

INVESTMENT NEWSLETTER

RAY'S OF HOPE IN THIS WEEK'S ECONOMIC NEWS

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Morningstar Advisors

We have argued for many months that the economy was losing some momentum and showing signs of a recovery that was nearing its end. In early June it seemed that the myriad sectors that were clearly slowing down and that an aging economic recovery is more vulnerable to outside shocks.

This week we thought we might spend a little time talking about just what might go right. In many cases the good news was buried in some of this week's releases, especially the Markit Flash Purchasing Managers' Report. Though that report's headline reading for the U.S. was nothing to write home about, the report itself did suggest that wages were moving sharply higher, employment levels a little higher, and that corporations were able to selectively raise prices to cover those costs. We are careful to use the word 'selective,' as food, raw material prices, and energy continue to experience downward pressure. With this month's PMI news that wage growth may be in the process of accelerating at the same time that inflation forecasts are coming down, the consumer might be able to do a little better than we hoped just a few weeks ago. As recently as February, total inflation was 2.8%, and hourly wage increases were just 2.7%. At least for one month, workers were losing ground after gaining ground by as much as 2% in early 2015. We don't believe that we will return to a gap quite that wide anytime soon. However, by December we suspect that hourly wage growth could move to the high end of our 2.5%-3.0% range, while headline inflation could drop 1.5%-2.0%, providing consumers with additional firepower.

Housing could also be another source of good news, at least if home prices don't spike too high. The demographic set-up for the housing market is a little stronger than we realized. The age group that typically constitutes first-time buyers continues to accelerate, while baby boomers continue to occupy their homes. That trend is likely to continue until baby boomers reach the average age of death of about 81. The leading edge of the baby boom is currently about 70 years old.

Meanwhile, the number of people currently turning 81 remains unusually small because of low birth rates during the Great Depression. Evidence of this trend turned up in this week's existing-home sales report that showed incredibly low levels of inventory, which continue to weigh on existing-home sales. That low inventory is pushing up existing-home prices at an ever-increasing rate, according to this week's FHFA home price report, which shows home prices accelerating to 6.6% year over year, compared with 6.2% at year-end. The year-end 2016

consensus for 2017 was that home price increases would slow, perhaps meaningfully, in 2017.

We aren't abandoning our cautious outlook. However, we are pleased to have some good news to share, for a change. We admit to having to dig to get to it. Still, while growth is likely to remain slower than usual, the risk that it tumbles into an outright recession now seems a little further out than we might have guessed a month ago.

MANUFACTURING LOSES A LITTLE STEAM

Markit reports flash purchasing manager data for three major economic regions and select countries. However, no data for China will be available until after the first of the month.

The headline data was nothing special. Despite another month of growth (readings above 50), the rate of growth slowed in all three major reporting regions on a single-month basis. The slowing is also evident in our preferred three-month moving-average data.

Europe continues to outshine the other regions, with full second-quarter (versus single-month) readings suggesting the best results since 2011. Markit suggests that GDP growth in Europe might accelerate versus the first quarter, which would be good news for incumbent European politicians. Employment continues to look good, too. That in turn should continue to improve internal demand and reduce dependence on exports.

The U.S. headline data continued its slow erosion process. However, below the covers was both some good news and bad news that seemed far more important than the boring headline figure. On the good-news side of the ledger, job growth picked up from April lows, which will hopefully turn up in the official government report in a couple of weeks. It also suggests that raw material input prices were down materially. That was only partially offset by wage increases. To top it off, it appears that in June many companies were able to raise prices, helping margins and encouraging more investment and hiring.

The service side of the index faced steeper wage increases, as one might suspect. Inflation is in a delicate balancing act now--too high, and consumers, the dynamo of the recovery, will be hurt. And if price increases are too low, businesses will be discouraged from investing, hiring, and passing out wage



increases if they don't believe they will get an adequate return on the physical and human capital.

Despite our intentionally rosy outlook this week, we would be remiss if we did not point out that Markit's own correlation work suggests that second-quarter GDP growth is likely to be right around 2%, even after fudging the data for a weak first quarter. The consensus forecast is closer to 3% and our forecast is for 2.5%-3%.

EXISTING-HOME SALES REMAIN LOW AND VOLATILE ON A MONTHLY BASIS

Month-to-month existing-home sales growth is widely tracked and reported in the media. May's data looked good, showing a small increase and registering one of the highest absolute levels of sales of the recovery. Unfortunately, we seem to have fallen into a pattern where good numbers are immediately followed by bad month-to-month numbers.

YEAR-OVER-YEAR DATA CAPTURES THE SLOWING OVERALL TREND

Unfortunately, the year-over-year, three-month averaged numbers don't look so great, with a relatively abysmal 2.5% or so growth rate after being as high as 10% in 2015. Still, the trend isn't crystal clear using a three-month lens.

DEMOGRAPHICS OF AN AGING POPULATION CONTRIBUTE TO LOW HOME INVENTORIES

The demand for homes is accelerating as the number of people entering the normal homebuying age are accelerating and those leaving it via death is decelerating. Although this way oversimplifies things, the number of people turning 31, the typical age of a first home purchase, is accelerating. Those departing this world, at age 80 or so on average, is slowing, creating a huge supply and demand issue.

Picking on 80-year-olds and 31-year-olds only might be a bit simplistic, but it does give some hints about the nature of the problem. It's fascinating that the housing market peaked in 2005-06, just about the time the gap between 31- and 80-year-olds was at its smallest. That gap is now back to an exceptionally wide level and is likely to remain elevated for another five to eight years, suggesting that new home construction and new living arrangements are the only real hope for greater supply.

AND HIGHER PRICES AREN'T THE BEST NEWS OR EVEN MUCH OF AN INCENTIVE TO SELL

In a report released this week, home prices continued to plow ahead, not totally surprisingly, given our demographic tale.

Home price growth has continued to accelerate in 2017, defying almost every pundit's expectations. Even our recent single-point price forecast, raised earlier this week, looks too low at just 6% versus the May reading of 6.6%. Low interest rates and the supply situation have made us all look at least a little silly. We had hoped that more apartment supply and affordability issues would keep price growth in check, but that hasn't happened. From experience, if price increases get as high as 8%, the market would likely falter as it did in 2014.

NEW HOME SALES PROVIDE SOME HELP, BUT NOT ENOUGH

Even the month-to-month new home sales data has looked much stronger and relatively more consistent compared with the slow-growth existing-home market.

YEAR-OVER-YEAR TRENDS STILL VERY HEALTHY, BUT NOT ACCELERATING

While existing-home growth is stumbling around in the 2.5% range, limited by inventory and demographics, new home sales remain strong, generally in a 10%-15% range.

INVENTORIES ARE HEALTHIER THAN IN EXISTING HOMES

New home sales growth has been supported by builders that have continued to build inventory. We believe they would be increasing inventories even faster if they could find enough available land and more workers, which are both major gating factors.

STILL, PRICE DATA SUGGESTS MORE INTEREST IN SMALLER UNITS

One interesting note is that the average price growth of new homes has not matched cost growth or even the prices of existing homes. That's because builders are finally providing more starter home-type inventory. That may not be the world's greatest news for the GDP report (which is based on square footage and not units), but it is fulfilling a genuine market need.

AND NEW HOMES REMAIN OUT OF RANGE FOR FIRST-TIME BUYERS

We still caution that despite more starter home inventory, the average price of a new home exceeds that of an existing home by a considerable margin, a margin that has generally narrowed and not widened.

ECONOMY STILL EXPECTED TO INCREASE MODESTLY IN 2017

We have just completed our midyear economic forecast for 2017, which shows only modest improvement from 2016.

Economic Data and Forecast					
	2013	2014	2015	2016	Estimate 2017
Real GDP Growth (%) (Full Year)	1.7	2.4	2.6	1.6	1.75-2.0
Core Inflation (%) (Q4 over Q4)	1.7	1.7	2.0	2.2	1.8-2.0
Emp. Growth (Avg. Jobs Per Month)	193,000	239,000	240,000	187,000	180,000
Unemployment Rate (%) (Dec)	6.7	5.6	5.0	4.7	4.2
Home Prices (%) (FHFA Q4 to Q4)	7.2	5.0	6.0	6.4	6.0

Source: BLS, BEA, FHFA, Morningstar Est

NEW FORECAST ALONG WITH ACTUAL DATA

WHEN RATES GO UP, DO STOCKS GO DOWN?

JUNE 2017
Dimensional Fund Advisors

Should stock investors worry about changes in interest rates?

Research shows that, like stock prices, changes in interest rates and bond prices are largely unpredictable.¹ It follows that an investment strategy based upon attempting to exploit these sorts of changes isn't likely to be a fruitful endeavor. Despite the unpredictable nature of interest rate changes, investors may still be curious about what might happen to stocks if interest rates go up.

Unlike bond prices, which tend to go down when yields go up, stock prices might rise or fall with changes in interest rates. For stocks, it can go either way because a stock's price depends on both future cash flows to investors and the discount rate they apply to those expected cash flows. When interest rates rise, the discount rate may increase, which in turn could cause the price of the stock to fall. However, it is also possible that when interest rates change, expectations about future cash flows expected from holding a stock also change. So, if theory doesn't tell us what the overall effect should be, the next question is what does the data say?

RECENT RESEARCH

Recent research performed by Dimensional Fund Advisors helps provide insight into this question.² The research examines the correlation between monthly US stock returns and changes in interest rates.³ **EXHIBIT 1** shows that while there is a lot of

1 See, for example, Fama 1976, Fama 1984, Fama and Bliss 1987, Campbell and Shiller 1991, and Duffee 2002.

2 Wei Dai, "Interest Rates and Equity Returns" (Dimensional Fund Advisors, April 2017).

3 US stock market defined as Fama/French Total US Market Index.

noise in stock returns and no clear pattern, not much of that variation appears to be related to changes in the effective federal funds rate.⁴

For example, in months when the federal funds rate rose, stock returns were as low as -15.56% and as high as 14.27%. In months when rates fell, returns ranged from -22.41% to 16.52%. Given that there are many other interest rates besides just the federal funds rate, Dai also examined longer-term interest rates and found similar results.

So to address our initial question: when rates go up, do stock prices go down? The answer is yes, but only about 40% of the time. In the remaining 60% of months, stock returns were positive. This split between positive and negative returns was about the same when examining all months, not just those in which rates went up. In other words, there is not a clear link between stock returns and interest rate changes.

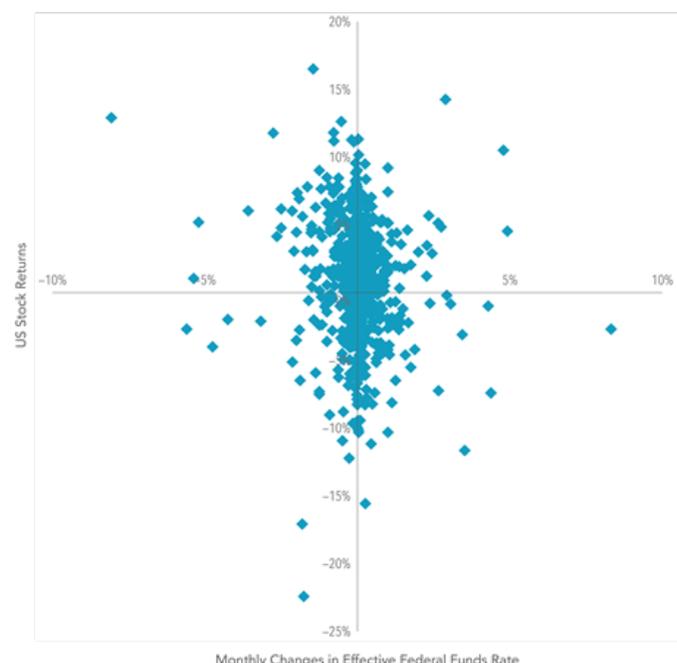
CONCLUSION

There's no evidence that investors can reliably predict changes in interest rates. Even with perfect knowledge of what will happen with future interest rate changes, this information provides little guidance about subsequent stock returns. Instead, staying invested and avoiding the temptation to make changes based on short-term predictions may increase the likelihood of consistently capturing what the stock market has to offer.

4 The federal funds rate is the interest rate at which depository institutions lend funds maintained at the Federal Reserve to another depository institution overnight.

Exhibit 1. Monthly US Stock Returns against Monthly Changes in Effective Federal Funds Rate, August 1954–December 2016

Monthly US stock returns are defined as the monthly return of the Fama/French Total US Market Index and are compared to contemporaneous monthly changes in the effective federal funds rate. Bond yield changes are obtained from the Federal Reserve Bank of St. Louis.



Source: Dimensional Fund Advisors LP. Results shown during periods prior to each Index's index inception date do not represent actual returns of the respective index. Other periods selected may have different results, including losses. Backtested index performance is hypothetical and is provided for informational purposes only to indicate historical performance had the index been calculated over the relevant time periods. Backtested performance results assume the reinvestment of dividends and capital gains. Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP. There is no guarantee investment strategies will be successful. Investing involves risks 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.

5 MISCONCEPTIONS ABOUT COLLEGE FINANCIAL AID

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Parents or grandparents of a college student may find it very useful to learn more about the Free Application for Federal Student Aid (better known as FAFSA).

Many people assume that the FAFSA doesn't apply to them. Perhaps they assume their family's income is too high to qualify for need-based aid, so filling out the FAFSA would be a waste of time. Or maybe they think it's too big a hassle.

But filling out this one (free) form can determine your child's eligibility for myriad types of student aid for students of all income levels—some of which don't require repayment, like grants and scholarships. In addition, the information you report on the FAFSA determines your eligibility for federal subsidized and unsubsidized loans, which can be very affordable alternatives to other types of loans.

This article attempts to demystify some areas of the FAFSA and explain some changes aimed at facilitating the process.

MISTAKE NUMBER 1: ASSUMING YOU WON'T QUALIFY FOR GRANTS.

According to government estimates, an estimated 2 million students who are enrolled in college and would be eligible for a Pell Grant never applied for aid. The maximum Pell Grant award for the 2016-17 school year is \$5,815—an amount that goes a long way toward paying a tuition bill, and, unlike a loan, a grant doesn't need to be paid back.

Let that sink in for a moment. Two million students passed up thousands of dollars of free money from the government, and that's only students who were enrolled in college. Undoubtedly there were many, many more eligible people who didn't even apply to college, perhaps because they weren't aware this type of funding was available or didn't know how to take advantage of it.

But it's true that the higher your family's income is, the lower your chances of receiving this type of federal grant. According to the College Board, three fourths of Pell Grant recipients (dependent students) came from families with incomes below \$40,000 in 2013-14.

But the Pell Grant isn't the only reason to fill out the FAFSA.

Information submitted on the FAFSA can qualify your child for other types of nonfederal grants—from state governments, private entities, and colleges themselves—that are available to students from higher-income households as well. Even some merit-based scholarships offered by colleges and universities require applicants to file the FAFSA. Thus, many college planning experts recommend that students from higher-income households also fill out the FAFSA (or, if your college instructs you, the CSS/Financial Aid PROFILE form).

MISTAKE NUMBER 2: RULING OUT FEDERAL STUDENT LOANS.

Filling out the FAFSA will also determine your child's eligibility for subsidized and unsubsidized federal student loans. Although some private student loans may advertise lower rates, further investigation is warranted. For instance, if that low advertised rate is a variable rate, that means there is a possibility that the base rate (and therefore the monthly payment) will increase over the life of your loan, sometimes by a large percentage. Also, the lowest advertised rates may not be available to borrowers with low credit scores or a lack of credit history.

In contrast, federal student loans offer low fixed rates for the life of the loan, and rates are not based on a borrower's credit. For undergraduates, the interest rates on subsidized and unsubsidized Direct loans is currently 3.76% (for loans disbursed between July 2016 and July 2017). For subsidized Perkins loans, the rate is 5%. (These rates are reset each July, based on current market interest rates.)

There is a big benefit to subsidized loans, such as subsidized Stafford or Perkins loans: The U.S. Department of Education pays the interest for you if you're in school at least half time and for a limited grace period after you leave school. This makes subsidized loans a better deal for the borrower than other types of loans, where interest begins to accrue immediately. Subsidized loans are available to students with a financial need, and there are limits to how much a student is eligible to borrow each academic year.

Another option is unsubsidized Stafford loans, which are

Students Receiving Federal, Nonfederal Grant Aid		
Income Level	% Receiving Pell Grant	% Receiving Nonfederal Grant Aid
Lowest 25%	79.4	50.9
Lower middle 25%	53.3	52.5
Upper middle 25%	5.5	41.6
Highest 25%	0.4	39.6

Source: National Center for Education Statistics. Figures apply to dependent students only.

available to all students regardless of financial need and have a low fixed interest rate (currently 3.76% for an undergrad) that is not based on the borrower's credit. Although the limits are higher than with subsidized Stafford loans, there are also limits to how much a student is eligible to borrow each year with unsubsidized Stafford loans. (This is also cheaper than the Parent PLUS loan, which has a 6.31% interest rate.)

MISTAKE NUMBER 3: ASSUMING THAT FILLING OUT THE FAFSA IS TOO MUCH TROUBLE.

The FAFSA takes the average student around 25 minutes to fill out, according to the U.S. Department of Education's Federal Student aid website. Even if that's an optimistic estimate, the form costs nothing to fill out, and it could be well worth the time spent if it saves your family money.

Also, some new federal rules have been implemented with the aim of making it easier to fill out the form. For one, the window for filing the FAFSA is now three months longer for the 2017-18 school year—Oct. 1 to June 30. This month, students can file for the FAFSA for the 2017-18 school year; in prior years the application period opened Jan. 1. This schedule will apply every year going forward as well, and it better aligns with colleges' admission application deadlines.

Another change allows students to use 'prior-prior-year' income, as opposed to prior-year income. This is not as complicated as it sounds, and the upshot is that you don't have to wait until your family's tax returns are filed that year in order to complete your FAFSA. So, you could submit the form for the 2017-18 academic year right now, using 2015 income reported on your tax return filed in 2016, rather than waiting until mid-April 2017 to get your 2016 income figure. (Before, families would have to wait to submit the FAFSA until after they had filed their income taxes to get their household's prior-year income figure. Or they would submit the FAFSA with an estimated income figure, and then go back and update the form with the

finalized income figure.)

Also, many users will be able to pull in their family's tax information directly from the IRS using the IRS Data Retrieval Tool. The benefit of using this tool is that data are transferred directly from the IRS and automatically populate the form, which saves time and ensures greater reporting accuracy. In addition, according to the IRS, using the tool reduces the likelihood that the school's financial aid office will select your form for verification (wherein the student's family would be required to supply additional documentation for the information reported on the FAFSA).

MISTAKE NUMBER 4: WAITING TOO LONG TO FILL IT OUT.

Don't procrastinate. Although it's tempting to focus on the FAFSA's June 30 deadline and think there's no rush to complete it, the FAFSA website says that because many states and colleges have earlier deadlines for applying for state and institutional financial aid, it is highly recommended that you fill out the form as soon as you can to ensure that you don't miss out on any aid.

MISTAKE NUMBER 5: FORGETTING TO FILL IT OUT EVERY YEAR.

Filling out the FAFSA is not a one-and-done affair, because eligibility for student aid does not carry over from one academic year to the next. Further, variables such as your family's income level in a given year and the number of family members enrolled in college at the same time will affect the amount of aid a student is eligible to receive. Therefore, you need to file the FAFSA for every academic year. (To save time, check the FAFSA Renewal button, which will populate the form using information reported on previously submitted forms.)

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