

What have average investment asset class risk premiums been over long periods?

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Summary: Over the past two hundred years, real or non-inflationary equity market returns have averaged just under 7%. During the 19th century, cash and bond returns “were king” and additional equity risk returns were relatively small. In the 20th century and particularly during the second half of that century, investors were much more richly rewarded for carrying the risks associated with equity investments. Investment researchers have about 200 years of U.S. securities market data to draw upon. While the data becomes more scant the further one looks into the past, older market information still can be instructive. Presumably, U.S. investors in the 19th century were just as highly motivated to make a buck, as investors are now. Of course, conditions have changed dramatically in the economy and in the securities markets over time. For example, while some current investors might focus on semiconductors, those of the 19th century may have focused on steamships. Furthermore, over time the markets have become much larger, more efficient, more globalized, increasingly automated, and less susceptible to manipulation. Rational investors want a scientific basis for answering the question: “what is the expected equity premium for the future?” Depending upon recent market history and the length of the time period chosen, simply extrapolating from the very recent past could cause investors to under- or over-estimate significantly the future equity risk premium. This could cause investors to misallocate their assets between equities and less risky investments. Shorter periods of more recent data may not provide a realistic estimate of the potential risks. Therefore, it is helpful to understand the risk premiums that markets have paid over much longer periods than just the last few years or even the past few decades. Table 1 Real Annual Long-term Risk Free Rates and Equity Premiums (Source: [Siegel 2001])

Years (T-bills)	Total Real Equity Market Return (~S&P)	Short-term Risk Free Rate	Realized Equity Risk Premium over T-Bills	Long-term Risk Free Rate (T-bonds)	Realized Equity Risk Premium over T-Bonds
1802-2001	6.8%	2.9%	3.9%	3.5%	3.4%
1802-1870	7.0%	5.1%	1.9%	4.8%	2.2%
1871-1925	6.6%	3.2%	3.5%	3.7%	2.9%
1926-2001	6.9%	.7%	6.1%	2.2%	4.7%

Table 1 summarizes selected data from one of the numerous papers that have been written on historical returns.¹ Professor Jeremy Siegel of the Wharton School at the University of Pennsylvania has been prolific in writing about historical returns.² In particular, he has looked at the long-term data and calculated summary information going back as far as 1802. (See this related article: [What might explain the dramatic rise in common stock equity prices during the 1980s and 1990s?](#)) Over the past two centuries, the annual real or non-inflationary U.S. equity market return has averaged just under 7%. Investment return studies, like this one by Professor Siegel, usually measure equity returns on the relatively large capitalization equities that are in the current S&P500 index. The

further one goes back into past two hundred years, the fewer the number of companies that compose these indexes. For example, the Standard and Poors equity index first contained 500 stocks in 1957. Prior to then, fewer companies comprised these benchmark indexes. Note that the breakpoints in historical periods in Table 1 are due to the particular historical market data sets that have been compiled by researchers. Over the past two hundred years, the financial markets have dramatically shifted how total equity investment returns have been compensated. During the 19th century, cash and bond returns "were king" and additional equity risk returns were relatively small. In the 20th century and particularly during the second half of that century, investors were much more richly rewarded for carrying the risks associated with equity investments. For the first seven decades of the 19th century, if you measure the risk free rate of return using either short-term U.S. T-bill rates or long-term U.S. T-bond rates, the annual risk free interest rate averaged about 5%. This means that the annual average historical equity risk premium was about 2% with either measure. Clearly, less risky assets were compensated relatively highly and more risky endeavors attracted a relatively small incremental return above the risk free rate of return. (See: [How are asset class risk premiums and the risk free rate of return related?](#)) During roughly the last seven decades of the 20th century (1926 to 2001), this relationship reversed. Measured by short-term U.S. T-bill rates, the real risk free rate of return shrank to about .7% and the realized equity risk rose to over 6%. When measured by the longer-term U.S. T-bond return, the real risk free rate of return shrank to about 2.2%, and the realized equity risk rose to about 4.7%. In the middle fifty-five year period of 1871 to 1925, the average short-term risk free rate of return and resulting equity risk premium were quite similar with both being just over 3% each. Using the longer-term risk free rate reduced the equity risk premium by about one-half percent annually.

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[Securities Valuation: ->Introduction to investment valuation and securities risk](#) ->[How investment securities are valued -- snapshots in time](#) ->[The confusing investment securities market motion picture](#) ->[What is efficient market pricing in the securities markets?](#) 1) Siegel, Jeremy J., "Historical Results I." AIMR Equity Risk Premium Forum, November 8, 2001, Table 1 [Siegel 2001]

2) Professor Siegel has websites with interesting and useful information. See: <http://www.wharton.upenn.edu/faculty/siegel.html>