misuse of their credit card. In nearly seven out of ten cases, the card provider (issuer) managed to stop the misuse in time or covered the loss. In more than half of the cases of misuse, the provider drew the cardholder's attention to the anomalous transaction. These are the findings of a survey conducted by the GfK opinion research institute on behalf of comparis.ch.

Switzerland's impressive performance can be attributed in large part to Swisscard. No fewer than 25 employees are engaged in combating fraud. An additional 15 employees work around the clock on early detection of fraud. Every year Swisscard spends a seven-figure sum on fraud prevention. The results are impressive: since 2008, there has been a marked decrease in the percentage of annual revenues lost to fraud as well as the percentage of counterfeiting and fraud cases involving stolen data.

The expert system checks each and every transaction that is made using a Swisscard credit card (including cards that bear the Credit Suisse logo). Transactions involving suspected fraud can automatically be rejected by the system. For transactions with a lower risk profile, the anomalous transaction is examined after the transaction has been completed. Swisscard employees personally verify such transactions with the cardholder. If the transaction is rejected, Swisscard sends the cardholder an SMS.

Swisscard is now also offering two-way SMS. In the case of a suspicious transaction, the cardholder is notified by SMS and can then respond with "Accept" or "Reject." This simple and efficient solution prevents needless card blocking.

Good to know

A cardholder is not liable for fraud if he or she adheres to the due diligence requirements in accordance with the general terms and conditions (GTC). According to the GTC, a cardholder must inform the issuer in writing of any discrepancies within 30 days after receipt of the invoice. In principle, the usual security standards must be observed for online purchases and online payment transactions. These include, among others, encrypted connections, orders from reputable suppliers, existence of contact information, unique addresses, no orders on public computers and official logos for online guarantees such as the Swiss online guarantee from the Swiss association of mail-order companies (VSV).

Rejecting suspicious transactions

All transactions made with credit cards must be approved by the card issuers in accordance with international regulations. Swisscard uses a neural network that was developed by the world's leading company, Fico (Fair Isaac Corporation), for the early detection of fraud. Transactions involving suspected fraud are rejected by the system. If there are less clear indications, Swisscard employees verify the transaction with the cardholder.

According to a Fico investigation carried out in Germany in 2015, fraud schemes in which the card does not have to be presented – card-not-present (CNP) fraud – as in online trading, accounted for 70% of the cases investigated. Cross-border fraud is responsible for 80% of fraud cases.

Source: FICO study, May 7, 2015, www.fico.com

Combating phishing and stolen identity
In phishing, fraudsters attempt to capture card data by e-mail (with a link to a "fake" internet address). In so doing, they claim that the sender of the e-mail is a bank, a retailer or a credit card provider (Visa, MasterCard, American Express). If the cardholder enters his or her information, there is a high risk of fraudulent transactions showing up on the corresponding card. Both the number and the quality of these phishing attacks are increasing.

Another type of fraud consists of criminals trying to obtain credit cards using correct data from potential cardholders. The legitimate potential cardholder does not notice that purchases are being made in his or her name. This kind of fraud is currently not very widespread for credit cards.

Fighting on different technological levels
New technologies are constantly being introduced to ensure security. Examples include EMV chips, contactless credit cards and the 3-D Secure / Transakt app.

EMV chip cards

Swisscard has equipped all of its credit cards with the EMV chip. Simultaneously, the cardholder receives a PIN. In contrast to magnetic stripes, EMV chips are fraud-proof. The additional provision of the PIN enables unambiguous identification of the authorized cardholder. In markets where EMV infrastructure is still being developed (e.g. the US), magnetic stripe cards continue to be vulnerable. Here, the strict application of the model is helpful in fighting fraud and expanding the EMV space.

Contactless payment

Contactless-enabled credit cards allow the processing of smaller transactions without the need for a PIN. Contactless transactions are secure because they are encrypted (EMV chip) and subject to the chip and terminal agreeing on certain criteria. With this technology, a crucial data element can be used only once and is invalid for all subsequent transactions. The contactless transactions can be and are authorized online at specific intervals, which further helps to prevent unauthorized use.

3-D Secure / Transakt app (secure internet transactions)

3-D Secure is an internationally recognized security standard for paying by credit card online. During an online purchase at a participating 3-D Secure online merchant, authorization of the buyer (cardholder) is subject to an additional verification step. 3-D Secure has made online purchases more secure for cardholders and merchants. The introduction of the Transakt app in August 2014 further increased the degree of security offered by 3-D Secure.

The Transakt app is a simple, secure authentication system for smartphones and tablets. Once the cardholder has installed the Transakt app, payment for any purchases made online is verified by a message sent to his or her smartphone or tablet. The cardholder can then confirm or reject the payment.

Energy Industry in Turmoil

Opportunity for Credit Suisse Energy Infrastructure Partners

With the addition of Dr. Walter Steinmann and Kurt Lüscher, the Advisory Board of Credit Suisse Energy Infrastructure Partners AG (CSEIP) has succeeded in gaining two renowned experts from the energy industry. The board comprises acting and former specialists in the energy industry and energy policy. In the following interview, Walter Steinmann talks about the most significant challenges in the energy industry and how they can be overcome.

Classical energy storage
In the Grimsel region eight reservoirs drive the Kraftwerke Oberhasli AG. Increasing the level of the Lake Grimsel dam by 23 meters will raise the storage capacity from 95 mn to 170 mn m^3 in the coming years. This in turn will increase the energy capacity from 270 GWh to 510 GWh. The reservoirs make it possible to bridge gaps in the supply of renewable energy.

Walter Steinmann
As former head of both the Federal Office of Energy (FOE) and the Office for Economy and Labor of the Canton of Solothurn, Dr. Walter Steinmann brings with him a wide and unique network within the Swiss energy industry as well as in-depth expertise regarding policy and regulatory matters. He is also the Chairman of the Association European Energy Award, the former Chairman of the Management Commission of the Decommissioning and Disposal Fund and a former member of the Governing Board of the International Energy Agency (IEA) in Paris.

Credit Suisse Energy Infrastructure Partners AG
CSEIP is an independent investment manager within Credit Suisse Asset Management that focuses on utilizing institutional capital in the European energy infrastructure. In Switzerland, CSEIP manages CSA Energy Infrastructure Switzerland, which focuses solely on Swiss energy infrastructure and is exclusively available to Swiss pension funds. It thus enables institutional investors to participate in the structural transformation of the energy sector. The aim is for the CSA Energy Infrastructure Switzerland to invest CHF 1.5 billion in Swiss energy infrastructure by 2019.

"The demand for financing in the energy industry is increasing, and now new players are required."

Mr. Steinmann, the energy world going through a turbulent phase. What are the drivers? Where is all of this leading to?
Walter Steinmann: Yes, our energy industry is in total flux, triggered by more market exposure and competition, internationalization, new technologies, improved efficiency and digitalization. Because energy accounts for around 80% of greenhouse gases, ambitious climate targets are increasingly relevant for the energy industry. In the long run, the energy system should become more decentralized, efficient, intelligent and renewable.

So are renewable energy sources at all likely ever to become price competitive with respect to traditional energy sources?
Photovoltaics and wind power are massively decreasing in cost. In the latest global calls for tender, the offer for one solar kilowatt-hour was under 4 cents, and for wind around 5 cents – and that's not the end of it. Further advances and, consequently, even lower prices are foreseeable.

Are these technologies then still in need of subsidy programs, like those approved by Switzerland on May 21, 2017?
Not for much longer. The proposal that was approved on May 21, 2017 had to do with start-up financing, which will probably soon be replaced by other systems like a new market design. Because everybody wants guaranteed security of supply and should also have the willingness to pay a price for it. To my way of thinking, market-oriented instruments that offer an opportunity for competition, such as capacity reserves for winter, quotas, etc., are of primary importance.

But if we replace stable nuclear energy with solar and wind energy, power production will inevitably fluctuate. How will the supply security be guaranteed?
Supply security will be assured, on the one hand, through good connections to the European electricity and gas network. In addition, we also obviously need our own production as well as new approaches to storage. In terms of supply and demand, pricing for flexibility and timely storage must be clearly defined. Moreover, I expect that the transition to a more decentralized and more intelligent energy world will serve to open up new dimensions in supply security.

Mr. Steinmann, what motivated you to become a member of the Advisory Board of Credit Suisse Energy Infrastructure Partners AG?
Having started my career in 1977 at a bank, I am now looking forward – after many years on the management side – to once again looking at things from a business perspective and helping to drive development of intelligent financing solutions in the face of this comprehensive change in the energy world. And if the fruits of my labor eventually aid the beneficiaries of more than 130 Swiss pension funds, then that's a double reason for joy.

What contribution does the investment model of Credit Suisse Energy Infrastructure Partners AG make to the supply of energy in Switzerland?
For many public budgets, resources are in short supply, so savings and reform programs are the order of the day. At the same time, the demand for financing in the energy industry is increasing, and now new players are required. I think, particularly in the area of energy infrastructure, that investors with a long-term outlook have an excellent opportunity to successfully position themselves in the market.

Isn't it risky for pension funds to be invested in areas that are still, to some extent, strictly regulated, subsidized and politicized?
The focus of Credit Suisse Energy Infrastructure Partners AG is critical infrastructures such as electricity and gas networks. It is in the interest of the state that they work perfectly, so that in all probability they will ensure an

"In the long run, the energy system should become more decentralized, efficient, intelligent and renewable."

acceptable though not excessive return. The funds invest in hydropower only when they also pay off and the risks are not too great.

How do you estimate the potential of renewable energies and, in particular, Swiss hydropower for the Swiss energy supply?
With a share of nearly 60%, hydropower is the backbone of the Swiss electricity supply. From an environmental protection point of view, here only a small expansion is still possible, to enable photovoltaics to gain in importance. Most new buildings already include such installations, because the cost of the kilowatt-hours produced and even consumed is also cheaper for us than that sourced from local network operators.

How important is an efficient and stable transmission network in ensuring the security of the Swiss energy supply?
Up to now, Switzerland has been Europe's electricity hub and has made money doing it. In the future, too, we will continue to rely on a first-class transmission network because we can compensate for any domestic bottlenecks with imports. For this reason, it is also crucial that we be fully engaged in the European Network of Transmission System Operators for Electricity (ENTSO-E).

Why is the opening of the electricity market for small customers in Switzerland proceeding so slowly?
The first law on opening up the market was rejected in 2002 in a referendum mounted by an unholy alliance of radical opponents of liberalization and local electricity companies. The Electricity Supply Act subsequently drawn up provided as a first stage market access only for large customers. Small electricity suppliers repeatedly threatened full market opening with a referendum, such that even today we small customers cannot freely choose an electricity supplier.

Mr. Steinmann, if you wanted to show a foreigner a shining example of Swiss electricity supply, which project would you choose?
As a demonstration of classical electricity supply, my preference is the Grimsel reservoirs with the marvelous hospice, which also impresses with its exquisite ambience, its friendliness and its wine cellar. Once, after I invited a colleague from one of the neighboring countries to a meeting on the Grimsel, a YouTube video of the Gelmer funicular circulated through the ministries of Berlin, Vienna and Luxembourg – because nobody had ever experienced that kind of a ride before. An attractive beacon for the new energy world is the energy self-sufficient multifamily house in Brütten, designed by Walter Schmid. This cleverly combines the newest technologies, which taken together ensure a high standard of living comfort.

■ *May 2017*

Energy self-sufficient multifamily house in Brütten
Together with exhibition partners, Umwelt Arena Schweiz 2016 built the first "solar-powered" nine-family house in the world that requires no external energy supply. The building came through its first winter and the coldest and grayest January in decades with flying colors. The exhibition in the Umwelt Arena, titled "Energy Self-Sufficient Multifamily House," uses a large-scale model to show the technical design and current energy data, and displays the technological solutions. Various guided tours – including on-site in Brütten – are available. www.umweltarena.ch

Premium Investments Index Solutions

With multi-factor index funds investors can keep costs in check, diversify their portfolio and achieve excess return over longer periods. These funds deliberately deviate from market capitalization in their weighting in order to capture factor premiums as well as to reduce the investment risk. Institutional investors have been swearing by index funds for years. Now, most index funds are also available to private investors.

Dr. Valerio Schmitz-Esser
Head of Index Solutions
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The yield on ten-year government bonds currently stands at –0.02% (as of June 30, 2017). Accordingly, investors who put CHF 100,000 into such assets can count on getting CHF 20.00 less back. Once you have subtracted costs in today's low interest rate environment, low risk often translates into less wealth. That obviously cannot be the idea behind fixed-income investments. Index funds – and in particular multi-factor index funds – can provide one way out of this dilemma.

Valerio Schmitz-Esser, Head of Index Solutions at Credit Suisse Asset Management, explains: "Funds that invest in strategy indices instead of market cap weighted indices offer the possibility to reduce risk and at the same time to increase expected returns. The added value comes from decoupling a security's weighting from the price as well as through periodic reallocation and return to the target weightings (rebalancing), which leads to an anticyclical positioning." To put it a different way: strategy indices deliberately deviate from market capitalization in

"Index funds offer a cost-effective way of precisely controlling the risk and return of an equity portfolio."

their weighting in order to capture factor premiums and/or in order to reduce the investment risk. A factor premium represents a reward in the form of higher returns for holding equities with particular characteristics. Typical factor premiums can be observed for equities of small companies (small size), for favorably priced equities (value), for financially sound growth securities (quality) and for equity portfolios with the lowest possible risk (minimum volatility). With the Multi-Factor Index MSCI Factor Mix A-Series, investors who are desirous of combining factor effects have at their disposal an index that in addition optimizes the risk-return profile (*see article on p. 45*).

ETF or index funds

But why should anyone bother to buy index funds when there are plenty of exchange-traded funds (ETFs) around? One compelling argument is cost. Although ETFs can be traded continuously during stock market opening hours, this enhanced flexibility also has a price in the form of commissions and bid-ask spreads, which are part and parcel of every transaction. In contrast, the price of index funds is based on their net asset value. This value is calculated at the end of each trading day.

Indices outperform managers

Index funds offer a cost-effective way of precisely controlling the risk and return of an equity portfolio. "The subjective assessments of a fund manager have no bearing on the composition of the indices," says Schmitz-Esser, referring to Standard & Poor's Dow Jones Index SPIVA Scorecard. In the last five years, for example, 88.3% of actively managed large-cap funds have not succeeded in outperforming the S&P 500 (as of December 31, 2016). During the last five years in Europe, 74.2% of equity funds failed to beat the performance of the S&P Europe 350 (as of December 31, 2016).

Credit Suisse No. 1 in Switzerland*

Contrary to the prevailing opinion that ETFs account for most of the passive investment in Europe, index funds are actually ahead. According to Morningstar estimates, at EUR 550 billion, index funds account for more than half of passive investments. Schmitz-Esser is convinced that index funds are superior to ETFs in the long run and that growth will accelerate in the coming years. As a leading provider of index funds in Switzerland, Credit Suisse Asset Management stands to benefit considerably from the expected increased demand for these funds.

Credit Suisse Index Solutions currently manages CHF 108.6 billion in assets (as of March 31, 2017). This volume thus represents a nearly fivefold increase since the launch of the first index fund in 2003. Although today institutional investors still make up 90% of our clients, family offices and private investors are also increasingly turning to index funds. Since last year, most of Credit Suisse's index funds are available to private investors.

** Source: "Plädoyer für Indexfonds" (a plea for index funds), dpn Deutsche Pensions & Investmentnachrichten, March 14, 2017*

MSCI Factor Mix A-Series

The new index takes an innovative path to sustainable optimization of a portfolio's risk-return profile

The MSCI Factor Mix A-Series Index launched on December 12, 2014 is a combination comprising a third each of Value Weighted, Quality and Minimum Volatility indices. This index offers the following features:

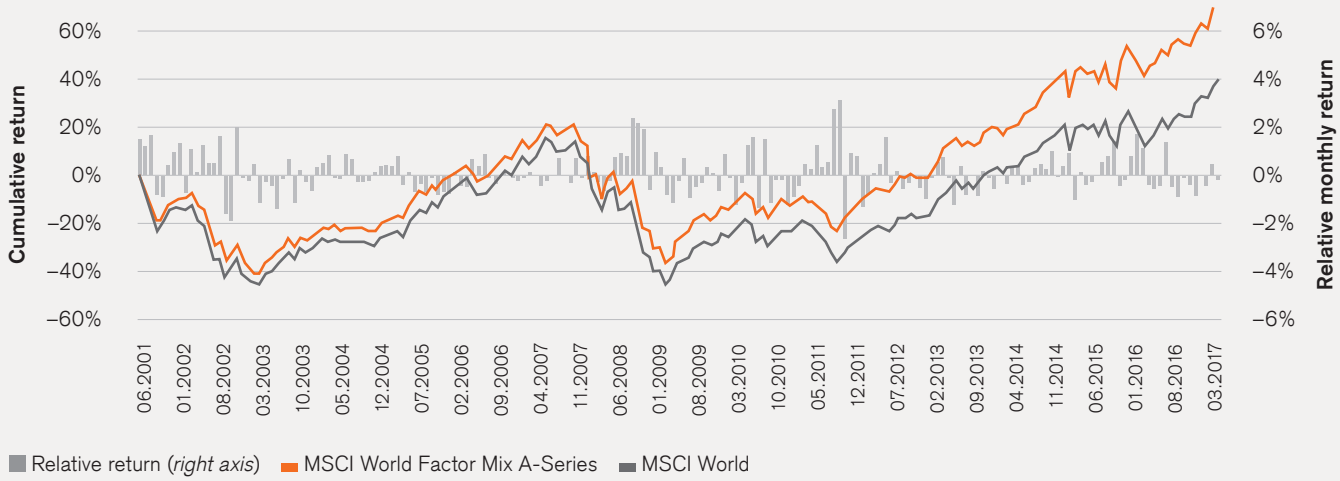
- Better control of the risk and benefit characteristics of the overall portfolio
- Focusing portfolios on different objectives, e.g.
  – Maximizing expected return
  – Minimizing risk
  – Maximizing the information ratio
- Opportunity to focus a portfolio on various factors such as quality (sound business model), value (favorably priced), size (company size) or volatility (overall risk)

Components of the MSCI Factor Mix A-Series

	MSCI World Value Weighted Index	MSCI World Quality Index	MSCI Minimum Volatility Index
Concept	Weights its equities according to key fundamental figures from the balance sheet and income statement.	Identifies growth securities offering higher quality than the market average.	Structures a portfolio with minimal volatility according to the MSCI Barra factor model.
Criteria	Weighting based on: • Book value • Sales • Cash flow • Earnings	Weighting based on: • Return on equity • Stable earnings growth (standard deviation of the earnings growth per stock over 5 years) • Financial leverage (debt capital/equity capital)	Characteristics: • Lower beta over the long term than the standard index • Lower volatility than the standard index • Higher share of mid-cap equities than the standard index • Focus on equities with low security-specific risk
Highlights	Historically significant excess return compared to the capitalization-weighted standard index.	Equities with sound business models and robust competitive advantages. Historically significant excess return compared to the capitalization-weighted standard index.	Historically significant excess return with lower volatility compared to the capitalization-weighted standard index.

MSCI World Factor Mix A-Series beats MSCI World

Monthly gross returns in CHF from June 2001 to March 2017



Source: FactSet, Credit Suisse
Historical performance indications and financial market scenarios are not reliable indicators of current or future performance.

Higher Returns with Lower Volatility – How Does That Work?

In the current environment of negative interest rates and record-high equity valuations, successful investing is no easy feat. How might multi-factor index funds provide an alternative approach?
As a result of the combination of different investment strategies, such funds enable investors to diversify their profile and reduce their overall risk. Index funds are also cheap because they are calculated at the end of the trading day and, unlike ETFs, don't involve any expensive market making.

What is the idea behind so-called factor-based index tracking?
The basic idea behind this kind of tracking is simple: less volatility and yet higher returns. Depending on the underlying strategy, the factor index is weighted differently and periodically returned to the target weightings. The latter is called rebalancing. For multi-factor indexes, various strategies are combined. Historically, this results in significantly higher excess returns compared with the capitalization-weighted standard index – naturally, over periods with lower volatility. As there is a partially negative correlation between the various strategies, the overall risk sinks below the level of the standard index. The scientific realization that decoupling from market weightings can be worthwhile prompted the SIX Swiss Exchange to launch the SPI Multi Premia Index Family.

Good Mood Included

Supply Chain Finance

Supply Chain Finance provides greater flexibility for both buyers and suppliers and lifts the spirits of CFOs. Specialized investment strategies offer short-term, low-risk investments that feature attractive returns.

Luc Mathys
Head of Fixed Income
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Trade receivables are a still relatively unknown asset class that offers investors, similar to money market portfolios, the opportunity to invest on a short-term basis while achieving attractive returns. The easiest way for investors to tap this attractive asset class is by investing in portfolios that are specialized in Supply Chain Finance. Despite short maturities, these strategies offer a significant yield pickup compared to other short-term fixed income alternatives. Considering that the current low, in some countries even negative, interest rate environment is leading to an erosion of wealth over time, this is even more crucial.

"Most Supply Chain Finance funds invest in notes with a maturity of less than one year. The strategy thus has a term structure similar to low-risk money market instruments, but with a more attractive level of return than traditional direct investments in unsecured receivables," explains Lukas Haas, Investment Manager for one of Credit Suisse's Supply Chain Finance Funds (*see graphic, "How Buyers, Suppliers and Investors Benefit," page 50*). However, for the various solutions available in the market, it is important to recognize the precise obligations, rights and risks associated with the structure to eliminate, for example, counterparty risks resulting from suppliers or fraud risk. In addition, depending on the solution, the underlying credit risk of the notes can be covered by insurance companies.

In the investment process Credit Suisse Asset Management works together with Greensill Capital. To date the company has implemented more than 80 Supply Chain Finance programs (*see the interview with Lex Greensill on page 52*).

Time is money
Although the supplier receives the money immediately after delivery, his customer pays only by the customary deadline. Supply Chain Finance makes this possible.

Supply Chain Finance brings interests together
The advantage of Supply Chain Finance consists in the fact that it provides clear benefits for both suppliers and their customers by bringing together the fundamentally opposite interests of the two groups. Suppliers wish to have quick receipt of payment to meet their own obligations, they want more favorable purchasing conditions, they want to better plan their cash flow and they want to keep financing costs low. Buyers desire to have the longest possible payment terms in the interest of preserving liquidity or so that they might have the opportunity to invest the funds profitably in the interim period.

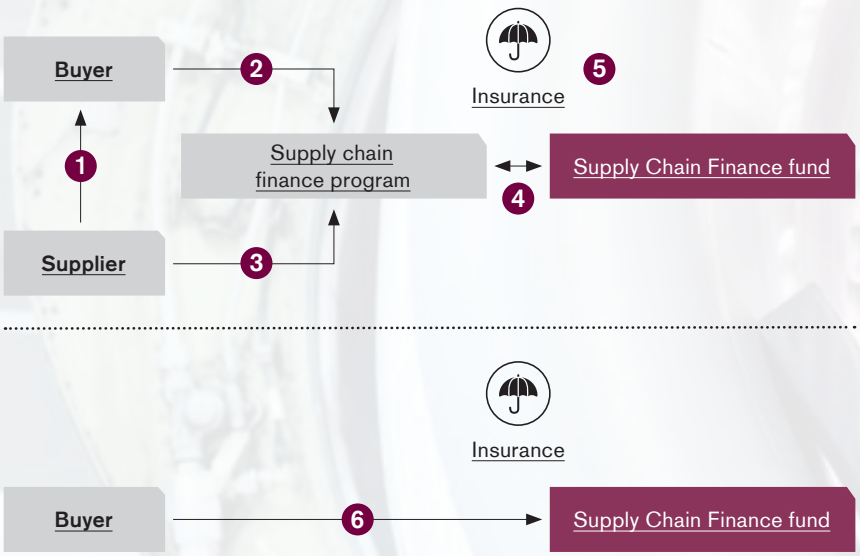
How many days lapse until a supplier receives his or her money depends on numerous factors. Decisive influences include a country's national interest rate level and the customary payment practices, which in turn are affected by culture. According to a study titled "Europäische Zahlungsgewohnheiten" (European payment practices), for which the Hamburg-based EOS Group surveyed 3,000 decision makers from 14 European countries, in 2016 the percentage of invoices paid on time amounted to 80% in Western Europe and 74% in Eastern Europe. At least one-fifth of the total invoice volume was not paid punctually. Topping the list of laggards were Greece, Russia and Bulgaria. In these countries, the percentage of late or unpaid bills was between 26% and 28%. Particularly for small and medium-sized businesses, late payments pose major problems. In extreme cases, they can lead to insolvency and, consequently, bankruptcy.

The worldwide market potential for Supply Chain Finance remains largely untapped and could increase by 15% annually over the next three to five years. The October 2015 "McKinsey on Payments" study estimated the volume of accounts receivable to be USD 2,000 billion. For Supply Chain Finance providers and investors of corresponding funds, that translates to a potential return of USD 20 billion.

Source: EOS Survey "European Payment Practices" 2016, EOS Holding GmbH, Hamburg

How Buyers, Suppliers and Investors Benefit

Process illustration



1 The supplier delivers goods valued at USD 10 mn. He sends an invoice to the buyer stipulating payment in 90 days.

2 The buyer approves the invoice and provides an irrevocable promise to pay the USD 10 mn within 90 days.

3 The supplier sells the trade receivables to Greensill Capital for USD 9.9 mn. Greensill Capital transfers the amount. The supplier thus receives the payment immediately on delivery.

4 Greensill Capital transfers the trade receivables to a Special Purpose Vehicle (SPV). The SPV creates and issues a note. This step serves as bankruptcy protection for the investors with respect to Greensill Capital.

5 The Supply Chain Finance fund buys the note. The underlying risks are insured.

6 After 90 days (agreed payment deadline) the buyer pays the invoice of USD 10 mn in full to the SPV. The note expires and the money is returned to the fund.

Source: Credit Suisse

Benefits for buyers

- Opportunity for price discounts thanks to a better negotiating position with suppliers who are assured of prompt payment
- Increased liquidity during the payment period
- Stronger relationships between buyers and suppliers because of faster, more predictable and easier payment processing
- Preservation of working capital
- Reduced risk of supplier default

Benefits for suppliers

- Immediate payment
- Reduced cost of accounts receivable accounting
- Lower financing costs (lines of credit become superfluous)
- Greater transparency with regard to cash flow
- Preservation of working capital
- Better investment planning

Source: "Scope" / Credit Suisse
The above list represents only a sampling of Supply Chain Finance solutions.
There are opportunities and risks associated with all relationships between buyers and suppliers.

More air for suppliers
In aircraft construction, engines and other components are manufactured to a large extent by external suppliers. Supply Chain Finance programs enable them to take receipt of the invoice amount shortly after delivery.

"SMEs are close to my heart"

Interview with Lex Greensill
CEO Greensill Capital, London

With the launch of the very first fund to invest exclusively in Supply Chain Finance assets, Lex Greensill has opened up a billion-dollar market. It functions through the help of banks, which make available supply chain financing that offers early payments to suppliers while allowing buyers to settle invoices within a customary period. As a result, both buyers and suppliers increase their cash flows and lower their financing costs. Supply Chain Finance is increasingly becoming an alternative to operating loans, which have lost attractiveness for banks owing to regulatory requirements.

Lex Greensill

Lex Greensill holds an MBA from Manchester Business School and is a solicitor qualified in England and Wales, and Queensland. Prior to founding Greensill Capital in 2011, he established the global Supply Chain Finance business at Morgan Stanley and led the Supply Chain Finance business at Citi. He is a Crown Representative and Senior Advisor to Her Majesty's Government and to the UK Prime Minister. He advised both Downing Street and the White House on the launch of their own Supply Chain Finance initiatives.

Greensill Capital

Greensill Capital was founded in 2011 by a seasoned team of specialists and has grown to become the leading non-bank provider of Supply Chain Finance and structured working capital solutions. Greensill Capital works together with more than 80 banks and institutional investors to guarantee the continuous flow of funds into Supply Chain Finance. To date, the company has made lending of more than USD 25 billion available in more than 40 countries.

Today, Greensill Capital has a team of more than 160 specialists based at the London headquarters as well as at branches in New York, Chicago, Frankfurt, Sydney and Mexico City.

Mr. Greensill, how would you describe the business model of Greensill Capital in a few words?

Lex Greensill: Greensill's model has grown from the fundamental belief that access to working capital should be better priced and more easily available to those who need it – in a word, "democratized." To achieve this, we have partnered with a group of leading invoicing-technology platforms to provide early payments to entire supply chains, from large multinational suppliers down to the smallest SMEs in over 40 countries. And, through our unique funding model, we are able to tap into large and diverse pools of capital alongside our own balance sheet to deliver the scalability and flexibility that our programs require.

Who are your typical clients?

Our clients are typically large multinationals with complex, global supply chains, although not exclusively so by any means. Indeed, our program sizes vary from tens of millions of dollars to several billion. Our solution is industry-agnostic and we are seeing programs grow in all major sectors, including consumer goods, telecoms, oil and gas, energy, agriculture, aviation and construction.

A KPMG research study says that globally 70% of companies have no access to Supply Chain Finance programs. How would you change this?

This statistic and others like it lie at the very heart of what Greensill has set out to overcome. Historically, banks providing Supply Chain Finance have only reached the largest suppliers due to cumbersome onboarding processes. More recently, the market had even begun to shrink as regulatory changes made it less attractive for banks to use their own balance sheet to fund early payments to suppliers. This neglected a large proportion of companies, especially SMEs, leaving only expensive alternatives.

Importantly, the impact of this doesn't stop with the companies themselves. With reduced working capital efficiency, company resources, innovation and growth are stunted and it is the wider economy that suffers in the end.

Instigating this change will be achieved by helping corporates implement Supply Chain Finance programs that can truly serve their entire supply chains and with it extend their affordable cost of borrowing to all of their suppliers. Greensill's invoicing technology partnerships and funding capabilities make us very well placed to deliver this.

"Appetite for this asset class has been strong, especially given the negative yields being seen across Europe."

Are there already signs that the smaller companies are catching up?
The rethinking has begun. Supply chain financing for SMEs is on a decent path to growth.

People say that your passion for Supply Chain Finance has its roots in your recollections of childhood.
Yes, there's something to that. My father had a small sugar cane farm. As a supplier to large multinationals, he experienced the pressure that arises from late payments.

Greensill Capital has created various specialized Supply Chain Finance funds. What are the principles of such partnerships?
Greensill Capital funds its programs via a diverse pool of investor partners, including corporates, banks, pension funds and various asset managers as well as its own balance sheet of Greensill Bank. Some of these will purchase assets on a program-by-program level and others, like Credit Suisse Asset Management, subscribe to Supply Chain Finance funds. Greensill was the first to create a fund structure of this kind, enabling non-bank investors the opportunity to subscribe into a diversified pool of Supply Chain Finance notes, all backed by insurance providers rated A or better.

How is the partnership with the Credit Suisse Asset Management going?
The partnership is a big success. We see a lot of demand from different kinds of investors, confirming the attractive opportunity we can offer. The strong commitment from both sides since the beginning looks very promising also for the future.

What makes such funds attractive to investors?
We are finding an increasing number of reasons why investors are drawn to our funds. As well as natural diversification, the risk-adjusted returns have been hugely attractive in our asset class. The short duration and insurance cover of the underlying notes is also attractive.

How can the funds provide the liquidity to cover redemptions in due time?
To help manage liquidity requirements, we maintain a 10% cash buffer on the fund which has proved sufficient in most cases. For larger fluctuations, we can rely on considerable untapped demand for this asset class across our investor network via our broker-dealer, Morgan Stanley, allowing us to manage liquidity with relative ease. To support this further, we can purchase assets on our own balance sheet via Greensill Bank in Germany.

In which regions of the world and in which industries do you see the highest growth potential for Supply Chain Finance?
Greensill provides Supply Chain Finance financing to suppliers across over 50 countries and counting. We see tremendous growth around the world with new and existing Supply Chain Finance programs as well as increasing appetite for the asset class with investors. Recently, we have found significant opportunities in consumer goods, telecoms, oil and gas, energy, agriculture and aviation, but growth is visible across all sectors.

We are increasingly finding new ways to address the working capital needs of our clients and their suppliers. What is becoming apparent along the way is the enormous scope for further innovation. We look forward to leading the way in tackling this.

Her Majesty Queen Elizabeth II recently bestowed upon you the honorary title of "Commander of the British Empire for Services to the Economy of the UK," for which "Scope" congratulates you most heartily. What does this award mean to you?
The title was granted in recognition of the contribution Greensill Capital has made to the economy of the UK through development of a global Supply Chain Finance business. It is extremely rare that a person of my age receives a distinction like this one, and I feel exceptionally honored. It is a wonderful recognition of the indefatigable work that our team of 160 professionals do in providing over 1 million SMEs with access to ultra-low cost credit.

■ *May 2017*

"When the Eyeball Is Too Long"

Burkhard Varnholt on demographic developments, challenges for pension funds and shortsighted investment strategies.

According to the definition in Wikipedia, Shortsightedness, or myopia, describes a specific form of defective vision (ametropia). It is usually the result either of an eyeball that is too long or of active optical elements whose refractive power is too great with respect to the length. Consequently, there is a mismatch that makes distant objects appear less sharp than near ones – so that the person in question sees better up close (hence the term 'shortsighted,') than far away.

The parallels to the investment activities of our pension institutions are unmistakable. They are still investing the lion's share of their wealth in a shortsighted fashion and see the long-term consequences only as a blur.

But whereas the shortsightedness of the human eye can be corrected with eyeglasses or a laser operation, finding a remedy for investment policy calls for other measures.

Burkhard Varnholt
Chief Investment Officer (CIO) Switzerland of Credit Suisse, Deputy Global CIO and Vice-Chairman of the Investment Committee of Credit Suisse

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Demographic trends pose challenges

The underlying conditions are actually clear, because both the demographic trends and the resources needed to finance pensions can be calculated fairly precisely. In Switzerland, the number of people aged 80 and older is set to increase by about 86% in the next 20 years. On average, this amounts to 19,000 people per year. In contrast, the number of working-age people will increase by only 7%. When the AHV (Switzerland's Old Age Insurance System) was introduced in 1948, life expectancy stood at 68.6 years. In 2015, it was 82.8 years.[1] Thanks to medical progress, people also remain young for a longer time. They are active, sophisticated and, owing to their readiness to consume, a growing factor in the economy ("Silver Economy").

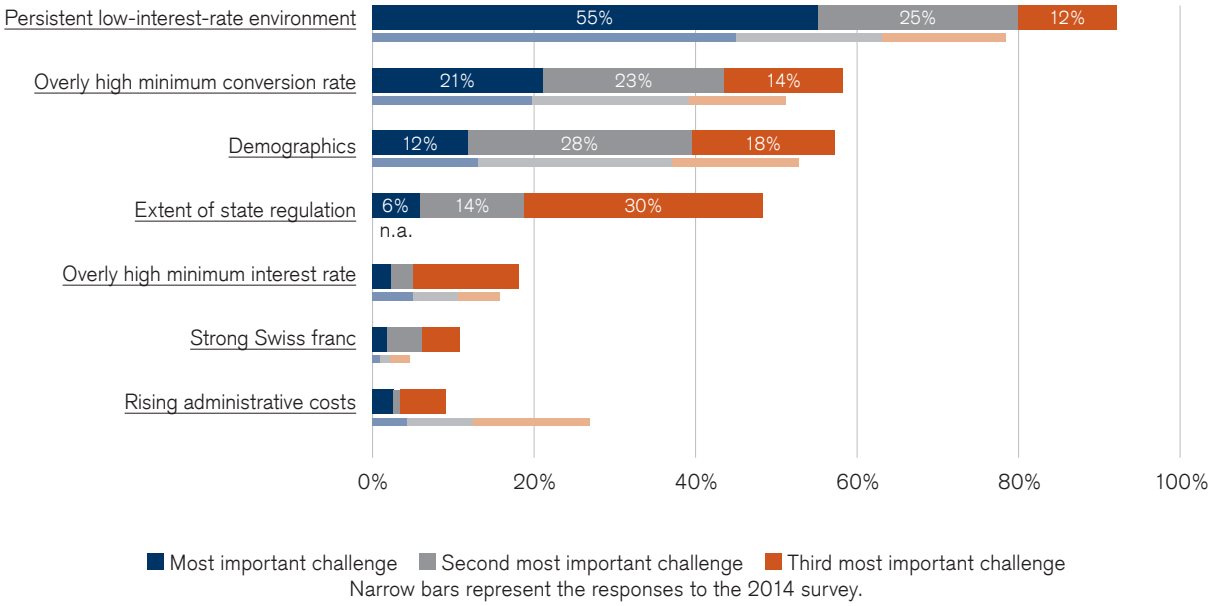
The problem is the financing gap. A federal vote slated for September 24, 2017, on the "Old-Age Provision 2020" reform and supplementary financing of the AHV by increasing the VAT will set a course, but the path to

1 "A Solid Foundation for the Age Pyramid," Avenir Standpunkte 10, April 2017, Avenir Suisse

Silver Economy
Medical advancements keep older people young for longer. They are active, adventurous and, thanks to their readiness to consume, a growing economic factor.

Low interest rates, big worries

More than half of the participants in Credit Suisse's 2016 Pension Fund Survey cited continuing low interest rates as the most important challenge.



Source: Credit Suisse Pension Fund Survey 2016 and 2014

sustainable financing will remain bumpy. There remains little scope for action and not much time. If the occupational pension plan is not adapted to the demographic and economic reality – for example by lowering the conversion rate and the nominal interest rate as well as raising the age of retirement – the redistribution from active contributors to retirees will only become more acute. We are talking about billions of francs. Based on its 2016 pension survey, Credit Suisse estimates that this redistribution from 2015 amounts to approximately CHF 5.3 billion.

Strategic investment challenges

It is fair to say that the pension institutions are not free in their investment activity. Maximum limits for asset classes are stipulated by the Ordinance on Occupational Retirement, Survivors' and Disability Pension Plans (BVV 2). BVV 2 limits the equity share to 50% of total assets and the real estate share to 30%. The upper limit for equities especially is counterproductive given the current low and negative interest rate environment. Pension foundations would appear to be ideally suited for investing predominantly in equities. The risks associated with them can be reduced through diversification and long-term orientation. Diversification is the only free lunch to be had in the financial markets.

Diversification is the only free lunch to be had in the financial markets.

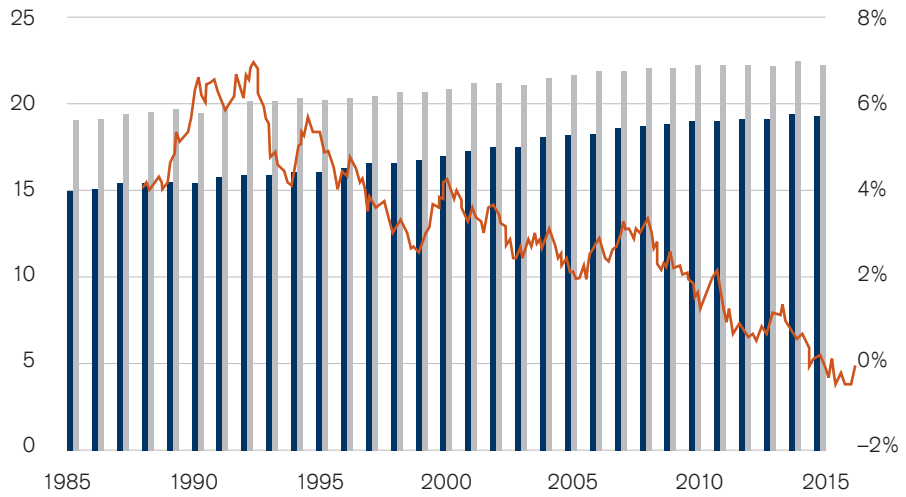
There are two approaches to diversification: one has to do with investment strategy, and the other with time. And who has more time than pension plan providers? Hardly any other investors can benefit so significantly from time diversification – and earn higher risk premiums with reasonable long-term risk. Pension funds should worry less about timing. Instead, they could use disciplined cash to increase the equity ratio, as long as the strategic target is met. Such an approach does not depend on predictions; it is a question of methodological discipline.

Making fewer errors

The reason why diversification is one of the most inconspicuous secrets of successful asset managers can be explained by Roger Federer. It's not that other athletes are inferior. Nor does Federer hit more aces than Rafael Nadal or Novak Djokovic. The simple explanation is that Federer makes fewer errors. Whoever makes fewer errors

Demographics drive returns

The older we become, the lower the return on bonds, whose estimated 31% share continues to make them the most important asset class in Swiss pension funds, according to Credit Suisse surveys.



Remaining life expectancy of 65-year-old persons, in years; yields on 10-year Swiss government bonds, in %.

Sources: Federal Office of Statistics, Swiss National Bank, Credit Suisse

stays in the game longer than the opponent. That's precisely what asset management and investing pension capital is about. It's not about me finding still more equities that can outperform the market. Asset management is a craft that requires perseverance. And perseverance comes with diversification.

At the same time, diversification is the best way to deal with currency risks. In the case of equities, the currency risks even out over time on their own. In the case of bonds, one should preferably stick with the local currency.

Big cross-border differences

The question remains, how myopic are foreign-based pension fund managers? There is no definite answer. Although shares and bonds are the most important asset classes of pension funds in practically all OECD countries, the equity share varies greatly from country to country. For example, in Australia less than 10% of pension funds are invested in bonds, but in the Czech Republic 89% are. Conversely, in 2015 the equity share fluctuated between 0.3% in the Czech Republic and 82.3% in Poland. With a share of 30%, Switzerland is in the lower third. Yet Swiss pension institutions are in a leading position with respect to real estate investments. Their share of 18.8% tops that of other OECD countries.

Swiss pension institutions are in a leading position with respect to real estate investments. Their share of 18.8% tops that of other OECD countries.

Preview of "Scope" 03/2017

The next issue will take a closer look at the themes of demographics, pensions and health. A key focus will be the investment opportunities arising in conjunction with the progressively aging population.

Source: Credit Suisse Pension Fund Survey 2016

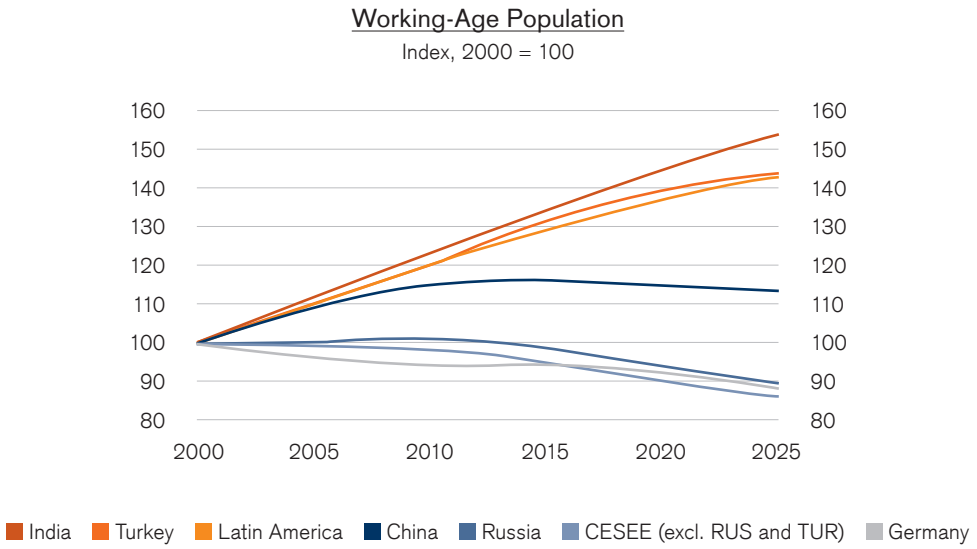
Becoming Old before Becoming Rich

In Asia, the working-age population is decreasing, putting pressure on economic growth.

The rapid aging of the population and its economic consequences are developments that are not restricted to Switzerland or Europe. In Asia, too, aging is progressing rapidly, even faster than in Europe and the US. Asia risks getting old before it is rich – "becoming old before becoming rich," as the International Monetary Fund wrote in its May 2017 Regional Economic Outlook. Asian per capita income is massively below the level reached by mature industrialized countries in the past. Asia is no longer the region that produces the greatest number of working-age people. Rather, today Asia is subtracting hundreds of millions of people from the global active population.

It is estimated that over the next three decades, the GDP growth of "old" countries such as China, Hong Kong, Japan and Thailand will decrease by 0.5% to 1.0% per year. Conversely, demographic trends in emerging countries such as Malaysia, Vietnam, Australia, New Zealand, India, Indonesia and the Philippines could increase economic growth by an additional 0.5% to 1.5%. For Asia as a whole, demographic trends are likely to cost 0.1 percentage point of economic growth each year over the next three decades.

How can the growth-inhibiting influence of demographics be mitigated? The recipes are close at hand: increasing productivity, foreign trade and foreign investment, strengthening research and development, and promoting education and training. "Old" countries should expand the working population by employing more women and immigrants. In countries like Australia, Hong Kong, New Zealand and Singapore, the demographic dividend could be enhanced by increased immigration. We have the recipes. However, in Asia, too, far-sighted, disciplined chefs are in short supply.

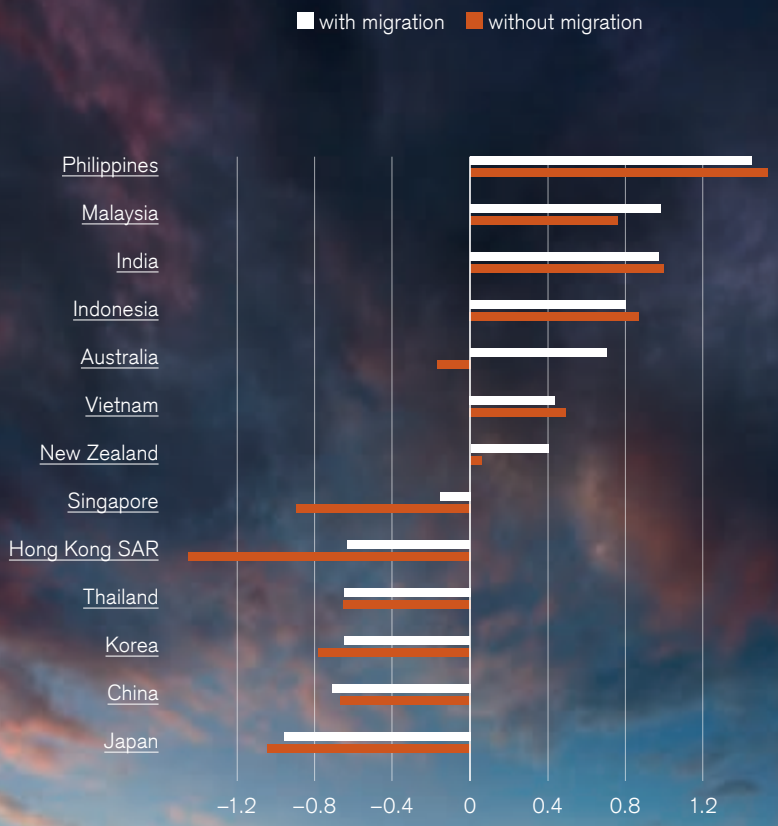


Source: International Monetary Fund (IMF), Regional Economic Issues, Central, Eastern and Southeastern Europe, May 2017

Winners and Losers in Asia

How demographic trends undermine or spur growth

Percentage point of impact on real GDP growth; average over 2020–50



Source: International Monetary Fund (IMF) Regional Economic Outlook May 2017

Cyber Security

Dr. Stefan Frei
Security Principal, Accenture Cyber Defense
Lecturer in Cyber Security, ETH Zurich

In connecting people and machines ever more closely together, the internet has changed our lives forever. These changes are disruptive, like the introduction of the railroads and the automobile. This latest innovation is not the first to prompt critical questions regarding security and safety. New possibilities as well as threats emerge at the interfaces of technology, economy and society. What are the lessons we can draw from history?

Cyber risks are abstract, have developed slowly and, consequently, were ignored for a long time. Digital products increasingly pervade every area of life, and it is difficult to allocate resources to protect against abstract risks. These are often recognized only once a major event has occurred, with the danger of overreaction vis-à-vis defense.

Software eats the world

Software is an important driver of this development. Despite substantial investment, industry has not yet managed to create more secure software. We are still having to deal with ongoing security vulnerabilities, and now also in areas outside of the traditional software industry, which had to learn that it is impossible to prevent independent research and publication of vulnerabilities. Previously, those who uncovered vulnerabilities were ignored or prevented from publishing by means of legal redress. As a result, and despite the risks, many vulnerabilities were never patched or patched only after a long delay. Over time, the "coordinated disclosure" process became the norm: ethical researchers first privately disclose vulnerabilities to vendors and give them a reasonable deadline for developing a security update before publishing the information. If a vendor does not cooperate, the vulnerability is published immediately so that those affected by it can assess the associated risks. History teaches us that vendors will hasten to develop software updates only when faced with imminent publication. Coordinated disclosure is now established, at least in the software industry.

With the rise of the Internet of Things (IoT), many non-software industries and their products are becoming networked, often ignoring software industry best practices such as secure development and coordinated disclosure. Reports of safety defects in digital electricity meters, surveillance cameras and thermostats are increasing.

Why are digital products with preventable security defects finding their way to the market?

Lack of liability
When an innovation is introduced (e.g. the automobile, aviation), safety is secondary. Experience and safety standards are still lacking. As a technology becomes widespread, incidents increase, and society begins to ask about safety. Calls for mandatory safety standards are always fiercely resisted by the industry concerned using the same arguments:

1. The product is safe. Accidents are the fault of the user.

2. Safety standards are unnecessary. They will lead the industry to ruin.

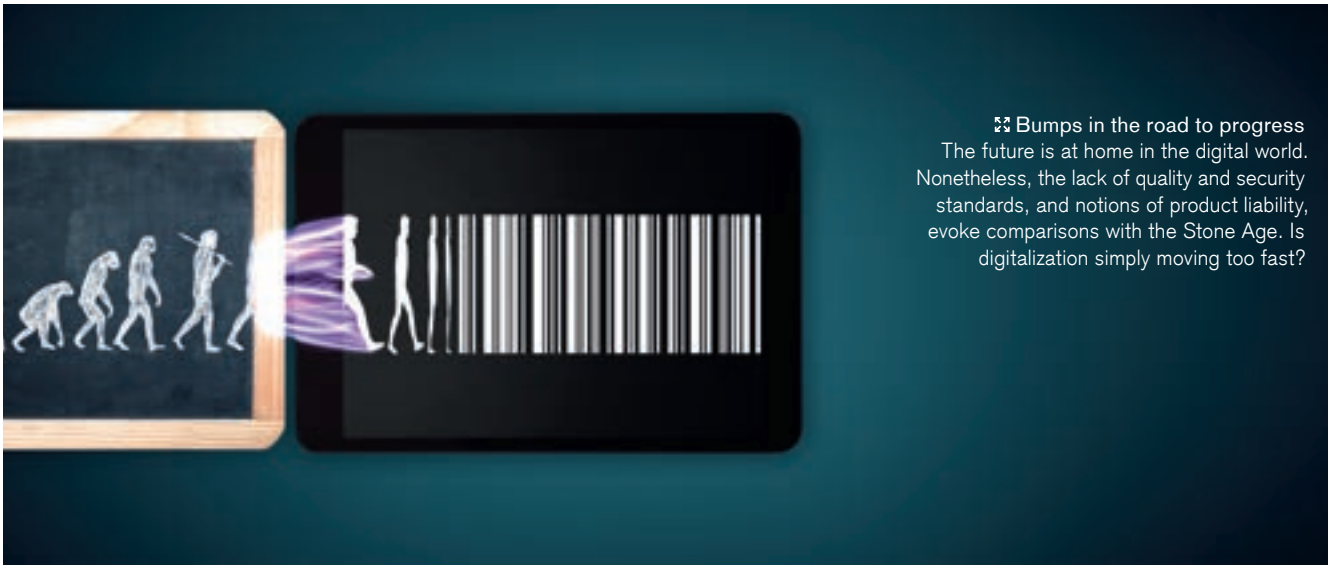
3. Safety standards will stifle innovation.

Ralph Nader's "Unsafe at Any Speed," published in 1965, illustrated this conflict and, following disputes with the automobile industry, resulted in the introduction of seat belts, crash tests and product recalls. In the early days of aviation, the industry fought against tests for aircraft engines – over half of the engines could not pass the initial test.

Today, a lack of safety standards in these industries is unthinkable. Both the automobile and the aviation industry continue to exist and are major innovators.

Where the potential for damage is great (e.g. food, pharmaceuticals, transport, construction), society has always introduced standards of quality and safety,

The sky's the limit
Cyber risks are abstract and hard to identify. In car manufacturing, on the other hand, many safety gaps are obvious, and since the publication of "Unsafe at Any Speed" in 1965, manufacturers have made great strides in plugging them. Crash test dummies provide a very useful service in this respect. The upside potential for greater security and safety in both areas is significant.



Bumps in the road to progress
The future is at home in the digital world. Nonetheless, the lack of quality and security standards, and notions of product liability, evoke comparisons with the Stone Age. Is digitalization simply moving too fast?

backed by realistic testing. Given their growing importance, the lack of such standards for digital products should be questioned.

There is no product liability for software. Security updates are viewed as product recalls for defective software at the user's expense.

Mandatory standards or tests for critical digital products must be developed, so that now and in the future the opportunities of digitalization will outweigh its risks.

Traditional vs. digital products
Traditional products rarely change after delivery, whereas digital products constantly require security updates. Many digital products have a lifetime of decades (e.g. electricity meters, monitoring systems) and replacement – e.g. when a vendor goes bankrupt – is either very difficult or too expensive. Without precautionary measures such as

- making the source code freely available (open source) as soon as the vendor is out of business
- depositing the source code with an independent party prior to purchasing it, and passing the source code to the customer once the vendor is out of business

critical products can be operating for years without protection. Many digital products are also tightly connected to the vendor's back-end services. If the back end is discontinued, a critical situation arises, for example in the case of monitoring systems. These dependencies must be taken into account prior to deployment.

Special characteristics of cyber challenges
With the dissemination of digital products, we are running into challenges that we only partially understand. Through overhasty deployment, we run the risk of causing security and safety problems that will only become evident over the long term and that will take enormous effort to correct.

As a society, we are obligated to prevent known and avoidable mistakes. Mandatory standards or tests for critical digital products must be developed, so that now and in the future the opportunities of digitalization will outweigh its risks.

Dr. Stefan Frei
For 20 years Stefan Frei has been involved with cyber security at the interface of society, economy and technology, from the perspective of both the attacker and the defender. He has worked in the areas of penetration testing, defense effectiveness, security architecture and data analytics at home and abroad. At Accenture Cyber Defense, he specializes in using threat intelligence and advanced end-to-end attack simulations to help organizations protect themselves from highly sophisticated and targeted attacks.

Accenture Cyber Defense
As one of the largest global providers of professional services for the digital transformation of companies, Accenture is a trailblazer in proactive and comprehensive implementation of cyber defense in digitalization and IT projects. In addition, it deploys more than 6,000 cyber security professionals around the world, every day. A particular emphasis is given to realistic approaches for identifying the actual and very dynamic attack vectors of cyber crime (e.g. the Internet of Things). This competence is supported through a variety of research centers and cyber fusion centers in cyber security hotspots throughout the world, such as Israel.

Rainer Lenzin
Head of Distribution Switzerland

Rainer Lenzin was appointed as the new Head of Asset Management Distribution Switzerland effective April 2017. In his new role, Lenzin will develop and continue to grow Credit Suisse Asset Management's third-party distribution business in Switzerland and Liechtenstein. He joins the distribution team in Switzerland and reports to Harald Réczek, Head of Asset Management Distribution Switzerland & EMEA.

Most recently, Lenzin was Head of Switzerland at Pioneer Investments AG in Zurich. From 2005 to 2011, Lenzin worked at BNY Mellon Asset Management in Zurich, with a focus on institutional and wholesale clients in Switzerland, Liechtenstein and Austria. He previously was at Lehman Brothers in Zurich, where he was responsible for institutional equity sales, and at Credit Suisse Asset Management in Zurich and New York, where he was employed as a portfolio manager.

Sea of stars
Morningstar grants its highest Star Ratings to 195 Credit Suisse funds share classes

Morningstar, a leader in independent fund research, rates mutual funds from one to five stars based on how they have performed (after adjusting for risk and accounting for all charges) in comparison to similar funds.

As of April 30, 2017, 195 Credit Suisse fund share classes received a five or four Overall Star Rating (within each Morningstar category, only the top 10% of funds receive five stars and 22.5% of funds receive four stars). Funds are rated for up to three time periods – three, five and ten years – and these ratings are combined to produce the overall rating. Funds with less than three years of history are not rated. The Star Rating is objective, based entirely on a mathematical evaluation of past performance. It allows investors to identify funds worthy of further research.

Historical performance indications and financial market scenarios are not reliable indicators of current or future performance.

EXPO REAL
The 20th International Trade Fair for Property and Investment will be held October 4–6, 2017, in Munich

EXPO REAL is Europe's largest B2B real estate and investment trade fair. It represents the whole supply chain of the international real estate sector – from conception and design through investment and financing, realization and marketing to operation and use.

Credit Suisse Real Estate Investment Management will also be on-site, with real estate specialists from Zurich, Frankfurt, Singapore and New York. The stand, in a well-frequented location, is part of the Swiss Circle booth (*Hall C2, Booth 320*).

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