# Index Investing Tutorial

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## Introduction

Stock market talk is everywhere, from TV and radio, to the newspapers and the web. But what does it mean when people say that "the market turned in a great performance today?" What is "the market" anyway?

As it turns out, when most people talk about "the market," they are actually referring to an index. With the growing importance of the stock market in our society, the names of indexes such as the Dow Jones Industrial Average (DJIA), S&P 500 and Nasdaq composite have become part of our everyday vocabulary.

This tutorial will define what an index is, discuss some of the major stock indexes and explain how you can invest in the stock market using index funds.

## What Is An Index?

An index is a statistical measure of the changes in a portfolio of stocks


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representing a portion of the overall market.

It would be too difficult to track every single security trading in the country. To get around this, we take a smaller sample of the market that is representative of the whole. Thus, just as pollsters use political surveys to gauge the sentiment of the population, investors use indexes to track the performance of the stock market. Ideally, a change in the price of an index represents an exactly proportional change in the stocks included in the index.

Mr. Charles Dow created the first and, consequently, most widely known index back in May of 1896. At that time, the Dow index contained 12 of the largest public companies in the U.S. Today, the Dow Jones Industrial Average (DJIA) contains 30 of the largest and most influential companies in the U.S.

Before the digital age, calculating the price of a stock market index had to be kept as simple as possible. The original DJIA was calculated by adding up the prices of the 12 companies and then dividing that number by 12. These calculations made the index truly nothing more than an average, but it served its purpose.

Today, the DJIA uses a slightly different methodology, called price-based weighting. In this system, the weight of each security is the stock's price relative to the sum of all the stock prices. The problem with price-based weighting is that a stock split changes the weight of a company in the index, even though there is no fundamental change in the business. For this reason, not too many indexes are weighted on price.

Most indexes weigh companies based on market capitalization. If a company's market cap is $1,000,000 and the value of all stocks in the index is $100,000,000, then the company would be worth 1% of the index. These types of systems are made possible by computers - most are calculated to the minute, so they are very accurate reflections of the market.

It's important to note that an index is nothing more than a list of stocks; anybody can create one. This was especially true during the dotcom bull market, when practically every publication created an index representing a section of new economy stocks. What sets the big indexes apart from the small ones is the reputation of the company that puts out the index. For example, the DJIA is owned by Dow Jones & Company, the same people who publish *The Wall Street Journal*.

Now that we've covered what an index is, let's take a look at some of the most popular stock indexes.


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## The Dow Jones Industrial Average

The Dow Jones Industrial Average (DJIA) contains 30 of the largest and most influential companies in the U.S. It is the most recognized index in the world, and the one that is frequently referred to as "the market". Despite its popularity, however, the DJIA has some weaknesses as a benchmark for the overall market.

| | |
|---|---|
| **Created By:** | Charles Dow on May 26, 1896. Currently maintained by Dow Jones & Company. |
| **Number of Companies:** | It began with 12. Today there are 30. |
| **Types of Companies:** | Various. The DJIA covers all major areas of the U.S. economy except the transportation and utility sectors. |
| **Selection Criteria:** | Selection is at the discretion of *The Wall Street Journal* editors. Reviewed as needed. |
| **How it's Calculated:** | The original DJIA was simply an average of stock prices. Today it uses a price-weighted system. For example, McDonalds' stock is worth approximately 5% of the DJIA. |

**Advantages:** The DJIA has stood the test of time. It contains 30 of the most familiar blue chip companies in the U.S. and is not considered to be volatile or risky.

**Disadvantages:** There are well over 10,000 public companies in the U.S. Containing only 30 companies, the DJIA doesn't even come close to being a benchmark for the entire market. For this reason, the S&P 500 is beginning to take over as the benchmark of choice. Also, a weighting based on market cap is generally thought to be more effective than price weighting.

**Investing:** The DJIA has several index funds that track it as well as an Exchange-Traded Fund (ETF) called the Dow Diamonds that trades under the symbol DIA on the American Stock Exchange (AMEX).


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### The Standard & Poor's 500 Index

The main drawback of the DJIA is that it only contains 30 companies. The S&P 500 improves on the DJIA in this respect by including 500 companies. It is increasingly seen as the benchmark of the U.S. stock market. In fact, the performance of most equity managers is pegged against the S&P 500.

| | |
|---|---|
| **Created By:** | Standard and Poor's Index Services |
| **Number of Companies:** | 500 |
| **Types of Companies:** | The S&P 500 tries to cover all major areas of the U.S. economy. It is not the 500 largest companies, but rather the 500 most widely held companies - chosen with respect to market size, liquidity and industrial sector. |
| **Selection Criteria:** | Components are chosen by the S&P Index Committee. Anywhere from 25-50 changes are made every year because of mergers or fallouts à la Enron. International companies have been included in the past, but only U.S. companies will be added in the future. |
| **How it's Calculated:** | The S&P 500 is a market capitalization-weighted index. This means every stock in the index is represented in proportion to its market capitalization. |

**Advantages:** The S&P 500 is one of the best benchmarks in the world for large cap stocks. By including 500 companies, it offers great diversification and accounts for approximately 70% of the U.S. market. The performance of the S&P 500 is considered one of the best overall indicators of market performance and a mutual fund manager's goal is to beat it.

**Disadvantages:** The top 45 companies comprise more than 50% of the index's value. Another disadvantage is that there's very little foreign content.

**Investing:** The S&P 500 has several index funds that track it, most notably Vanguard's Standard & Poor's Depository Receipts (spiders) is the Exchange-Traded Fund (ETF) that tracks the S&P 500.


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## The Nasdaq Composite Index

The Nasdaq Composite Index represents all the stocks that trade on the Nasdaq stock market. The recent surge in popularity of technological stocks has launched the Nasdaq into the spotlight. Consequently, the composite index has become one of the premier indexes in the world.

Don't confuse the Nasdaq composite with the Nasdaq 100, which is made up of the 100 largest non-financial companies on the Nasdaq stock market.

| | |
|---|---|
| **Created By:** | The NASD in 1971 |
| **Number of Companies:** | 3,000+ |
| **Types of Companies:** | Contains all of the companies that trade on the Nasdaq. Most are technology and Internet-related, but there are financial, consumer, bio-tech and industrial companies as well. |
| **Selection Criteria:** | If a stock trades on the Nasdaq, it is included in the index. With certain restrictions on security types such as close-end funds, preferred stocks, rights, warrants, convertible debentures |
| **How it's Calculated:** | The Nasdaq Composite is a capitalization-weighted index, with each company weighting being proportionate to its market value. |

**Advantages:** The Nasdaq Composite is heavily weighted in technology and Internet stocks. As such, the companies listed in the Composite are considered to have high growth potential.

**Disadvantages:** Companies on the Nasdaq tend to be more speculative and risky than those listed on the New York Stock Exchange (NYSE). Because of this, the Nasdaq composite index is much more volatile than other broad indexes. The advantage of being mostly tech can also be a disadvantage. That is, when tech suffers, so does this index.

**Investing:** There are several index funds that track the Nasdaq composite such as the Fidelity Nasdaq Composite Index Fund. The QQQQ, formerly known as the QQQ, is the Exchange-Traded Fund (ETF) that tracks the Nasdaq 100.


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## The Wilshire 5000 Total Market Index

If you thought the S&P 500 and Nasdaq Composite Index included a lot of companies the Wilshire 5000 Total Market Index (TMWX) is an even larger one. Contrary to what its name suggests, the Wilshire 5000 Index contains over 6,500 stocks that trade in the U.S. Investors often refer to the Wilshire as the "total market index" because it covers such a wide variety of shares.

| | |
|---|---|
| **Created By:** | Wilshire Associates in 1980. |
| **Number of Companies:** | 6,500+ |
| **Types of Companies:** | There is no discrimination by industry. It includes all New York Stock Exchange (NYSE), and most of the Nasdaq and Amex issues. |
| **Selection Criteria:** | All U.S. headquartered equity securities with readily available price data are included. It does not include foreign issues, American Depositary Receipts (ADRs) or stocks that don't have readily available price data. |
| **How it's Calculated:** | The Wilshire Total Market Index is market-capitalization weighted. |

**Advantages:** Easily the most diversified index in the world, it covers virtually all of the public companies in the U.S.

**Disadvantages:** The Wilshire only contains companies headquartered in the U.S., leaving out many strong foreign companies. It is also similar to the S&P 500 in the sense that the top 10% of the companies in the index account for over 75% or so of the index's value.

**Investing:** You can buy an index fund that represents this index. The only downside is that it will be relatively expensive.

## The Russell 2000 Index

The previous four indexes we covered were all based on the top companies in the U.S., most of them worth billions of dollars. The Russell 2000 measures the performance of smaller stocks (small caps) that are often excluded from the big indexes. The average market capitalization in the Russell 2000 is approximately


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$530 million. To put that into perspective, Microsoft alone has a market capitalization of more than $300 billion at the time of writing.

| | |
|---|---|
| **Created By:** | Frank Russell Company in 1972 |
| **Number of Companies:** | 2,000 |
| **Types of Companies:** | Small cap companies from various industries. Exclusions are stocks under $1 and pink sheets. |
| **Selection Criteria:** | This index consists of the smallest 2,000 companies in the Russell 3000 index. |
| **How it's Calculated:** | The Russell 2000 is weighted on market capitalization. |

**Advantages:** A well-diversified index for smaller companies with great growth potential.

**Disadvantages:** The Russell 2000 Index tends to have winning streaks and losing streaks. When small caps come into favor with investors, it tends to perform very well. But the index can be stuck in the doldrums for years when small caps are languishing.

**Investing:** There are many index funds that track the Russell 2000.

## Other Indexes

We've covered most of the big U.S. indexes, but we've barely scratched the surface of all the other indexes in the world. There are literally thousands of indexes tracking nearly any market. Remember, this tutorial has mostly focused on the overall market, but "market" can also refer to industry sectors or regions around the world.

### Other Countries

Every major country has an index that represents its stock exchange. Here are some of the more important indexes around the world:

- FTSE 100 - United Kingdom
- Hang Seng - Hong Kong
- Nikkei - Japan
- DAX - Germany
- S&P/TSX Composite Index - Canada
- CAC 40 - France


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Standard & Poor's also has a fairly comprehensive list of international indexes.

**Industries**
Nasdaq has indexes broken down into the following categories: industrial, transportation, bank, telecommunications, insurance, computer, biotechnology and the Dow Jones industry indexes are seemingly unlimited. In fact, they maintain over 3,600 indexes overall, which you can check out at Dow Jones Indexes.

**Miscellaneous**
Some publications have become quite renowned for their specialty indexes. The best known example is probably the "Fortune 500" by *Fortune Magazine*. It ranks the biggest U.S. companies by sales. Another notable index comes from *Value Line*, an independent research firm whose research has done extremely well over the long run.

**Choose the Correct Benchmark**
One last point about indexes: even if you don't invest in them, it is important that you use the correct index against which to compare the performance of your portfolio. For example, if you own a mutual fund that invests in the Asian market it would be useless to compare its performance against an index tracking the semiconductor industry.

## Index Funds

Indexes are great tools for telling us what direction the market is taking and what trends are prevailing. So, how do we buy into these investment vehicles? Imagine the costs associated with buying the 6,500+ stocks that make up the Wilshire Total Market Index. Commission fees alone would run into the tens of thousands!

If you've been paying attention throughout this tutorial, you've probably noticed we mention index funds more than once. Index funds are simply mutual funds that based on an index and mirror its performance.

The thinking behind index funds has some academic substance to it. For years, many academics have been saying that it is impossible to consistently beat the market without raising your risk level - a theory known as Efficient Market Hypothesis (EMH). So in 1975, John Bogle took the stance that "if you can't beat 'em, join 'em" and created the first low-cost mutual fund that mirrored the S&P 500 index.

But, wait a minute. Isn't the whole purpose of mutual funds to coax us lowly investors into enlisting the help of professionals who can achieve superior


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returns? That's the idea the mutual fund industry has been trying to sell us for many years. The truth is that a majority of mutual funds fail to outperform the S&P 500. The exact stats vary depending on the year, but on average, anywhere from 50%-80% of funds get beat by the market. The main reason for this is the costs that mutual funds charge. A fund's return is the total return of the portfolio minus the fees an investor pays for management and fund expenses. If a fund charges 2%, then you have to outperform the market by that amount just to be even.

Here's where index funds enter the picture. Their main advantage is lower management fees than you would get from a regular mutual fund. An average non-index fund has an expense ratio of around 1.5%, whereas many index funds have an expense ratio of around 0.2%!

The reason the costs are lower is because an index fund is not actively managed. Fund managers only need to maintain the appropriate weightings to match the index performance - a technique known as passive management. The deceptive thing about the "passive" label is that most indexes are actively selected. Take the S&P 500, for example: when the index changes, it's almost like getting the S&P Index Committee's advice for free.

Investing in an index fund doesn't guarantee that you'll never lose money. You will go down in a bear market and up in a bull market. Historically, the return of the S&P 500 has been around 10-11%, which is pretty good. The key here is to hold on for the long term. If you get nervous during a downturn and sell, you'll probably miss the recovery.

## Conclusion

We hope this tutorial has given you insight into how you can track the market, use it as a benchmark and make investments.

Some points to remember:

- An index is a statistical measure of the changes in a portfolio of stocks representing the overall market.
- The first index was created by Charles Dow in May 1896. It has evolved into what we know today as the Dow Jones Industrial Average (DJIA).
- The DJIA uses price-based weighting, but most of the other indexes use market capitalization based weighting.
- The DJIA contains 30 of the largest companies in the U.S. It is what most people are referring to when they talk about "the market."
- The S&P 500 includes 500 of the largest U.S. companies. More and more, it is seen as the benchmark of the U.S. stock market.


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- The Nasdaq Composite Index represents all the companies on the Nasdaq. It is heavy with tech companies and is more volatile than other market indexes.
- The Wilshire 5000 Total Market Index contains more than 6,500 stocks and is the largest index in the U.S.
- The Russell 2000 measures the performance of small caps that often get left out of the other big indexes.
- There are literally thousands of other indexes, tracking various regions and industries.
- Most mutual funds don't beat the market.
- Index funds have lower expense ratios than other mutual funds and allow investors to get the market return.


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