INVESTMENT NEWSLETTER

> Costs matter. Whether you're buying a car or selecting an investment strategy, the costs you expect to pay are likely to be an important factor in making any major financial decision.

GETTING WHAT YOU DON'T PAY FOR

JULY 2017
Dimensional Fund Advisors

People rely on a lot of different information about costs to help inform these decisions. When you buy a car, for example, the sticker price tells you approximately how much you can expect to pay for the car itself. But the sticker price is only one part of the overall cost of owning a car. Other things like sales tax, the cost of insurance, expected routine maintenance costs, and the potential cost of unexpected repairs are also important to understand. Some of these costs are easily observed, and others are more difficult to assess. Similarly, when investing in mutual funds, different variables need to be considered to evaluate how cost-effective a strategy may be for a particular investor.

EXPENSE RATIOS

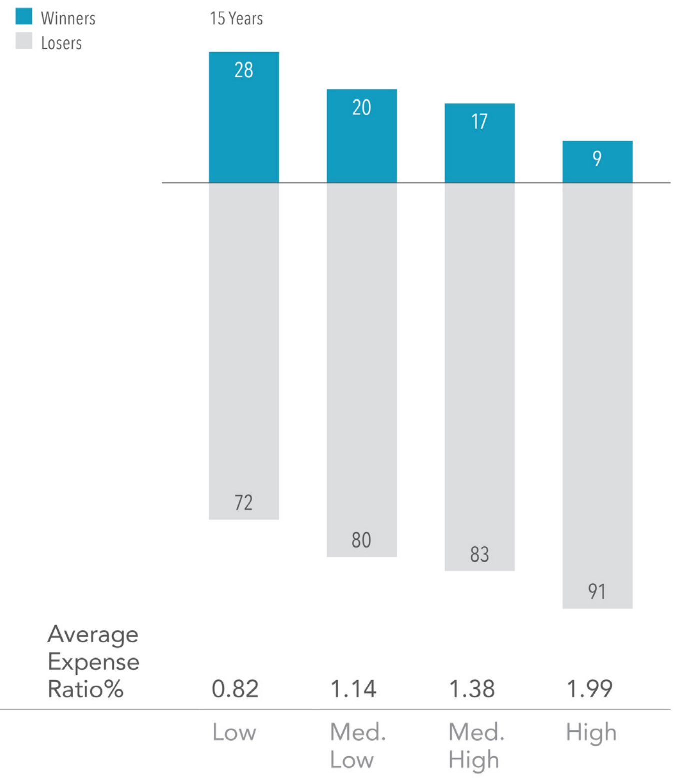
Many types of costs lower the net return available to investors. One important cost is the expense ratio. Similar to the sticker price of a car, the expense ratio tells you a lot about what you can expect to pay for an investment strategy. Exhibit 1 helps illustrate why expense ratios are important and shows how hefty expense ratios can impact performance.

This data shows that funds with higher average expense ratios had lower rates of outperformance. For the 15-year period through 2016, only 9% of the highest-cost equity funds outperformed their benchmarks. This data indicates that a high expense ratio is often a challenging hurdle for funds to overcome, especially over longer horizons. From the investor's point of view, an expense ratio of 0.25% vs. 0.75% means savings of $5,000 per year on a $1 million account. As Exhibit 2 helps to illustrate, those dollars can really add up over longer periods.

While the expense ratio is an important piece of information for an investor to evaluate, what matters most when gauging the true cost-effectiveness of an investment strategy is the "total cost of ownership." Similar to the car example, total cost of ownership is more holistic than any one figure. It looks at things that are readily observable, like expense ratios, but also at things that are more difficult to assess, like trading costs and tax impact. It is important for investors to be aware of these and other costs and to realize that an expense ratio, while useful, is not an all-inclusive metric for total cost of ownership.

Exhibit 1.

High Costs Can Reduce Performance, Equity Fund Winners and Losers Based on Expense Ratios (%)



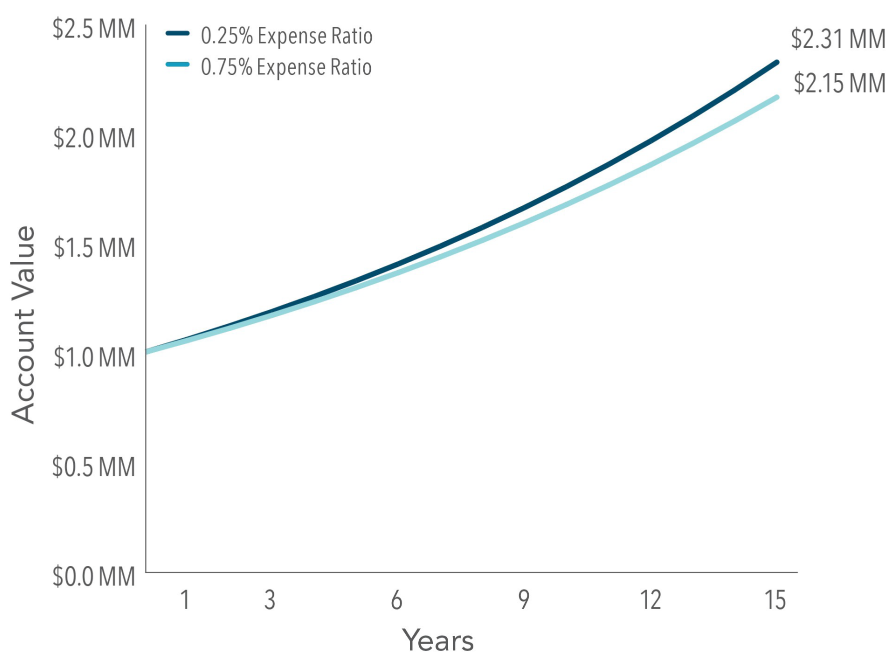


Exhibit 2.
Hypothetical Growth of $1 Million at 6%, Less Expenses

TRADING COSTS

For example, while an expense ratio includes the fund's investment management fee and expenses for fund accounting and shareholder reporting (among other items), it doesn't include the potentially substantial cost of trading securities within the fund. Overall trading costs are a function of the amount of trading, or turnover, and the cost of each trade. If a manager trades excessively, costs like commissions and the price impact from trading can eat away at returns. Viewed through the lens of our car analogy, this impact is similar to excessively jamming your brakes or accelerating quickly. By regularly demanding immediacy like this when it may not be necessary, the more wear and tear your car is likely to experience and the more fuel you will end up using. These actions can increase your total cost of ownership. Additionally, excessive trading can also lead to negative tax consequences for the fund, which can increase the cost of ownership for investors holding funds in taxable accounts. The best way to try to decrease the impact of trading costs is for funds to avoid trading excessively and pay close attention to effectively minimizing cost per trade. Employing a flexible investment approach that reduces the need for immediacy, thereby enabling opportunistic execution, is one way to potentially help accomplish this goal. Keeping turnover low, remaining flexible, and transacting only when the potential benefits of a trade outweigh the costs can help keep overall trading costs down and help reduce the total cost of ownership.

CONCLUSION

The total cost of ownership of a mutual fund can be difficult to assess and requires a thorough understanding of costs beyond what an expense ratio can tell investors on its own. A good advisor can help investors look beyond any one cost metric and instead evaluate the total cost of ownership of an investment program—and ultimately help clients decide if a given strategy is right for them.

Source: Dimensional Fund Advisors LP.
There is no guarantee investment strategies will be successful. Diversification does not eliminate the risk of market loss. Mutual fund investment values will fluctuate and shares, when redeemed, may be worth more or less than original cost. The types of fees and expenses will vary based on investment vehicle. Investments are subject to risk including possible loss of principal. All expressions of opinion are subject to change. This article is distributed for informational purposes, and it is not to be construed as an offer, solicitation, recommendation, or endorsement of any particular security, products, or services.

Exhibit 1:
The sample includes funds at the beginning of the 15-year period ending December 31, 2016. Funds are sorted into quartiles within their category based on average expense ratio over the sample period. The chart shows the percentage of winner and loser funds by expense ratio quartile; winners are funds that survived and outperformed their respective Morningstar category benchmark, and losers are funds that either did not survive or did not outperform their respective Morningstar category benchmark. US-domiciled open-end mutual fund data is from Morningstar and Center for Research in Security Prices (CRSP) from the University of Chicago. Equity fund sample includes the Morningstar historical categories: Diversified Emerging Markets, Europe Stock, Foreign Large Blend, Foreign Large Growth, Foreign Large Value, Foreign Small/Mid Blend, Foreign Small/Mid Growth, Foreign Small/Mid Value, Japan Stock, Large Blend, Large Growth, Large Value, Mid-Cap Blend, Mid-Cap Value, Miscellaneous Region, Pacific/Asia ex-Japan Stock, Small Blend, Small Growth, Small Value, and World Stock. For additional information regarding the Morningstar historical categories, please see "The Morningstar Category Classifications" at morningstardirect.morningstar.com/clientcomm/Morningstar_Categories_US_April_2016.pdf. Index funds and fund-of-funds are excluded from the sample. The return, expense ratio, and turnover for funds with multiple share classes are taken as the asset-weighted average of the individual share class observations. For additional methodology, please refer to Dimensional Fund Advisor's brochure, The 2017 Mutual Fund Landscape. Past performance is no guarantee of future results.

Exhibit 2:
For illustrative purposes only and not representative of an actual investment. This hypothetical illustration is intended to show the potential impact of higher expense ratios and does not represent any investor's actual experience. Assumes a starting account balance of $1,000,000 and a 6% compound annual growth rate less expense ratios of 0.25% and 0.75% applied over a 15-year time horizon. Taxes and other potential costs are not reflected. Actual results may vary significantly. Changing the assumptions would result in different outcomes. For example, the savings and difference between the ending account balances would be lower if the starting investment amount was lower.

THE SHIFTING TIDES OF WORLD GROWTH

ROBERT JOHNSON, CFA
JULY 2017
Morningstar

This week's economic releases were consistent with recent trends and were, on balance, slightly more positive than expectations. New-home sales, wholesale and retail inventories, durable goods, and net export data were all more positive than expected.

World purchasing manager data was relatively neutral, with relatively high readings maintained but not showing much acceleration. Consistent with recent results, Europe's manufacturing reading remained considerably better than those in the U.S. and Japan.

The only real disappointment for the week was existing-home sales, which were down month to month, as low inventories and high prices continued to weigh on sales. Rolled together, the key takeaway is that U.S. growth remains relatively anemic while the rest of the world does slightly better. In fact, U.S. growth would look modestly worse if not for rising exports and basically flat imports.

The IMF agreed with our assessment this week, reducing the U.S. GDP growth forecast from 2.3% to 2.1%, while raising Europe's growth rate for 2017 from 1.7% to 1.9%. Even China's growth forecast was raised modestly from 6.6% to 6.7%. Overall, the world GDP growth rate was left unchanged at 3.5%, which is higher than the 3.2% reading recorded in 2016.

The relatively anemic U.S. growth is not because anything is falling apart, but because demographic and labor shortages continue to press on growth rates. Perhaps this is most apparent in the housing sector. Plagued with labor shortages (along with lack of well-located land), it could be doing noticeably better with more skilled construction workers.

IMF Leaves World Growth Forecast Unchanged at 3.5% for 2017

In its quarterly economic forecast the IMF left its GDP growth forecasts for 2017 and 2018 at 3.5% and 3.6%, respectively, compared with 3.2% in 2016. The better forecast is the result of a combination of better reported economic performance in the first half, improved trade data, and higher commodity prices (which will boost some emerging-markets economies, such as Russia and Brazil).

After a nice bounce following a worse-than-typical recession, world growth has struggled to get back to long-term averages. Demographics (slower population growth as well as an aging population) seem to be limiting growth not only in the U.S., but also around the world.

Even 10-Year Averaged Data Doesn't Look Much Better

On a 10-year averaged basis, growth was generally on a downward track since the baby boomers reached maturity in the 1960s and 1970s. World growth stepped out of its rut in the late 1990s and early 2000s as China's growth accelerated with new government policies.

Not only did China grow rapidly but it represented an increasingly large portion of GDP. China's large demand for raw materials also stimulated the economies of a lot of other emerging-markets countries. However, as China's growth slowed and became less commodity focused, world economic activity entered another languid growth phase in 2011.

Mix of Regional Growth Rates Undergoing a Shift

Since its last update in April, the IMF has increased its growth rate expectations for Europe, Japan, and China, while it reduced its forecast for the United States. This mainly reflects reported first-half growth that was stronger than the IMF had been forecasting, except in the United States.

It noted the completion of elections in most of the developed world and put to rest some of the uncertainty that had so spooked the IMF earlier. However, it mentioned that some of the election uncertainty has been replaced by worries about if (or when) new stimulus and other policy changes would be implemented in the United States.

The shifts in regional expectations are even more dramatic when compared with the IMF of July 2016. In fairness, that forecast was produced just after the Brexit vote. The IMF slammed its growth rates for Europe itself and a lot of its trading partners, while boosting its growth rates for the U.S., which appeared well on the way to electing Hillary Clinton.

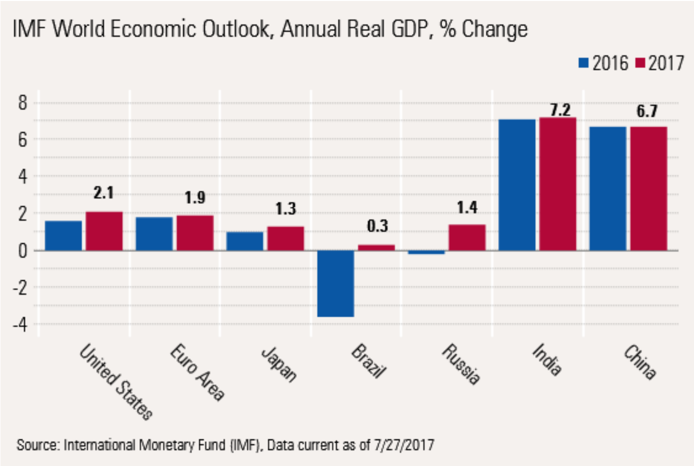
Regional Real GDP, % Change
% Change, Year-over-Year

				Vs Forecast Made	
				Apr. 2017	July 2016
	2015	2016	2017F	2017F	2017F
Euro area	2.0%	1.8%	1.9%	0.2%	0.4%
Japan	1.1%	1.0%	1.3%	0.1%	1.2%
United States	2.6%	1.6%	2.1%	-0.2%	-0.4%
China	6.9%	6.7%	6.7%	0.1%	0.3%
World	3.4%	3.2%	3.5%	0.0%	0.1%

Source: IMF, World Economic Outlook Update, July 2017

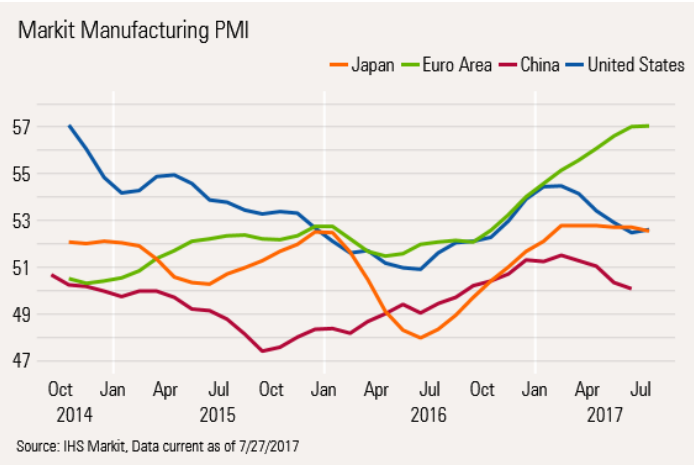
Commodity Producers, Including Brazil and Russia, Are Expected to Do Better in 2017

As world growth picked up (except in the U.S.) and OPEC demonstrated some production discipline, commodities began to act at least a little better, which has improved growth in commodity-related economies, primarily emerging-markets economies.



World PMI Data Showing Similar Improving and Shifting Growth Trends

It is not just the IMF data that is showing a generally improving world economy and shifting regional growth trends. Flash purchasing manager data from Markit demonstrated very similar trends. PMI data bottomed around the world in July 2016. Since then, Europe has shown the most improvement and the U.S is not growing as fast as it was at the beginning of the year. Chinese data still looks a bit soft, but we won't have Chinese data for another week. We note that Chinese and U.S. data are still up from year-ago levels, though are not as strong as they were earlier in the year.



U.S. Durable Goods Orders Indicate Participation in World Trade/Manufacturing Rebound

While the Markit data for the U.S. is not robust, we note that in this week's durable goods report, new durable goods orders, excluding the volatile transportation sector, have been up in five of the past six months. We have found the new orders report a more reliable predictor of production activity than either of the two major purchasing manager reports.

New Orders Seem to Indicate More Potential Increases in Industrial Production

New-order growth for durable goods is now well over 6% on an averaged, year-over-year basis. The last time durable goods order growth hit 6%, industrial production was over 2%. With new-order growth now above 6%, we suspect that industrial production growth, currently at 1.5%, has the potential to move to 2.5% growth over the next several months.

New-Home Sales Up Five of the Past Six Months

New-home sales increased again June, maintaining its general upward trend. Respectable inventory levels, improving incomes, demographics, and more emphasis on lower-priced homes have kept sales from sagging like existing-home sales have.

Year-Over-Year, Average New-Home Data Remains Remarkably Stable

On a year-over-year basis, we are incredibly impressed with the very narrow range of new-home growth, with perhaps some slight improvement in recent months. New-home sales are increasing at a 12.5% annual rate. Unfortunately, given labor issues and higher prices, we aren't sure new-home sales growth can accelerate from here. Rising lumber costs won't help matters, either.

Inventories Remain in Goldilocks Territory: Not too Hot and Not too Cold

Inventories have been a huge issue for existing-home sales. Homebuilders have stepped up their building rates so that inventory growth rates are very, very close to current sales growth rates. That is extremely healthy.

New-Home Prices Drop Because of Mix Shift

Part of the reason for stronger unit growth is a shift to more lower-priced homes. With average prices up only 3%, and construction price inflation running over 5%, the homes being built are clearly smaller or less featured.

Existing-Home Sales Data Disappoints, Again

Monthly existing-home sales were down again between May and June and have been down three of the past five months, almost the reverse of what is happening in the new-home market.

Even the Year-Over-Year Trend Is Faltering

To put the monthly data in some perspective, year-over-year unit existing-home sales are up a measly 2.5% compared with the 12.5% growth we saw in the tract home market.

Existing-Homes Still Struggling Despite a Widening Price Gap With New Homes

Despite the gap between new and existing-home pricing, existing-home sales can't seem to catch a break.

SUCCESS FACTORS FOR RETIREMENT

ALINA LAMY
JULY 2017
Morningstar

OK, folks, here's what we're asking you to do. First, save as much money as you can while you're working, despite ongoing expenses. Next, figure out how to invest the money and, once you've gained critical mass on your savings, determine if it's going to be enough. Is it any wonder so many pre-retirees are overwhelmed by retirement planning?

However, there is good news, as well. Some of the key success factors that have the power to make or break a retirement plan can be simple if understood correctly. While investors don't need to hit the mark on every last one of them, handling the majority of them correctly increases the chances of a successful retirement plan.

Success Factor 1: A Flexible Retirement Date. For investors who analyzed the numbers on their retirement plans and found that their nest egg could come up short, one option to consider is working longer. Doing so can be advantageous on a few different levels. Investors will have more years to save and fewer years to draw from their portfolios. They may also be able to defer Social Security, which can be profitable, especially for people with a longer-than-average life expectancy. Another option to consider is a hybrid strategy, shifting into a lower-paid, but more rewarding and/or less stressful, career. Alternatively, investors could stay put in their current positions but spend (rather than bank) additional retirement-plan contributions. Such a strategy could allow some people to pay for retirement dreams, such as exotic travel, while still working. Additional retirement-plan contributions in your 60s benefit less from tax-deferred compounding than do contributions made earlier on. Of course, working longer isn't always a possibility: Health considerations (for oneself, a spouse, or a parent) may interfere, or aging employees may not be able to hang on to their jobs. That's why working longer can't be the only fallback plan; investors need to make sure they have other success factors working in their favor, too.

Success Factor 2: A Well-Considered Social Security Strategy. Deciding when to file for Social Security is one of the most consequential financial decisions most Americans will make about their retirement. The 1980s and 1990s were all about maximizing portfolio returns. But the specter of twin bear markets in the 2000s, as well as ultra-low interest rates, shone a light on more mundane matters, including trying to get the most out of Social Security. Even casual students of Social Security planning have heard the admonition to not take Social Security at age 62, when they're first eligible, as doing so will result in a permanent cut to benefits. And for people who have longevity on their side, it may be better to delay benefits for as long as possible, because benefits increase for every year from full retirement age until age 70. Keeping those rules of thumb in mind is a great first step toward getting a Social Security plan moving in the right direction, but retirement planners can also take advantage of more sophisticated strategies, especially if they're part of a married couple. More and more financial planners are focusing on Social Security maximization, and there are also a number of online tools that can help craft a prudent Social Security plan.

Success Factor 3: A Large Enough Stock Allocation. The traditional lifetime glide path calls for accumulators to hold very high weightings in stocks, and then gradually peel back equity exposure as the years go by. But make no mistake: Pre-retirees and retirees may need plenty of stocks, too. The key reason is purchasing-power preservation. If inflation runs at 3%, it's hard to see how a portfolio of nominal bonds and cash yielding 2% to 3% is going to be able to hold up. Of course, there are other ways to hedge inflation risk, but stocks are the asset class with the highest probability of out-earning inflation over time. That argues for most retirees holding at least half of their assets in stocks coming into retirement. Of course, holding a higher equity weighting also means higher short-term volatility, but that may be an acceptable trade-off when considering the bigger risk of running out of money prematurely.

Success Factor 4: A Sensible (and Dynamic) Spending Strategy. The size and composition of a retirement portfolio are just one side of the ledger. On the other side? The strategy used for extracting the cash needed from that portfolio on an ongoing basis. Even very large portfolios aren't big enough to last for an entire retirement if the withdrawal, or spending, rate is too high. That's why financial-planning researchers have been focusing so much energy on this area in recent years. Many experts think that the old 4% rule, which involves taking 4% of a portfolio's balance in year one of retirement and inflation-adjusting that amount thereafter, still gives a person with a 60% equity/40% bond portfolio good odds of not outliving their money over a 30-year retirement. But there's also widespread agreement that retirees can greatly improve their portfolios' longevity if they're willing to be flexible about withdrawals, reducing spending in lean years for the market and potentially taking a bit more in good ones. In addition to being willing to adjust their withdrawal rates, retirees may also want to be flexible about withdrawal strategies, using an income-centric approach in more yield-rich eras and relying more on rebalancing proceeds in others.

Success Factor 5: Flexibility on In-Retirement Living Expenses. Even people who aren't in the habit of driving 16-year-old cars (and don't plan to) can make their retirement finances better if they're willing to contemplate a less costly in-retirement lifestyle. One of the easiest ways to bring costs down without throwing quality-of-life considerations out the window is to consider downsizing homes. Like working longer, downsizing can have a positive impact on a few different levels. Even if you own your home free and clear, you're apt to have lower outlays for taxes, utilities, and maintenance costs than you did in your larger home. And the sale of a home that realizes a profit means more money for retirement.

Success Factor 6: Vigilance on Portfolio Costs. As a portfolio's asset allocation gets more conservative over time, its return potential declines as well. This means that investment-related costs, on a percentage basis, will extract an even bigger toll than they did when the portfolios was younger and earning a high return. Let's say a 50% stock/50% bond portfolio earns a 4.5% annualized return, on a pre-expense basis, over the next few decades. Assuming a 3% inflation rate, that's just a 1.5% real return. And unless investors are careful, nearly all of that return could disappear in investment-related and tax costs. After all, it's not unusual for funds to have expenses over 1%, and they're just one piece of the expense pie. The good news is that investment costs are one of the easier factors for investors to control. Another area to focus on is tax management. Retirees may want to hang on to tax-advantaged accounts for as long as possible. When it comes time to pull money out, investors should carefully consider which accounts to withdraw from, with an eye toward staying in the lowest possible tax bracket.

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