





**INVESTING > PORTFOLIO MANAGEMENT** 

## Market Portfolio

By JAMES CHEN | Updated Oct 8, 2019

#### What is a Market Portfolio?

A market portfolio is a theoretical bundle of investments that includes every type of asset available in the investment universe, with each asset weighted in proportion to its total presence in the market. The <u>expected return</u> of a market portfolio is identical to the expected return of the market as a whole.









#### The Basics of Market Portfolio

A market portfolio, by nature of being completely diversified, is subject only to <u>systematic risk</u>, or risk that affects the market as a whole, and not to <u>unsystematic risk</u>, which is the risk inherent to a particular asset class.

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billion. The market portfolio consists of each of these companies, which are weighed in the portfolio as follows:

Company A portfolio weight = \$2 billion / \$20 billion = 10%

Company B portfolio weight = \$5 billion / \$20 billion = 25%

Company C portfolio weight = \$13 billion / \$20 billion = 65%

#### **KEY TAKEAWAYS**

- A market portfolio is a theoretical, diversified group of every type of investment in the world, with each asset weighted in proportion to its total presence in the market.
- Market portfolios are a key part of the capital asset pricing model, a commonly used foundation for choosing which investments to add to a diversified portfolio.
- Roll's Critique is an economic theory that suggests that it is impossible to create a truly diversified market portfolio—and that the concept is a purely theoretical one.

#### The Market Portfolio in the Capital Asset Pricing Model

The market portfolio is an essential component of the <u>capital asset pricing model (CAPM)</u>.

Widely used for pricing assets, especially equities, the CAPM shows what an asset's expected

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Consumption CAPM formula. Investopedia

Where:

R = expected return

R(f) = the risk-free rate

R(m) = the expected return of the market portfolio

 $\beta_c$  = the <u>beta</u> of the asset in question versus the market portfolio

For example, if the risk-free rate is 3%, the expected return of the market portfolio is 10%, and the beta of the asset with respect to the market portfolio is 1.2, the expected return of the asset is:

Expected return =  $3\% + 1.2 \times (10\% - 3\%) = 3\% + 8.4\% = 11.4\%$ 

#### Limitations of a Market Portfolio

Economist Richard Roll suggested in a 1977 paper that it is impossible to create a truly

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#### Real World Example of a Market Portfolio

In a 2017 study, "<u>Historical Returns of the Market Portfolio</u>," the economists Ronald Q. Doeswijk, Trevin Lam, and Laurens Swinkels attempted to document how a global multi-asset portfolio has performed over the period 1960 to 2017. They found that real compounded returns varied from 2.87% to 4.93%, depending on the currency used. In U.S. dollars, the return was 4.45%.

#### **Related Terms**

#### Capital Asset Pricing Model (CAPM)

The Capital Asset Pricing Model is a model that describes the relationship between risk and expected return. <u>more</u>

#### How the Consumption Capital Asset Pricing Model Works

The consumption capital asset pricing model is an extension of the capital asset pricing model that focuses on a consumption beta instead of a market beta. <u>more</u>

#### **Excess Returns**

Excess returns are returns achieved above and beyond the return of a proxy. Excess returns will depend on a designated investment return comparison for analysis. <u>more</u>

#### Country Risk Premium (CRP) Definition

Country Risk Premium (CRP) is the additional return or premium demanded by investors to compensate them for the higher risk of investing overseas. <u>more</u>

#### Understanding Beta and How to Calculate It

Beta is a measure of the volatility, or systematic risk, of a security or a portfolio in comparison to the market as a whole. Beta is used in the capital asset pricing model (CAPM). <u>more</u>

#### Capital Market Line (CML) Definition

The capital market line (CML) represents portfolios that optimally combine risk and return. more

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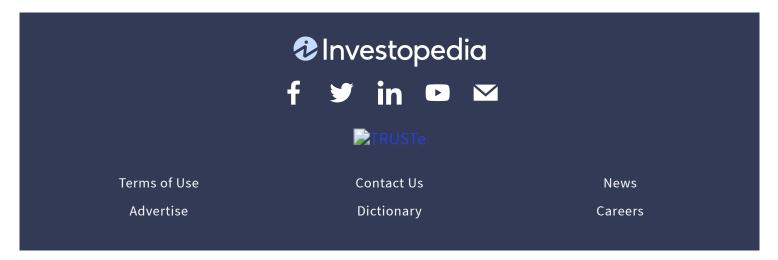


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