



The Dow Jones Industrial Average (DJIA) is both the oldest stock index for industrial stocks in the United States and a benchmark for stocks in the United States. When someone says “the market” was up 100 points today, they are referring to the Dow Jones Industrial Average. Most people are unaware of the history of the DJIA and that Global Financial Data’s provides a unique version of the DJIA that extends the series on a daily basis back to 1885 by combining all four versions of the DJIA into a single index, and provides data unavailable from any other data source. Global Financial Data is also the only source that provides data on all the historical components of the DJIA.

## **The Four Indices**

The historical data for the DJIA is a combination of four separate indices. On February 16, 1885 an index of 12 railroads and 2 industrial stocks was first calculated (Dow Jones 14 Stocks) by Charles Dow and Edward Davis Jones, the originators of the Dow Jones Averages. On January 2, 1886, this index was replaced by an index of 10 railroads and 2 industrial stocks (Dow Jones 12 Stocks). On May 26, 1896, the index was revised to include 12 industrial stocks, but no railroad stocks (DJIA 12 stocks). This index was calculated until September 30, 1916, when a new index was introduced that included 20 industrial stocks (DJIA 20/30 Stocks). This index was calculated back to December 14, 1914, the day the NYSE reopened after closing in August 1914 because of World War I. The index of 20 industrials was expanded to include 30 stocks on October 1, 1928 and has remained at 30 industrials since then. The DJIA is an Average and not a capitalization-weighted index. The reason for this is that in the 1800s, stocks were not quoted at their cash price as they are today, but were quoted as a percentage of their par value. Most stocks had a par value of \$100, but some had par values of \$50, \$25 or even \$5. In Germany in the 1800s, several versions of a stock, each with a different par value (500 Marks, 200 marks, 100 Marks), traded side by side. If a stock were quoted as a percentage of par, then you would simply multiply the percentage quote times the par value to get the cost of the stock. This practice was discontinued in 1913 when the NYSE began quoting all stocks in Dollars. Because stocks were quoted as a percentage of par, calculating an index was relatively easy. You simply added up the quote for each stock and divided by the number of stocks in the index. The result was an equal-weighted index of stocks. This also made the process of substituting one stock for another stock simple because you didn't have to worry about the impact on the index of replacing a stock quoted at \$25 with one quoted at \$250 or vice versa, since all stocks were quoted as a percentage of par rather than at their cash value. Even if a stock split or paid a stock dividend, it continued to be quoted as a percentage of par, so no adjustments to the divisor for the index were ever needed. When stocks started to be quoted in cash prices in 1913, this created problems because a stock split or dividend meant that the quoted price for a stock fell, so on October 1, 1928, when the DJIA expanded to 30 stocks, Dow Jones also introduced a divisor as a way of adjusting for changes in the price of stocks due to stock splits, dividends, distributions, recapitalizations or substitutions. The divisor, which stood at 16.67 when it was introduced on October 1, 1928, was equal to 0.132129493 in March 2011, implying that the DJIA had "split" 756 times since it was introduced in 1885.

## **Global Financial Data's Version of the Dow Jones Industrial Average**

GFD's version of the DJIA includes several adjustments that are unique. First, we have combined the four versions of the DJIA into a single index by introducing adjustment factors when new indices were introduced in 1886, 1896 and 1914. We were able to accurately do this by going back to the New York Times in 1886 and 1896 to calculate the prices of the stocks in the new and the old averages on the day the new index was introduced. Once we found the ratio of stocks in the old and new Industrial indices we used this adjustment factor to chain link the series together.

Calculating the adjustment in 1914 was easier because Dow Jones provides data for both the DJIA 12 Stock Average and the DJIA 20 Stock Average between December 1914 and September 1916. Unfortunately, this has led to an oft-repeated error. Many alternate sources use the 12 Stock Average through July 30, 1914 and the 20 Stock Average from December 12, 1914 on, not realizing that they are using different indices that are not comparable. The DJIA 12 Stock Average closed at 71.42 on July 30 and at 74.56 on December 12, 1914, meaning that stocks actually rose in price during the closure of the NYSE. The new DJIA 20 Stock Average closed at 54.63 on December 12, 1914. Sources that combine the 12 and 20 Stock Averages show that the DJIA declined by 23.5% from 71.42 to 54.63 during the closure of the exchange when in fact, the DJIA increased in value while the NYSE was closed. Global Financial Data has provided another unique feature to the DJIA. Although the NYSE was closed between July 30 and December 12 of 1914, stocks were quoted by brokers and traded off the exchange. GFD has gone back and collected this stock data during the closure of the NYSE to recreate the DJIA during part of the time that the NYSE was closed. We collected the data for the 20 stocks in the new DJIA 20 Industrials and calculated the average of the bid and ask prices on these 20 stocks from October 14, 1914 to December 12, 1914. This enabled us to determine that the 1914 bottom for stocks occurred on November 2, 1914 when the DJIA hit 49.07, a level the DJIA wouldn't revisit until the Great Depression in 1932. Few people realize that stocks in the US had already bottomed out and were heading into a new bull market even before the NYSE reopened on December 14, 1914. Any research on the historical performance of the DJIA should include an analysis of the individual stocks that make up the Dow Jones Industrial Average. Global Financial Data is the only company that has data on every security that has been a component of the Dow Jones Averages from their beginning in 1885 until today. GFD also provides a full history of the components of the DJIA so users can recreate the DJIA on any day over the past 125 years. The only stock that was in the DJIA in 1896 and is currently a part of the DJIA is General Electric whose complete history is illustrated below.

The Dow Jones Industrial Average is the grandfather of stock market indices with a history stretching back to 1885, providing 125 years of daily data on US stocks. The index has been substantially revised 3 times by changing the number of stocks or components within the index. GFD provides three unique features to help investors understand the history of the DJIA. First,

we provide adjustment factors that enable users to chain link each of these indices together and provide a more complete picture of the DJIA and US stocks over time. By choosing the “Split Adjusted” choice in the Download Tool, the data will automatically adjust for these changes. Second, we have recreated the index during the NYSE’s closure in 1914 to provide our users information on US stocks unavailable anywhere else.

US stocks started moving higher a month before the NYSE was reopened. Finally, Global Financial Data provides historical data on every security that has been in the Dow Jones Industrial Average (as well as the Dow Jones Transport Average and Dow Jones Utility Average) since 1885. Although the DJIA includes only 30 stocks, because of its unique history, it remains an important benchmark for the US Stock Market 125 years after it was introduced.