

**Research Paper Nr. 1 / 2014 – *English Translation***

**Investment Strategies in the Year 2013**



## Management Summary

In the year 2013, there were losses in the bond markets, while equity markets had high positive returns. As a result, the investment results of the different strategies varied widely. Pension funds, which have fully used their risk capacity through a large equity exposure, were able to benefit from this market environment. In addition, currency hedging and investments in corporate bonds, small caps, and non-listed real estate were positive as well. On the other side, investments in emerging markets including long term bonds were characterized by losses. Generally, the returns of alternative investments in 2013 were neither positive nor negative.

However, comparisons of historical returns alone are of little relevance when evaluating whether the strategic asset allocation decision has been "correct." The choice of asset classes and the strategic asset allocation depend on risk capacity, liquidity requirements, and other more specific criteria. The past year, however, shows how important the strategic asset allocation is compared to other investment decisions, such as the selection of the "right" asset managers. An optimal alignment of investments (the "assets") to the pension obligations (the "liabilities") therefore requires a systematic process and a detailed discussion of the risk capacity and liquidity requirements as well as of the specific investment properties of the individual asset categories.

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## 1. Introduction

**In this research paper, we examine how different investment strategies have performed in 2013 and which investment decisions have been successful, such as investments in corporate bonds or non-listed real estate investments.**

The investment strategy, i.e., the choice and weighting of different asset classes, has the biggest impact on investment performance. This is the conclusion of several academic studies that have investigated the impact of the investment strategy on the overall return. The return on the investment strategy was higher than the actual portfolio return and explained more than 77% of the portfolio risk in various studies.

### Studies on the importance of the investment strategy

Study	Data and Type	Influence the investment strategy	
		Return*	Risk**
Brinson, Hood, Beebower (1986)	91 US Pension Funds (1974 - 1983)	112%	93.6%
Brinson, Singer, Beebower (1991)	82 US Pension Funds (1978 - 1987)	101%	91.5%
Ibbotson, Kaplan (2000)	58 US Pension Funds (1993 - 1997)	99%	88.0%
	94 US Mutual Funds (1988 - 1998)	104%	81.4%
Vanguard (2003)	507 US Mutual Funds (1962 - 2001)	114%	76.6%
Drobetz, Köhler (2002)	51 CH/D Mutual Funds (min. 1995 - 2001)	134%	82.9%

\* Strategy return divided by portfolio return after costs, \*\* R-squared (coefficient of determination) of a regression of the portfolio returns against the strategy returns.

However, comparisons of returns alone are of little relevance when evaluating whether the strategic asset allocation decision has been "correct." The choice of asset classes and the strategic asset allocation depend on risk, liquidity and other criteria. The past year shows how important the choice of an investment strategy is compared to other investment decisions, such as the selection of asset managers. An optimal alignment of the investment (the "assets") to the pension funds' obligations (the "liabilities") therefore requires a systematic strategy process and an in-depth analysis of the risk capacity and the investment properties of the individual asset categories.

In the next section asset categories are defined as well as model portfolios constructed and compared. Subsequently, various investment decisions are examined within each asset category.

## 2. Different Investment Strategies in 2013

### 2.1. Asset Classes

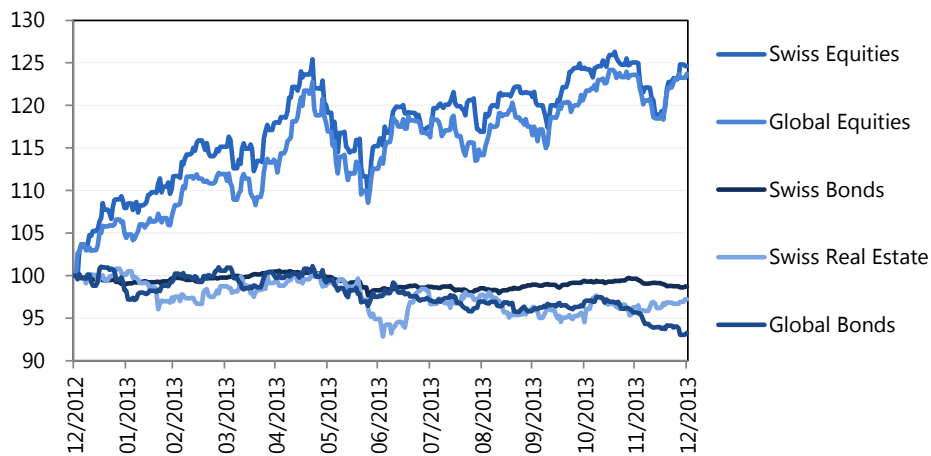
The comparison made below is based on commonly used market indexes, i.e., broadly diversified portfolios dependent on frequently traded instruments and composed by market capitalization. This allows maximum comparability of returns of the respective asset classes. The individual asset classes are defined as follows:

- The [SBI AAA-BBB Index](#) covers the Swiss bond market and includes bonds with a total issue volume of around CHF 440 billion, of which approximately are CHF 80 billion Swiss Government Bonds and CHF 200 billion debtors domiciled abroad ("foreign issuer").
- The [Citigroup World Government Bond Index](#) includes government bonds from 23 countries, selected by criteria as size, adequate market access for investors, and credit rating (inclusion: A-/A3 by S & P or Moody's; exclusion: lower than BBB-, S & P and Baa3, Moody's). The index has a total issue volume of more than CHF 20,000 billion.
- The [SPI Index](#) family includes shares which are listed on the SIX Swiss Exchange. The overall index covers approximately 230 stocks with a market capitalization of over CHF 1,000 billion. Companies with a low free float and investment companies are excluded.
- The global [MSCI Index](#) family contains stocks from around 70 countries, including 24 "Developed markets" as well as "Emerging" or "Frontier Markets". The "MSCI World Index" used for our purposes comprises more than 1,600 stocks (market capitalization of CHF 22,000 billion) and covers approximately 85% of market capitalization in each country.
- The [SXI Real Estate Funds Index](#) includes all funds listed on the SIX Swiss Exchange, which are invested at least 75% in Swiss real estate. The currently 26 funds in the index have a market capitalization of around CHF 28 billion.

## 2.2. Sample Strategies

The year 2013 was marked by losses on the bond markets and high positive returns on equity investments. Listed real estate funds in Switzerland had negative returns. **Accordingly, investment results of the different strategies varied widely. Pension funds, which have fully used their risk capacity in the form of the largest possible equity exposure were able to benefit from this market development.**

Indexed development of the asset classes (31.12.2012 = 100)



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Source: Bloomberg

Between 22.5% and 70.0% of the sample strategies cover allocations to real assets (equity and real estate) and 15% - 50% contain an equity allocation. To calculate the annual return of 2013, the portfolios are reset monthly to the target value, transaction costs are not taken into account.

The different investment strategies with their corresponding return for 2013 are summarized in the following table:

### Sample strategies

Asset Class	Index	Sample Strategy					
		A	B	C	D	E	F
Swiss Bonds	SBI AAA - BBB TR	62.5%	55.0%	47.5%	40.0%	32.5%	25.0%
Global Bonds	Citigroup WGBI	15.0%	12.5%	10.0%	7.5%	5.0%	5.0%
Swiss Equities	SPI Index	5.0%	7.5%	10.0%	12.5%	15.0%	15.0%
Global Equities	MSCI World DC (Gross)	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%
Swiss Real Estate	SXI Real Estate Funds	7.5%	10.0%	12.5%	15.0%	17.5%	20.0%
Sum		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Return 2013</b>		<b>1.3%</b>	<b>3.1%</b>	<b>5.1%</b>	<b>7.0%</b>	<b>9.0%</b>	<b>10.2%</b>

Calculations: PPCmetrics, Data Source: Bloomberg

For each of the asset classes listed, there are further investment decisions to be made, such as the maturities of the bonds, investments in small caps, illiquid/unquoted investments or other investment segments such as emerging markets or alternative investments. Several of these investment decisions are considered in the following sections.

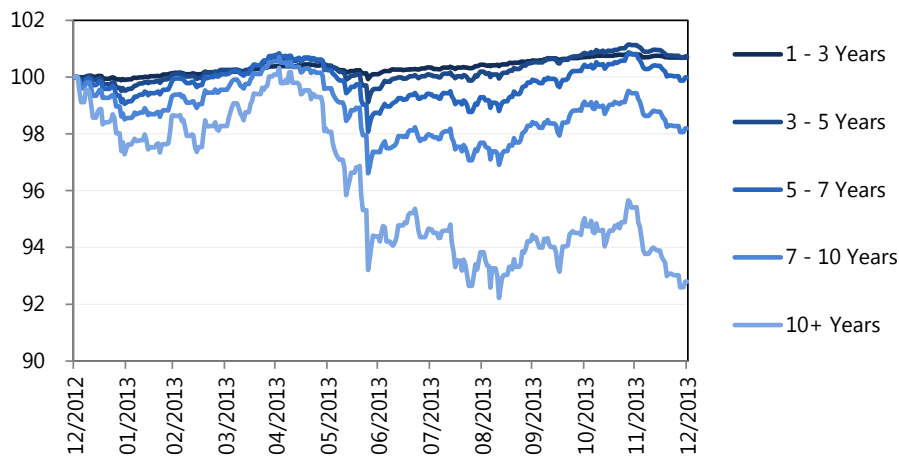


### 3. Significant Investment Decisions in 2013

#### 3.1. Interest Rate Risk

**In 2013, investors in long-term bonds had to accept a lower return compared to investors in short-term bonds.** This can be demonstrated impressively with the SBI maturity segments shown below. Losses were related to the increase in long-term interest rates (10-year government bonds) of +0.5%-points or more in Switzerland as well as in most other regions. An exception is Japan (JPY) with approximately the same yield to maturity as at the beginning of 2013.

##### Indexed development of the SBI maturity segments (31.12.2012 = 100)



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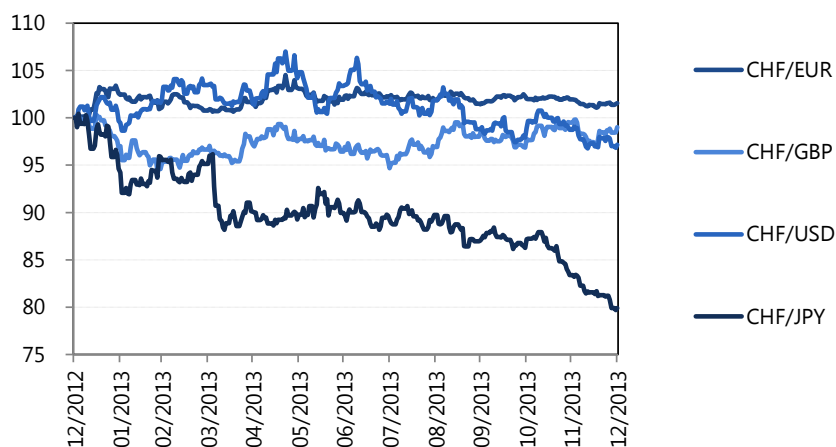
Indexed development of the SBI AAA - BBB maturity segments; Data Source: Bloomberg

Losses were particularly high for bond portfolios with long maturities. However, pension funds are subject to the interest rate risk on both the investments (assets) and the liabilities. The larger the spread between the interest rate risk of investments and liabilities ("duration gap"), the higher the interest rate risk of the coverage ratio. **The impact of a rise in interest rates on the coverage ratio of a pension fund can only be meaningfully answered through a market valuation of both sides of the balance sheet according to the same principles.**

### 3.2. Currency Risk

The exchange rates specify how many Swiss francs have to be paid for a base unit in foreign currencies. From the perspective of a Swiss investor, a positive currency return means that an unhedged foreign currency position has gained in value due to exchange rate movements. In 2013, currencies developed differently. The EUR has appreciated slightly against the CHF while the USD, JPY and the GBP have devalued. The JPY has significantly dropped in value compared with the CHF (over 20%).

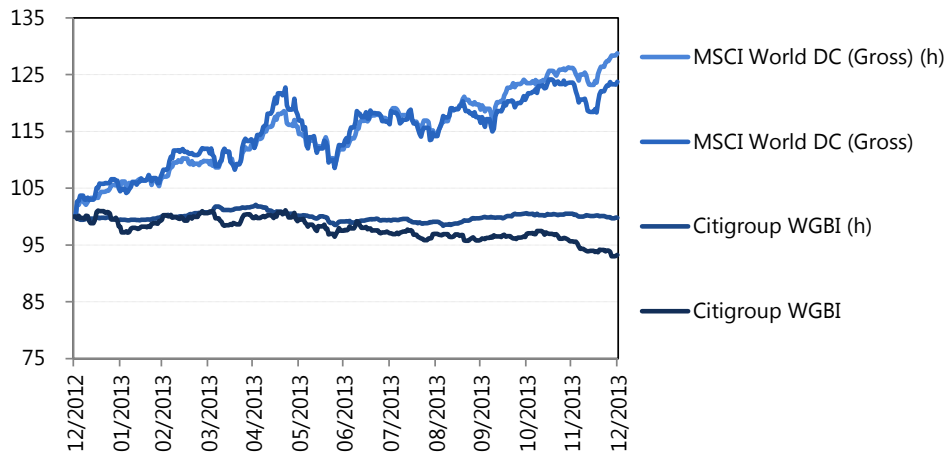
#### Indexed exchange rate movements (31.12.2012 = 100)



Indexed development of the WM / Reuters currency spot rates, Data Source: Bloomberg

Currency hedging typically aims to reduce the portfolio risk over several years without significant impacts on long term returns. **As the illustration on the next page shows, a currency hedge of global bonds and equities had a positive return effect in 2013.**

**Indexed development of bond and equity investments (31.12.2012 = 100)**



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The addition "(h)" stands for currency hedged indices in CHF, the addition "DC" for Developed Countries; Data Source: Bloomberg

**In general, taking currency risks has not been compensated in 2013. Through a currency hedge - whose primary goal is the reduction of risk – a higher return could be achieved compared to unhedged currency positions.**

### 3.3. Credit Risk

Credit risk is the risk of an issuer not complying with its payment obligations in whole or in part. Investors expect an additional return for holding bonds with credit risk compared to otherwise identical bonds without default risk.

The following table lists the Barclays Global Aggregate as well as various subindices. From the perspective of a Swiss investor, after hedging all currency exposures, only investing in bonds denominated in EUR and JPY as well as bonds with lower credit qualities ("Baa") resulted in positive returns. Most indices generated a negative return, in particular the investments in U.S. Treasuries and GBP.

#### Analysis of the Barclays Global Aggregate Index

Segment	Number of Issuer	Market Cap (CHF mn)	Duration	Return 2013	Excess Return 2013
Global Aggregate	15'603	38'021'429	6.19	-0.55	1.57
Global Aggregate - United States Dollar	8'081	15'770'056	5.51	-2.36	1.01
Global Aggregate - European Euro	3'140	10'281'705	5.72	1.95	3.86
Global Aggregate - Japanese Yen	1'396	6'240'384	7.89	1.81	0.04
Global Aggregate - Pounds Sterling	971	2'302'952	9.01	-3.24	1.73
Global Aggregate - Treasuries	1'226	20'333'785	6.74	-0.34	1.19
U.S. Treasuries	239	5'298'820	4.99	-3.15	0.00
Global Aggregate: Government-Related	4'244	5'201'902	5.51	-1.29	1.16
Global Aggregate - Corporate	8'280	6'442'010	5.90	-0.35	3.17
Global Aggregate - Securitized	1'853	6'043'737	5.24	-0.85	1.62
Global Aggregate - Aaa	3'226	15'663'430	5.38	-2.16	0.48
Global Aggregate - Aa	3'261	12'290'338	7.46	-0.08	0.56
Global Aggregate - A	4'329	4'085'754	5.79	-0.41	2.72
Global Aggregate - Baa	4'787	5'981'911	5.97	3.17	6.28

The returns are hedged in CHF, the "Excess Return" is the return in excess of U.S. Treasuries with matched duration; Data Source: Barclays Capital

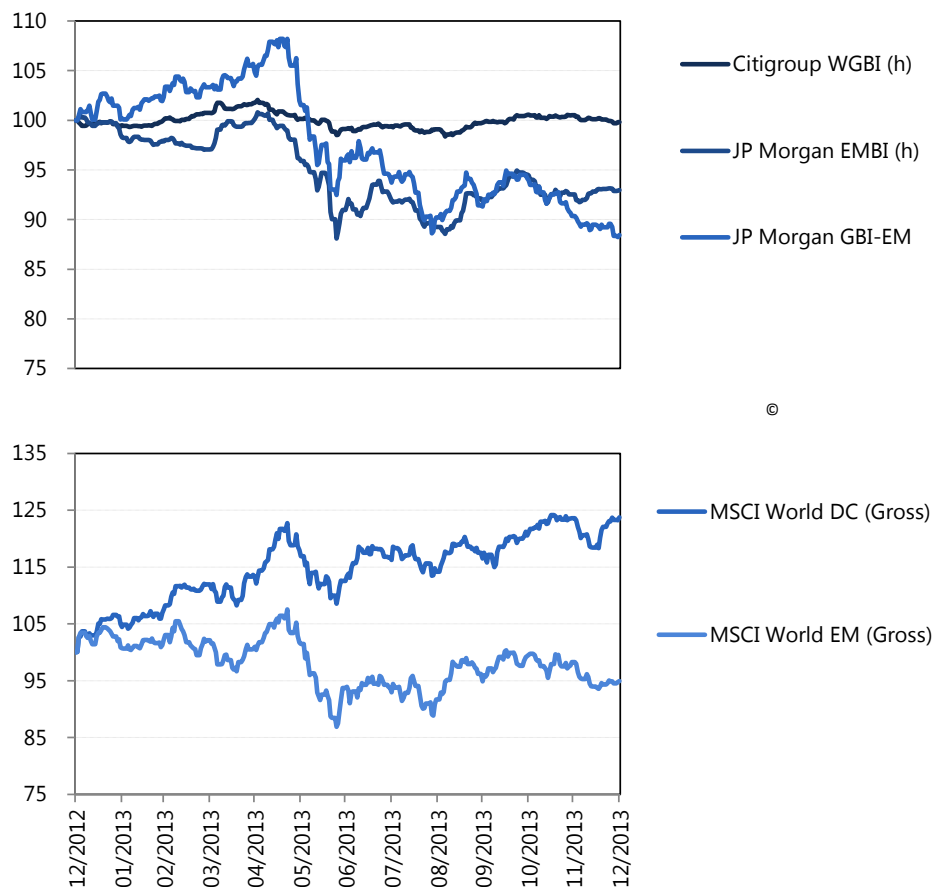
From a Swiss perspective, adjusted and for currency and interest rate risk (duration), U.S. Treasuries had the lowest return in 2013, i.e., investments in other currencies and credit quality segments had a higher return than U.S. Treasuries ("excess return in 2013"). This means that these risks (e.g., corporate bonds) were compensated in 2013 with higher returns. The corresponding index returns, however, were overshadowed by the losses due to interest rate changes and other impacts on returns. **Credit risks, particularly of corporate bonds and issuers with lower credit rating (below "A"), were compensated with a higher return compared to U.S. Treasuries.**

### 3.4. Emerging Markets

**The bonds of emerging countries developed significantly worse than those of developed countries in 2013.** This applies both to the bonds issued in USD ("Hard Currency", JP Morgan EMBI) as well as to local currency debt ("Local Currency", JP Morgan GBI-EM). (Note: the return of unhedged Local Currencies was worse than the unhedged yield of Hard Currencies; for details please refer to the PPCmetrics Market Commentary, December 2013).

**The same holds for equity investments:** The investment performance of emerging markets equity ("Emerging Markets", EM) was significantly worse than that of developed countries ("Developed Countries", DC):

**Indexed development of bond and equity investments in emerging markets (31.12.12 = 100)**

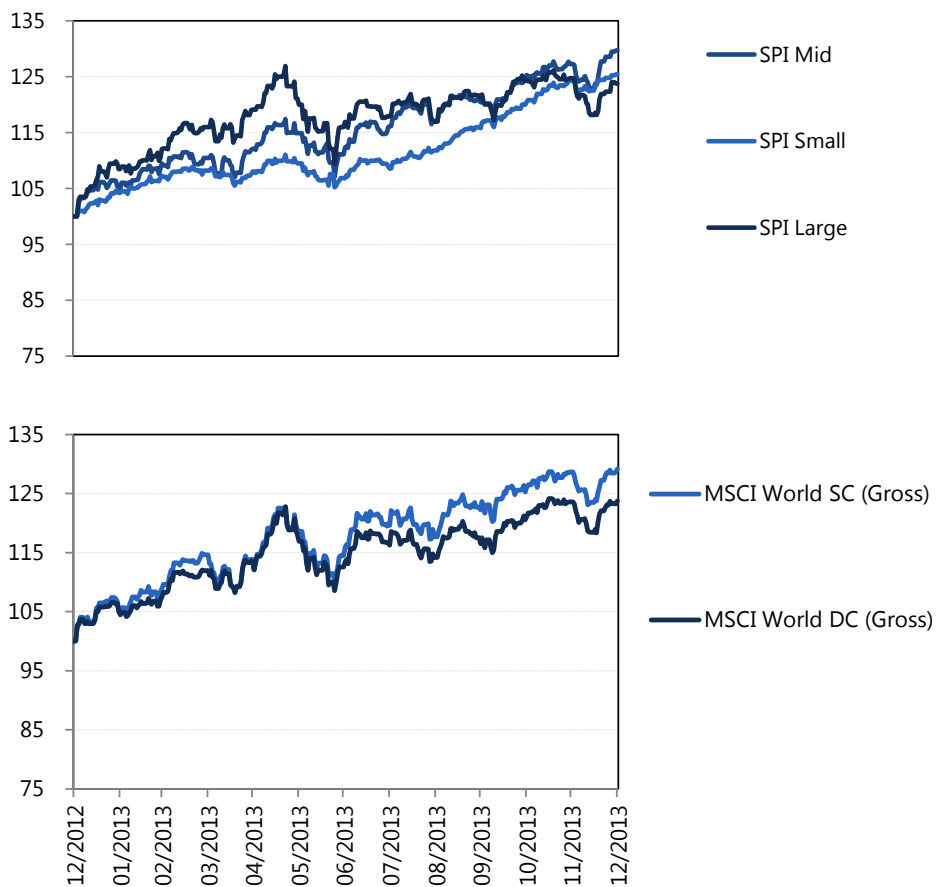


The addition (h) stands for currency hedged indices in CHF; the JP Morgan EMBI index includes government bonds from emerging markets, which are issued in USD and EUR; JP Morgan GBI - EM Index includes government bonds in local currency; the MSCI World DC index includes developed countries, the MSCI World Index EM emerging countries; Data Source: Bloomberg

### 3.5. Small Caps

Historically, by investing in small cap stocks ("small caps") a higher return could be achieved compared to large cap stocks ("large caps"). Although the excess return is statistically significant positive even over long periods of time, this does not mean that small caps had no negative returns, even over prolonged periods of time. For example, in the period 1981-2000 the cumulative return of small caps over large caps was -26%-points. Please refer to the PPCmetrics Research Paper No. 2/2013 for additional information on small cap risk premium. **In 2013, small caps in Switzerland and abroad had indeed higher returns than large caps. Investing in small caps was compensated with an additional return.**

#### Indexed development of investments in small caps Switzerland and abroad (31.12.12 = 100)



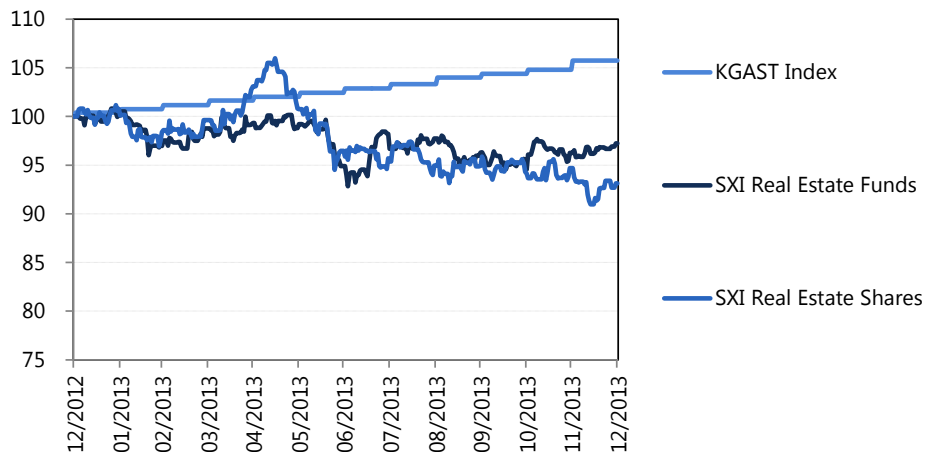
Data Source: Bloomberg, SIX Swiss Exchange

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### 3.6. Implementation of Swiss Real Estate Investments

The various indices for the Swiss real estate market had different results. **In 2013, returns of non-listed real estate investments (KGAST index) were significantly higher than those of listed investments.**

**Indexed development of real estate investments in Switzerland (31.12.12 = 100)**



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The "Funds" index includes all companies listed on the Swiss Stock Exchange. The "Shares" index includes all real estate investment companies and the "KGAST Index" the real estate investment foundations of KGAST members; Data Source: Bloomberg, KGAST

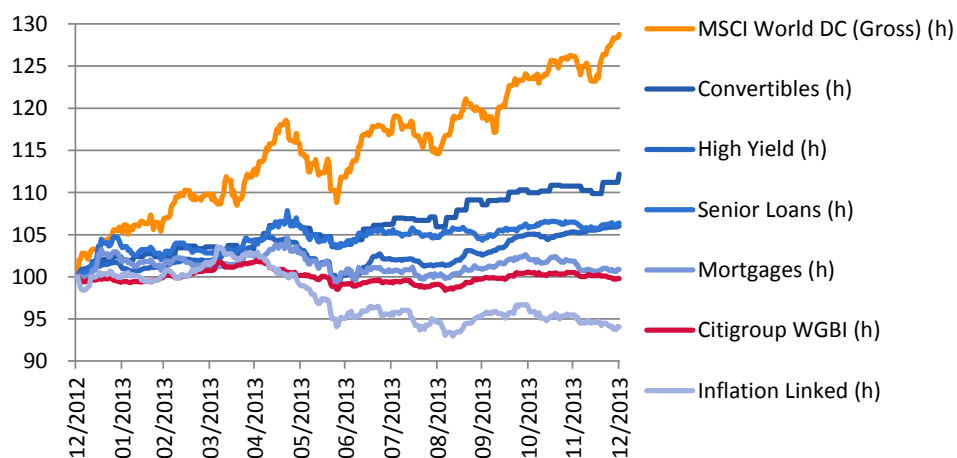
The price of listed real estate is determined by the market on each trading day ("mark-to-market"). The price of the properties held directly or by real estate investment trusts is determined by using a valuation model ("mark-to-model"), where the valuation is typically done annually by independent appraisers. Due to the different evaluation approaches, key figures in relation to real estate assets (such as the investment return) should in principle be interpreted with caution, especially over a shorter period.

**In periods of different returns of listed and unlisted real estate, such as in 2013, the differences between the market and the appraisers in their estimation of future real estate cash flows and applied discount rates are of particular interest.** A potential factor could be the revised regulations for Swiss real estate funds, which allow debt only up to a third of the total assets (previously: 50%).

### 3.7. Alternative Investments

The investment objectives pursued by the use of alternative investments are quite different. There is a broad product range at the disposal of institutional investors, which means that our comparison cannot claim completeness. In addition, the investment results are strongly influenced by the specific implementation and can only imprecisely be proxied by indices. **As shown below, the use of alternative investments in 2013 can generally be assessed as neither particularly positive nor negative.**

**Indexed development of alternative investments, fixed income (31.12.12 = 100)**

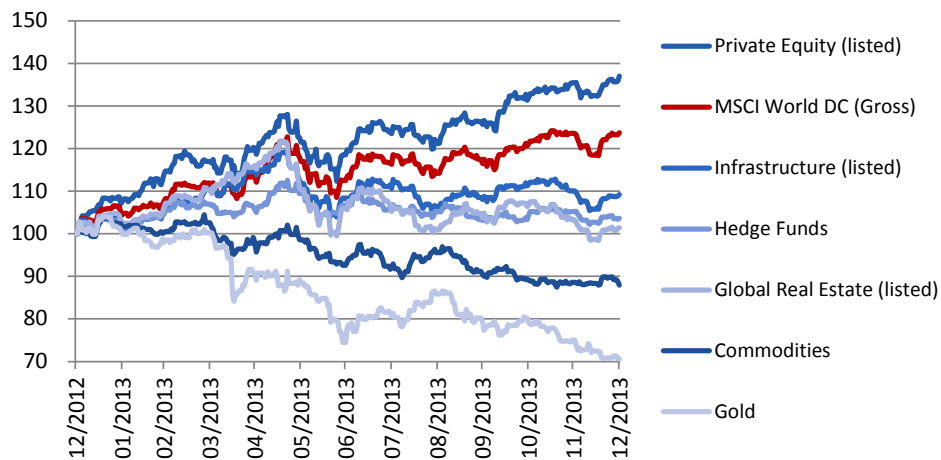


The asset classes are represented by the following market indices (Bloomberg ticker in parentheses): convertible bonds - JACI Global Convertible Bond Index (JAUTSHTR), High Yield - Barclays Global High Yield Index (LG30TRCH), Senior Loans - S & P / LSTAL 100 Index (SPBDLEH), mortgages - Barclays Global Aggregate Securitized (LGASTREH), inflation Linked - Barclays World inflation Linked (BCI1H); Data Source: Bloomberg

**Alternative investments in the area of fixed income generated a higher return than the Citigroup WGBI index, in particular those with an implicit equity risk, such as convertible bonds or high-yield bonds.** For comparison, the MSCI World Index and the DC Inflation Linked Bonds are listed as well.



**Indexed development of alternative investments, real assets (31.12.12 = 100)**



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The asset classes are represented by the following market indices (Bloomberg ticker in parentheses): Private Equity - LPX50 Private Equity Index (LPX50TC), infrastructure - Macquarie Global Infrastructure Index (MCGIIIIDT), Hedge Funds - HFRX Global Hedge Fund Index (HFRXGL), real estate abroad - FTSE / EPRA NAREIT Global Index (RUGL) Commodities - Dow Jones UBS Commodity Index (DJUBSTR), Gold - London Gold Market Fixing (GOLDLNPM); Data Source: Bloomberg

**Investments, which consist mainly of real assets, generated a lower return than the broad stock markets in 2013, in particular the investments in commodities or gold.** An exception is private equity investments (listed).

## 4. Conclusion

The investment results of different strategies differ widely for the year 2013. Investors who have fully utilized their risk capacity in the form of the greatest equity exposure could benefit. The hedging of currency risks, an investment in corporate bonds, investing in small caps and unlisted property investments were also positive from a return perspective. Investments in emerging markets as well as in long-term bonds were marked by losses. The use of alternative investments in 2013 can generally be assessed as neither particularly positive nor negative.

However, comparisons of returns alone are of little relevance when evaluating whether the strategic asset allocation decision has been "correct." The choice of asset classes and the strategic asset allocation depend on risk, liquidity and other criteria. The past year, nevertheless, shows the importance of choosing an investment strategy compared to other investment decisions, such as the selection of asset managers. An optimal alignment of the investment (the "assets") to the pension obligations (the "liabilities") therefore requires a systematic strategy process and a detailed discussion of the risk capacity and the investment properties of the individual asset categories.

## 5. Literature

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