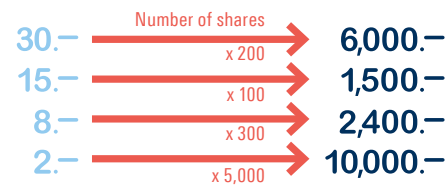


## How Does a Stock Index Work?

Stock indices have been tracking the financial market and rendering it more transparent for more than a century. An index contains multiple stocks. The individual stock prices affect the overall index level over time.

### Weighting by ...



### ... Share Price

All stocks flow into the index with identical share unit quantities. The higher the share price, the greater that company's weighting in the index. Today weighting by share price is considered outmoded.

**Examples:** Dow Jones Industrial Average, Nikkei 225

### ... Market Capitalization

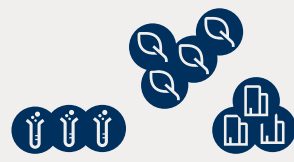
Stocks flow into the index based on their number of shares outstanding. The higher the total market value of those shares (market capitalization), the greater that company's weighting in the index.

**Examples:** SMI, SPI, S&P 500, Hang Seng, Nasdaq Composite, FTSE 100, DAX, EURO STOXX 50



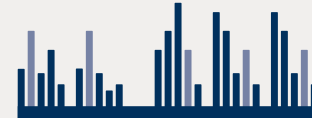
### Blue-Chip Indices

Blue-chip indices track only those companies with the highest market capitalizations. Blue chips are generally well-established, financially stable companies that are considered representative of an entire market. The Swiss Market Index SMI is Switzerland's blue-chip index (see box). Other blue-chip indices well known from the news are the USA's Dow Jones Industrial Average, Germany's DAX, Japan's Nikkei 225 and the Euro Stoxx 50 index for the euro zone.



### Thematic Indices

Thematic indices track companies within a specific sector or companies that share specific attributes. SIX Swiss Exchange, for instance, publishes the SXI Life Sciences index for the pharmaceutical sector and the SXI Real Estate index, and its SXI Switzerland Sustainability 25 index comprises companies with particularly high sustainability scores.



### Alternative Indices

Alternative indices track shares of companies that exhibit specific statistical attributes, such as the high-dividend-yielding stocks in the SPI Select Dividend 20. Those attributes frequently also serve as weighting criteria (in place of market capitalization). The SPI Multi Premia indices published by SIX Swiss Exchange single out very inexpensive or very safe stocks, for example. Investment products based on alternative indices attempt this way to simulate active portfolio management.

# THE STOCK INDEX AS ECONOMIC INDICATOR

## THE STOCK INDEX AS BENCHMARK

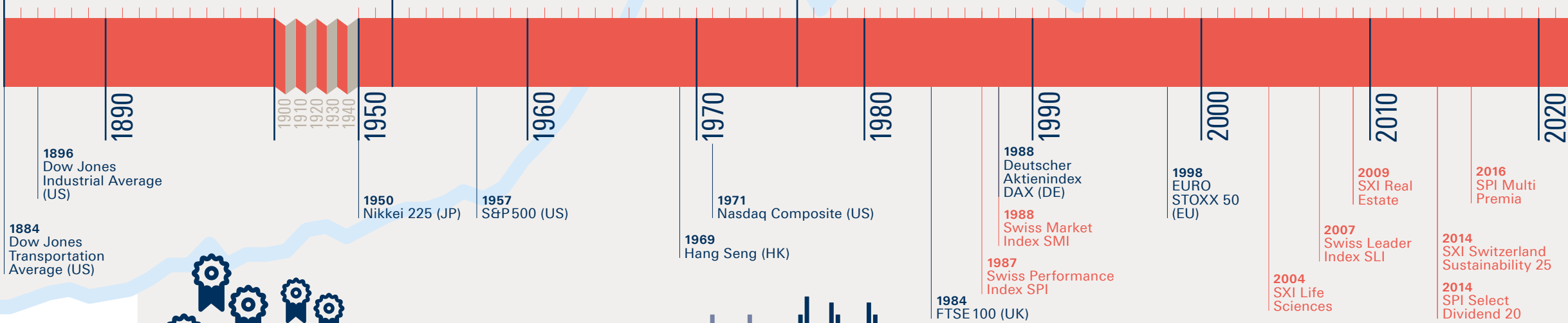
## THE STOCK INDEX AS UNDERLYING FOR INVESTMENT PRODUCTS

**1884** → Publisher Charles Dow wishes to provide his readers with an overall picture of the equity market. His Dow Jones Railroad Average index (today the Dow Jones Transportation Average index) for the first time enables forecasts to be made on how the economy will develop. It has since been joined by countless other stock indices that provide information on the state of an entire market, an individual sector, etc.

**1952** → In his seminal paper on portfolio selection, Harry Markowitz attaches greater weight to the risk aspect than to the price aspect. Portfolio managers thenceforth use their own prognostications to earn a higher return and thus beat the stock index (active portfolio management).

**1976** → John Bogle pioneers the concept of investing in an index through a mutual fund that tracks the S&P 500. Replicating an existing index makes diversified investing inexpensive because there is no need for a portfolio manager (passive portfolio management). More recently index investing received another boost from the advent of exchange-traded funds.

Selected international indices Selected SIX Swiss Exchange indices



### Broad SPI, New SMI

The Swiss Performance Index SPI is Switzerland's broad market index. It contains nearly all of the stocks traded on the SIX Swiss Exchange, encompassing 205 companies at present. The Swiss Market Index SMI, in contrast, contains only the 20 largest Swiss companies, making the blue-chip index the most important stock index in Switzerland. The SMI captures 80% to 85% of the Swiss equity market's total capitalization and thus serves as an underlying for investment products such as options, futures, structured products and exchange-traded funds. To enable the SMI to be used as an underlying also in the European Union, SIX Swiss Exchange adjusted the

index's weighting rules on September 18, 2017, to bring them into line with EU guidelines. This means that even megacap companies like Nestlé and Novartis now carry a maximum weight of only 18% in the index (see graphic below). By the way, since its inception the Swiss Leader Index (SLI) of the 30 largest Swiss companies caps the weighting of each of the four largest stocks at 9%.

#### SMI Constituent Weights

