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## **[How many mutual funds are needed for a well-diversified portfolio? -](#)**

### **Commentary**

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How many mutual funds are needed for a well-diversified portfolio? - Commentary For holding periods of many years, diversification improves dramatically, when you hold multiple actively-managed mutual funds in an investment portfolio. In "How Many Mutual Funds Constitute a Diversified Mutual Fund Portfolio?," Professor Edward O'Neal of the University of New Hampshire at Durham tackled the important question of how much an investor could improve on diversification by holding multiple actively-managed mutual funds within an investment portfolio.<sup>1</sup>

For the companion article describing this study, see: [How many mutual funds are needed for a well-diversified portfolio? &ndash; evidence](#) Because individual investors typically stay invested in particular actively managed mutual funds for many years, a terminal valuation approach is useful in understanding the variability of outcomes for a mutual fund buy-and-hold strategy. Professor O'Neal found that, if one looks only at average year-to-year portfolio risk or volatility, then adding more mutual funds to a portfolio seems to improve diversification only very slightly. However, if you look at terminal investment portfolio values after multi-year investment holding periods, then very substantial reductions in investment risk can be achieved by owning multiple actively-managed mutual funds. Professor O'Neal pointed out that individual investors plan for college or retirement expenses with long investment horizons. They are most concerned with the likelihood of achieving their end-of-period investment goal. Therefore, the variability of cumulative returns at the target time or the "terminal wealth" is of greatest concern to these investors. Professor O'Neal compared actively-managed mutual funds with similar styles, i.e. "growth-and-income" style mutual funds and "growth" style mutual funds to determine the value of increased diversification within a particular investment strategy, rather than across several strategies. Over long investment holding periods, uneven performance from one mutual fund and another can be very dramatic and can result in a wide range of total investment returns. Professor O'Neal noted that "the average growth fund return over the 19-year period was 1,502 percent, although the distribution is skewed to the right (the range was 543 percent to 6,794 percent)."<sup>2</sup> This means that the best performing growth mutual fund returned over 12 times that of the worst performing growth fund that had survived for the full 19-year period. The worst surviving growth mutual fund was undoubtedly not the worst growth mutual fund overall, because the Morningstar data has a 'survivorship bias.' The Morningstar data used only included mutual funds that were in business throughout the entire 19-year period. Mutual funds that were such poor performers that they had been put out of their misery during this period were not included in the data. This means that the actual average performance across all actively managed growth funds was even lower than that of just the survivors. The performance of the vast majority of actively managed mutual funds tends to revert over time toward the average, and those mutual funds that will eventually have higher investment returns are impossible to detect reliably beforehand. The chances of selecting a big winner are largely governed by chance. Since there are relatively few actively-managed mutual funds with dramatically better performance, the average investor is far more likely to hold a fund that under performs the average over the long run. (See: [Can a limited number of equities provide complete portfolio diversification?](#)) If an investor wishes to narrow down significantly the range of variation in long-run terminal investment portfolio performance, then investing in multiple funds of similar investment style seems to be a much more

reliable strategy than investing in just one fund. Investing in just one fund and hoping for the best is not an optimal strategy from the standpoint of risk-adjusted investment performance. At the same time, buying and holding multiple mutual funds is also much more likely to lead to superior results, when compared with frequent buying and selling in the illusory pursuit of superior fund performance. (See: [Does it pay to trade when the Morningstar Rating of a mutual fund changes?](#)) When an investor holds a group of actively managed mutual funds, the long-term performance of that group is more likely to move closer to approximating the relevant market index benchmark - but at a much higher cost than index mutual funds and ETFs. Ranked by the number of different securities held, the 50th percentile growth style mutual fund in the Morningstar data held 78 securities in 1994. Depending upon the degree of common holdings of particular stocks across funds and the relative weightings of those holdings, when you own multiple actively managed mutual funds of a similar style, it is likely that long term investment performance results will move closer to the relevant index benchmark. Largely because of their excessive costs, it is unlikely for actively managed mutual funds to beat passively managed index mutual funds on a risk-adjusted returns basis. A passive index fund alternative always exists and has much lower costs. The performance variability among passively managed index mutual funds and index exchange-traded funds is dramatically lower. Investors who stick with multiple actively managed funds that approximate an index are guaranteed to have lower returns, because they pay the higher fees of active funds, while their performance tracks the benchmark. As the holdings of multiple mutual funds begin to approximate the benchmark index, high fees and tax inefficiency become far more important considerations. The alternative to holding a larger number of actively managed mutual funds is to hold a smaller number of passively managed index mutual funds and index ETFs. Index mutual funds and ETFs provide broader diversification with lower fees, taxes, and time commitments. There is a better way to invest than owning one or many actively-managed mutual funds. However, to improve your investment strategy, you have to abandon the false notion that you are likely to pick winning actively-managed mutual funds and beat the other guy. Only by luck to a minority of individual investors pick "winning" actively-managed mutual funds. Most pick losers, because most actively managed mutual funds are losers, when compared to index mutual funds and index exchange-traded funds. (For example, see: [Standard & Poor's Indices Versus Active Fund Quarterly Scorecards](#))<sup>1)</sup> Edward S. O'Neal, "How Many Mutual Funds Constitute a Diversified Mutual Fund Portfolio?" Financial Analysts Journal, March/April 1997: p. 37-46  
2) *ibid*, p. 39

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