

# Relationship between stock market returns and valuation ratios

## CAPE and PB are best predictors of long-term returns in 17 MSCI Indexes from 1979-2015

### Shiller-CAPE vs. performance 10-15 years

Country	Cor	0 - 10	10-15	15-20	20-25	25-30	>=30
France	-0.87	13.7%	12.1%	8.4%	8.3%	9.4%	0.2%
Germany	-0.94	10.2%	10.1%	7.1%	6.3%	3.9%	0.7%
Hong Kong	-0.93	11.0%	8.5%	6.4%	5.2%	4.3%	2.7%
Italy	-0.98			6.4%	4.0%	0.9%	-3.1%
Japan	-0.89			9.3%	7.3%	4.4%	-1.4%
Spain	-0.99	14.1%	11.6%	9.7%	5.1%	3.1%	0.8%
Switzerland	-0.88	10.9%	12.9%	11.4%	9.0%	6.8%	1.3%
UK	-0.96	12.3%	9.7%	6.2%	1.2%	0.5%	
USA	-0.95	11.6%	12.7%	8.2%	6.2%	3.8%	-0.4%
MSCI Indexes	-0.75	12.3%	9.3%	7.8%	6.6%	4.2%	0.5%

### Price-to-book ratio

Country	Cor	0-1	1-1.5	1.5-2	2-2.5	2.5-3	>=3
France	-0.88	13.7%	9.8%	7.9%	8.6%	0.8%	0.1%
Germany	-0.91		10.2%	9.0%	6.9%	7.0%	0.7%
Hong Kong	-0.92	10.6%	7.7%	6.2%	5.1%	4.3%	2.7%
Italy	-0.97		6.5%	5.0%	0.9%	-2.4%	-3.4%
Japan	-0.58			0.9%	-0.4%	2.8%	-4.4%
Spain	-0.96	12.2%	11.3%	10.4%	5.1%	1.7%	0.8%
Switzerland	-0.90	11.0%	12.8%	11.1%	8.8%	6.7%	1.3%
UK	-0.97	12.9%	11.7%	7.8%	6.2%	4.6%	0.9%
USA	-0.95	13.9%	11.7%	12.6%	8.6%	7.6%	0.7%
MSCI Indexes	-0.73	14.1%	9.9%	7.7%	6.3%	4.5%	0.6%

### Price-to-earnings ratio

Country	Cor	0-10	10-15	15-20	20-25	25-30	>=30
France	-0.05	13.9%	9.3%	9.8%	8.4%	2.8%	7.4%
Germany	-0.48	10.1%	9.5%	7.1%	0.9%	5.9%	6.5%
Hong Kong	-0.52	9.1%	7.0%	5.4%	6.2%	6.0%	4.4%
Italy	0.38			5.6%	1.8%	-2.8%	6.1%
Japan	-0.39			8.4%	6.6%	3.1%	-1.4%
Spain	-0.13	12.7%	10.9%	10.7%	2.9%	0.8%	10.8%
Switzerland	-0.72	12.6%	11.9%	10.6%	5.9%	1.0%	2.1%
UK	-0.86	12.6%	9.3%	5.9%	1.1%	0.3%	
USA	-0.84	11.6%	12.2%	7.4%	7.7%	-0.5%	-1.1%
MSCI Indexes	-0.15	12.6%	9.4%	7.5%	5.8%	4.1%	1.0%

### Price-to-cashflow ratio

Country	Cor	0-4	4-6	6-8	8-10	10-12	>=12
France	-0.94	13.5%	10.1%	8.2%	5.6%	3.0%	0.0%
Germany	-0.93	10.3%	7.7%	6.3%	1.0%	-0.8%	-1.1%
Hong Kong	-0.51		6.3%	5.2%	8.2%	6.8%	5.6%
Italy	-0.92	7.0%	6.4%	3.6%	0.1%	-2.9%	-4.5%
Japan	-0.87			8.1%	2.2%	-0.9%	-3.0%
Spain	-0.95	12.2%	11.0%	8.9%	1.5%	0.5%	-0.6%
Switzerland	-0.88	12.5%	11.9%	12.5%	11.0%	9.1%	2.0%
UK	-0.93	12.4%	12.3%	9.6%	6.1%	5.6%	0.7%
USA	-0.93		11.9%	12.2%	7.9%	7.7%	-0.4%
MSCI Indexes	-0.65	14.1%	9.9%	8.5%	7.4%	5.5%	2.7%

### Dividend yield

Country	Cor	0-1	1-2	2-3	3-4	4-5	>=5
France	0.73		-1.2%	7.3%	8.4%	12.1%	13.5%
Germany	0.76		0.2%	6.4%	7.9%	10.5%	10.1%
Hong Kong	0.92			4.7%	6.1%	7.5%	9.5%
Italy	0.47		-1.5%	5.7%			
Japan	0.97	-1.7%	5.4%	10.1%			
Spain	0.90		0.8%	5.0%	10.8%	10.9%	12.2%
Switzerland	0.71	1.1%	6.8%	11.9%	11.2%		
UK	0.83			0.8%	5.6%	8.2%	12.2%
USA	0.83		-0.3%	7.4%	10.8%	12.7%	11.6%
MSCI Indexes	0.60	-1.6%	4.8%	7.5%	7.9%	9.6%	12.3%

The tables show the average returns over the subsequent 10-15 years in relation to the indicator under investigation. In addition to the returns, the correlations between the valuation ratios and subsequent returns in different countries are also illustrated. The group "MSCI Indexes" contains 17 MSCI country indexes since 1979, a selection of countries is presented.

All indicators have in common that low valuations were followed by higher returns than high valuations. For more details, see StarCapital Research paper "**Predicting Stock Market Returns Using the Shiller-CAPE: An Improvement Towards Traditional Value Indicators?**" (January 2016).

All returns are inflation-adjusted, in local currency, incl. dividend income and annualized.

All 17 MSCI indexes include: Australia, Belgium, Canada, Denmark, France, Germany, Hong Kong, Italy, Japan, Netherlands, Norway, Singapore, Spain, Sweden, Switzerland, UK and USA.

Data-Sources: CAPE calculation based on actual MSCI price-to-earnings-ratios and local CPI Indices obtained from Datastream. Note: MSCI. Neither MSCI nor any other party involved in or related to compiling, computing or creating the MSCI data makes any express or implied warranties or representations with respect to such data (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any of such data. Without limiting any of the foregoing, in no event shall MSCI, any of its affiliates or any third party involved in or related to compiling, computing or creating the data have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages. No further distribution or dissemination of the MSCI data is permitted without MSCI's express written consent.