

# Ibbotson Target Maturity Report



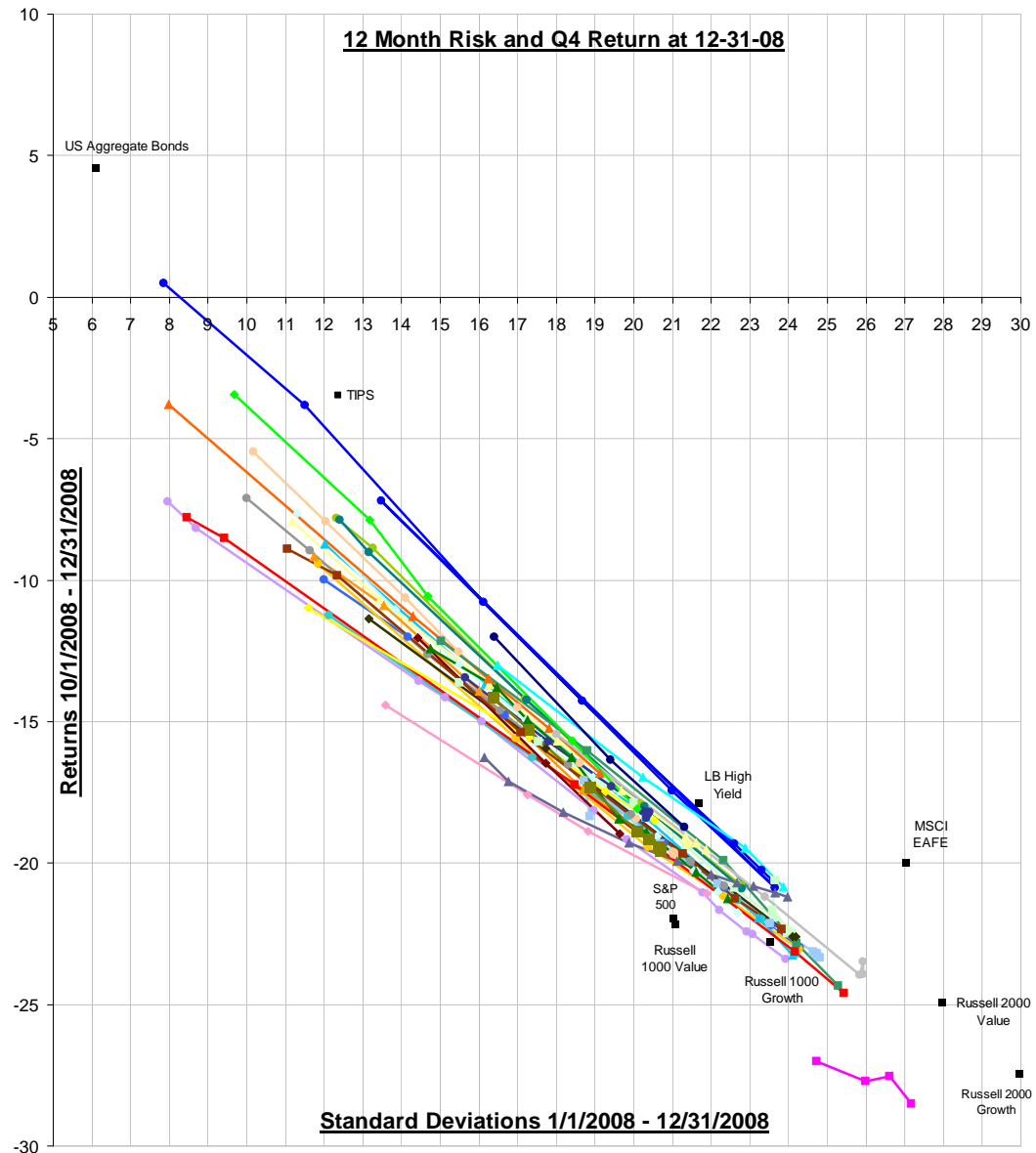
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By many different measures, 2008 was one of the worst years on record for the capital markets. Of the 83 years since 1926, the S&P 500 Index's 2008 loss of 37% was the second-worst year on record. Only the 43% loss of 1931 was worse. Moving to quarterly data, of the 332 quarters since 1926, the 22% loss of the S&P 500 Index in Q4 2008 was the sixth-worst quarter on record. The disastrous year and quarter were shared by many of the other asset classes that are the building blocks of the typical target maturity fund.

Figure 1: Quarterly Risk-Return Graph (Q4 2008 Return vs. 12-Month Annualized Risk)



Source: Ibbotson Associates

Figure 1 summarizes the performance of the growing number of target maturity fund families during the fourth quarter. Quarterly returns are displayed on the vertical axis and annualized standard deviation, based on 12 months of returns, is on the horizontal axis. We have connected the dots of each fund family, enabling one to make broad comparisons of the different families. We are now tracking 264 unique target maturity funds with at least a one-year track record (up from 253 last quarter) representing 39 fund families.

Only one fund was able to eek out a positive return during the quarter. The average target maturity fund return during the fourth quarter was -17.3%, which was far worse than three previous quarters in which the returns were -6.8%, -0.9%, and -10.0% for Q1, Q2, and Q3, respectively. The quarterly returns for the S&P 500 Index during 2008 were -9.4%, -2.7%, -8.4%, and -21.9%. In contrast to third quarter in which the average target maturity fund underperformed the S&P 500 Index, during the fourth quarter the average target maturity fund outperformed the S&P 500 Index by 4.6%.

As is typically the case, the aggregate stock-bond split was the primary driver of return differences during the fourth quarter. A somewhat interesting feature of Figure 1 is that there is greater dispersion among the lines on the left side of the graph representing the more conservative funds. This is somewhat expected as there is greater dispersion in the amount of equity exposure among the funds that are at or near retirement. However, a contributing factor to this dispersion is the dreadful performance of some of the bond managers that are used within the target maturity funds, a point that we will return to shortly.

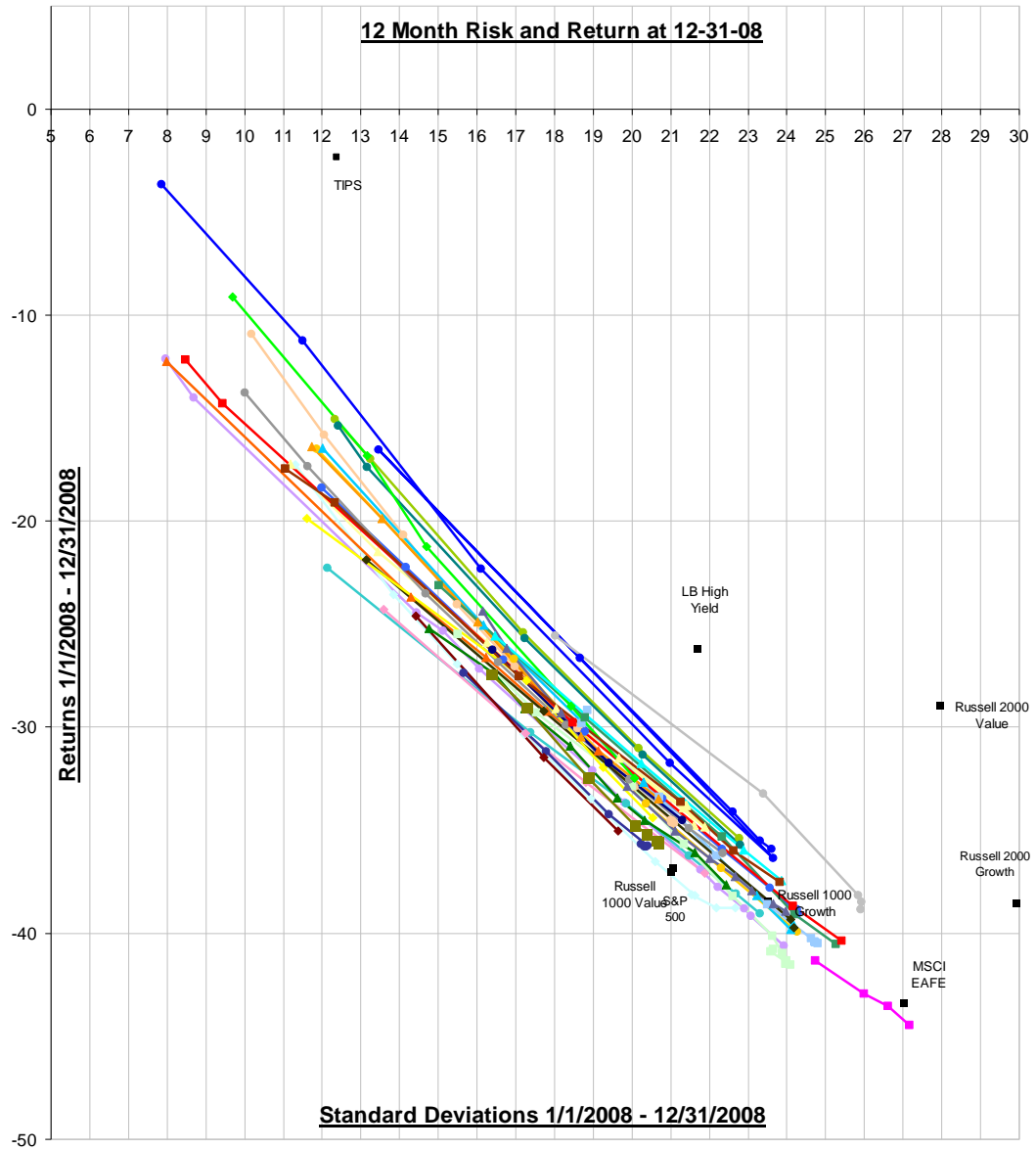
Prior to dissecting the quarterly performance any further, let us take the opportunity to review the 2008 performance of target maturity funds. Figure 2 displays the performance of the target maturity funds during all of 2008. The average target maturity fund lost 30.8% during 2008, outperforming the S&P 500 Index by 6.2%. As we saw in the quarterly risk and return analysis above, the aggregate stock-bond split was the primary driver of return differences in 2008. Similarly, there is more dispersion in returns for the more conservative funds, which we attribute to the larger differences in equity exposure among funds that are at or near retirement as well as the terrible performance of a few underlying bond managers.

For the vast majority of target maturity funds, their asset class exposures are the primary determinant of their total returns. But occasionally, underlying investment managers can also have a significant impact. We don't like to single out the performance of specific funds, however, the fund family depicted in bright pink in the bottom right of Figure 1 and Figure 2 is an example of a target maturity family that allocated assets to a "core" or "aggregate" bond manager that blew up.

The newly named Barclay's U.S. Aggregate Index, the most popular measure of the performance of the U.S. bond market, returned a respectable 5.2% in 2008. Historically, most U.S. core bond funds have tracked the Barclay's U.S. Aggregate Index closely. However, beginning in 2007 and continuing in 2008, the dispersion of U.S. core bond funds increased dramatically. Figure 3 (page 3) shows the dispersion of Morningstar's U.S. Intermediate-term bond fund category. Here we see that that there were intermediate-term bond funds that lost more than 80% during 2008, far worse than the equity-like asset classes.

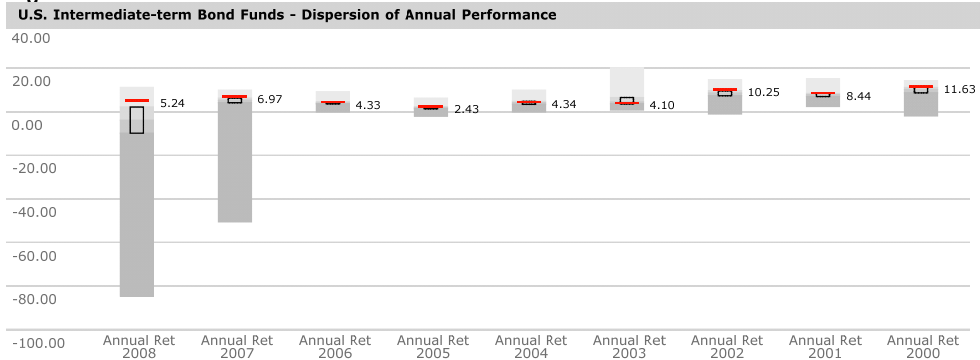
The risk of underlying managers dramatically influencing the performance of a target maturity fund is generally considered low. However, in the rare event that a manager dramatically underperforms his or her asset class benchmark this can occur. And, the potential for a material impact on the fund's overall performance is greatest when the allocation to a manager is large. Typically, the largest single-manager allocations occur within the U.S. bond and non-U.S. developed equity asset classes. So the implosion of a few major bond managers can have an outsized impact on target maturity performance. This risk is also compounded because few target maturity funds have open-architecture, meaning that they are limited to the managers within the fund family. Since few fund families offer multiple core or aggregate funds, allocations to fixed income are concentrated in few funds, which increases fund-specific risk.

Figure 2: Annual Risk–Return Graph (2008 Return vs. 12 Month Annualized Risk)



Source: Ibbotson Associates

Figure 3: Annual Returns for Intermediate-Bond Funds



Peer Group: Open End Funds - U.S. - Intermediate-Term Bond

Source: Morningstar Direct

Table 1 shows the quarterly performance of the 264 funds by category based on the funds' target maturity date. There are significant differences between the best-performing funds (Max column) and the worst-performing funds (Min column), especially among the funds that are closer to retirement. We believe that many target maturity fund investors nearing retirement were surprised that they could lose 25% in a quarter.

**Table 1: Quarterly Target Maturity Fund Performance (Q4 – 2008)**

Date	Max	Average	Min	# of Funds
Income	0.5%	-9.2%	-18.3%	22
2000	-8.2%	-10.9%	-13.6%	2
2005	-7.9%	-12.5%	-15.7%	7
2010	-1.9%	-12.4%	-27.0%	31
2015	-7.2%	-15.1%	-27.7%	27
2020	-10.6%	-16.8%	-27.5%	31
2025	-13.9%	-18.3%	-23.9%	23
2030	-15.3%	-19.9%	-28.5%	31
2035	-17.4%	-20.5%	-23.5%	23
2040	-16.8%	-21.1%	-24.6%	29
2045	-18.4%	-21.4%	-24.3%	19
2050	-19.2%	-21.6%	-24.1%	17
2055	-20.6%	-21.8%	-23.0%	2
			Total	264

Source: Ibbotson Associates

Table 2 contains the quarterly performance of some of the most common asset class building blocks that make up target maturity funds.

**Table 2: Quarterly Asset Class Performance**

Asset Class	Q4 2008 Return	12-Month Standard Deviation
US Large Growth	-22.8%	23.5%
US Large Value	-22.2%	21.1%
US Small Growth	-27.4%	29.9%
US Small Value	-24.9%	28.0%
Non-US Developed	-20.0%	27.0%
Emerging Market Stocks	-27.6%	37.5%
Real Estate	-38.8%	45.8%
Commodities (Futures)	-30.0%	33.7%
High Yield	-17.9%	21.7%
US Aggregate Bonds	4.6%	6.1%
US Short-Term Bonds	2.7%	2.6%
TIPS	-3.5%	12.4%
Cash	0.2%	0.5%

Source: Ibbotson Associates and Morningstar Direct

The majority of equity-like asset classes experienced double-digit losses in the fourth quarter. The worst-performing asset class was real estate (-38.8%) followed by commodities (-30.0%). Historically, the addition of these two asset classes has helped performance; however, this quarter, the more plain-vanilla funds that don't include these two asset classes had better performance. Within U.S. equities, value stocks outperformed growth stocks and large-cap stocks outperformed small-cap stocks. On an aggregate basis, non-U.S. stocks outperformed U.S. stocks slightly hurting target maturity fund families with a greater U.S. home-country bias. The best-performing asset class was U.S. aggregate bonds; however, as we explained earlier, there were a few bond managers with disastrous results.

Switching from quarterly performance to annual performance, Table 3 shows the annual performance of the 13 fund categories. Most notably, not a single target maturity fund had a positive return in 2008. The smallest loss was 3.6% and largest was 44.5%. As we saw with the quarterly data, there was more dispersion among funds that are at or near retirement.

**Table 3: Annual Target Maturity Fund Performance (2008)**

<b>Date</b>	<b>Max</b>	<b>Average</b>	<b>Min</b>	<b># of Funds</b>
Income	-3.6%	-17.0%	-29.2%	22
2000	-14.0%	-19.7%	-25.5%	2
2005	-15.8%	-23.7%	-29.3%	7
2010	-3.6%	-23.3%	-41.3%	31
2015	-16.5%	-27.8%	-42.9%	27
2020	-21.2%	-30.6%	-43.6%	31
2025	-24.9%	-33.1%	-40.1%	23
2030	-29.0%	-35.5%	-44.5%	31
2035	-30.4%	-36.5%	-41.5%	23
2040	-31.2%	-37.3%	-41.4%	29
2045	-33.5%	-37.7%	-41.5%	19
2050	-33.8%	-38.3%	-42.4%	17
2055	-38.9%	-39.8%	-40.8%	2

264

Source: Ibbotson Associates

Table 4 contains the annual performance of some of the most common asset class building blocks that make up target maturity funds.

**Table 4: Annual Asset Class Performance**

<b>Asset Class</b>	<b>2008 Return</b>	<b>12 Month Standard Deviation</b>
US Large Growth	-38.4%	23.5%
US Large Value	-36.8%	21.1%
US Small Growth	-38.5%	29.9%
US Small Value	-28.9%	28.0%
Non-US Developed	-43.4%	27.0%
Emerging Market Stocks	-53.2%	37.5%
Real Estate	-37.7%	45.8%
Commodities (Futures)	-35.6%	33.7%
High Yield	-26.2%	21.7%
US Aggregate Bonds	5.2%	6.1%
US Short-Term Bonds	5.0%	2.6%
TIPS	-2.4%	12.4%
Cash	2.1%	0.5%

Source: Ibbotson Associates and Morningstar Direct

As we see in Table 4, 2008 was a terrible year for capital markets. The only positive asset classes from Table 4 were U.S. aggregate bonds, U.S. short-term bonds, and cash. As one would expect, during 2008, more conservative target maturity funds outperformed the more aggressive funds. Additionally, non-U.S. stocks underperformed U.S. stocks causing funds with higher international exposure to underperform slightly.

Depending upon which index is used to measure commodity futures, commodities either outperformed the S&P 500 Index by 1.3% in the case of the Dow Jones AIG Commodity Index or underperformed by 9.5% in the case of the energy-heavy S&P Goldman Sachs Commodity Index. Thus, target maturity funds

with underlying commodity managers that track the DJ-AIG Commodity Index were helped relative to funds with underlying commodity managers that track the S&P GSCI Index.

### **About Ibbotson**

Ibbotson Associates is a leading independent provider of asset allocation, manager selection, and portfolio construction services. The company leverages its innovative and ground-breaking academic research to create customized investment advisory solutions that help investors meet their goals. Founded by Professor Roger Ibbotson in 1977, Ibbotson Associates is a registered investment advisor and wholly owned subsidiary of Morningstar, Inc.

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### **Appendix: Index Definition**

Standard & Poor's 500 Index: Market-capitalization-weighted index of 500 widely held stocks. Member companies are chosen based on market size, liquidity, and industry group representation. Included are the stocks of industrial, financial, utility and transportation companies.

Dow Jones AIG Commodity Index: Commodities traded on U.S. exchanges, with the exception of aluminum, nickel and zinc, which trade on the London Metal Exchange (LME). Indexes in the DJ-AIGCI family are calculated on both an excess return and total return basis.

Standard & Poor's GSCI Index: Composite index of commodity sector returns representing an unleveraged, long-only investment in commodity futures that is broadly diversified across the spectrum of commodities.

Barclay's U.S. Aggregate Bond Index: USD-denominated, investment-grade, fixed-rate, taxable bond market of SEC-registered securities. The Index includes bonds from the Treasury, Government-Related, Corporate, MBS (agency fixed-rate and hybrid ARM passthroughs), ABS, and CMBS sectors.