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The Turbulent Teens at Halftime: Will Low Rates and Slower Growth Continue?

TURBULENT TEENS 2016 OUTLOOK

In brief

- The aging population helps explain the relatively modest economic growth and record low interest rates of the past several years.
- Older hands are earning a greater share of income and wealth, changing investing and spending habits in the US and most of the developed world.
- Interest rates, inflation, and economic growth are likely to remain below the typical levels of the past 70 years and the strong growth, high inflation, and high interest rates of the post-WW II years might themselves have been influenced by the Baby Boom.
- With the maximum impact of the Baby Boomers still ahead, we expect that this post-post crisis period might well last for another five to ten plus years.

THE CRISIS AFTERMATH: WHERE'S NORMAL?

In 2008/09, the world endured a financial crisis unprecedented in its depth and breadth since the Great Depression of the 1930s. Housing prices tumbled, especially in formerly hot markets like Ireland, Spain, and California. The US stock market was cut in half and other equity markets followed suit. Bond spreads soared, and for a time the bond market was virtually frozen. The US and other economies fell into a sharp recession; unemployment and anxiety reigned.

Over the past six years, the world has pulled back from a possible second Great Depression, albeit with some major jolts along the way. Equity prices have rebounded to new all-time highs. Credit spreads have returned to normal or even below normal levels. House prices have recovered much of their losses and hit new highs in some markets. Household net worth has reached a new all-time high in the US, north of $80 trillion, and US GDP is at a new high. The labor market is clearly stronger than it was in 2009; unemployment is down and, though wages have grown slowly over the past several years, wage growth might be accelerating based on the October jobs report.

Of course not everything is back to normal. Although the US technically exited recession in 2009, opinion polls suggest that a large percentage of Americans believe that we remain in recession. With wealth and real income still below 2006 levels for many Americans, this sentiment is not entirely unfounded. GDP has risen, with the occasional quarterly boost as fiscal drag lessened. But GDP growth overall has been disappointing, regularly coming in below forecasts from the Fed and others. Unemployment rates, especially for young people, remain high in Europe. Many investors perceive volatility as being high, even if statistical measures of volatility show it as low. Central banks worldwide, especially in the US and Japan, have continued aggressive easy-money policies and short-term interest rates are near zero (or in some cases below zero) in the US, Europe, and Japan. Long rates have bounced a little, but remain near historic lows. Geopolitical risk feels elevated, though compared to other periods over the past century, with two World Wars and a nuclear-armed cold war, the world is not quite as chaotic as during those terrible days.

So what comes next for the economy and the financial markets? Some have suggested that we are in a world of "secular stagnation," a "new normal" with much slower growth than has been typical over the past several decades. In some ways, a forecast for slower US and European economic growth over the next 20 years compared to the post-World War II period is a no-brainer. In its simplest form, GDP growth is the sum of labor force growth plus productivity growth. Even if productivity growth in the future is as high as it has been on average for the past seven decades (which some doubt it will be, and clearly recent productivity growth has been below par), we believe that labor force growth will be slower because female labor force participation soared and then peaked, and the Baby Boom phenomenon has not been repeated. Long-term forecasts from the US Bureau of Labor Statistics suggest labor force growth will be over 1% slower in the next 10 years than it has been in the past 50.[1]

We have a simple confession: we do not know with confidence what "normal" will be, or when we will enter the new normalcy. We think we are still in a transition phase to normal, a post-post crisis environment. Why haven't we gotten back to normal yet? How long might this transition phase last, what will happen during it, and what might normal look like when we get there?

There might be many factors responsible for the puzzling economic environment. In this piece we will focus on the role that the aging population might be having on the economic environment now and for the next several years.

[1] Source: http://www.bls.gov/opub/working/page1b.htm.

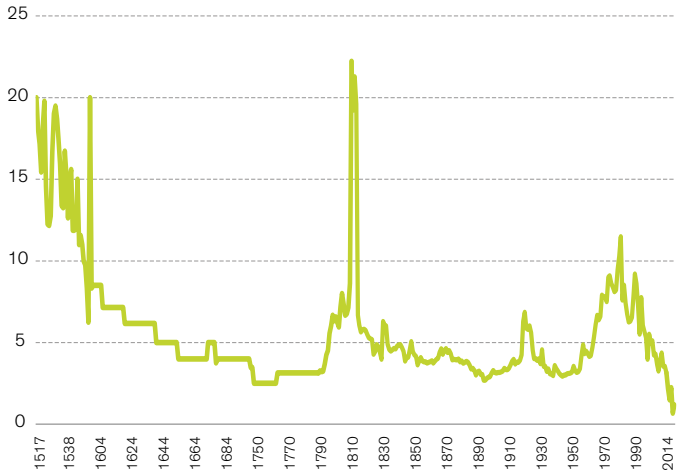
WHAT EXPLAINS THE LOWEST INTEREST RATES IN HUMAN HISTORY?

Some folks have more money than they need for current consumption and so wish to lend it to earn a return; others need capital and seek to borrow. Economic actors have been borrowing and lending money for millennia, and interest rates represent the market-clearing price of money. Though interest rates, rules and regulations, and societal attitudes towards debt vary over time and across places, certain basics apply. Lenders expect a positive return on their capital, plus compensation for expected inflation, credit quality, longer loan terms, and other factors. Debtors are willing to borrow if their expected utility for the uses of the money exceeds its cost. Other things being equal, a fast-growing economy has greater investment opportunities, so the demand for money is higher and owners of capital can demand a higher rate of interest. When growth is slow or the economy is in recession, the opposite is true.

Figure 1 shows Dutch bonds rates back to the 1500s, when Shakespeare was in his salad days. Rates were quite high in the 16th century, but by the end of 1600 they had fallen to 8.5%, and stayed in the 2.5-8.5% range for the following 409 years, except for 14 years when rates spiked higher. Then in 2010, rates broke below 2.5%, and they have closed below 2.5% for each of the past five years. Figure 2 shows data going back at least two centuries for several other countries, including the US, where the pictures look roughly the same. Long sovereign interest rates tend to be around 5%, give or take a couple of percentage points. Rates occasionally spike due to external shocks, fiscal mis-management, or both. (For historical perspective, see "This Time Is Different, Eight Centuries of Financial Folly," by Reinhart and Rogoff). Rates sometimes fall meaningfully below 5% during recessions or panics, or when they are held artificially low to finance wars or other activities.

1 / DUTCH INTEREST RATES ARE AT 500-YEAR LOWS

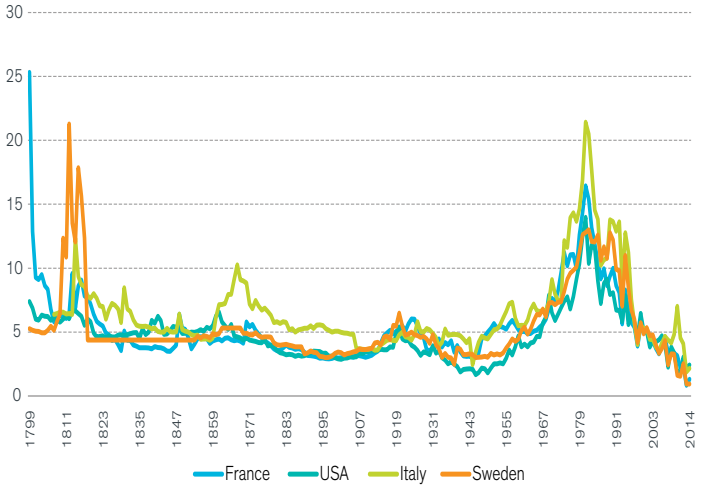
Netherland's 10-Year Government Bond Yield (1517 - 2014)



As of 12/31/2014.
Source: QMA, Global Financial Data, Inc. For informational purposes only.

2 / MANY COUNTRIES HAVE THE LOWEST RATES IN CENTURIES

Developed Country 10-Year Government Bond Yield (1799 - 2014)



As of 12/31/2014.
Source: QMA, Global Financial Data, Inc. For informational purposes only.

Note that all the yields dip down to the right over the past several years. Beyond these countries where we have a long history, rates are very low in other major bond markets like Japan and Germany.

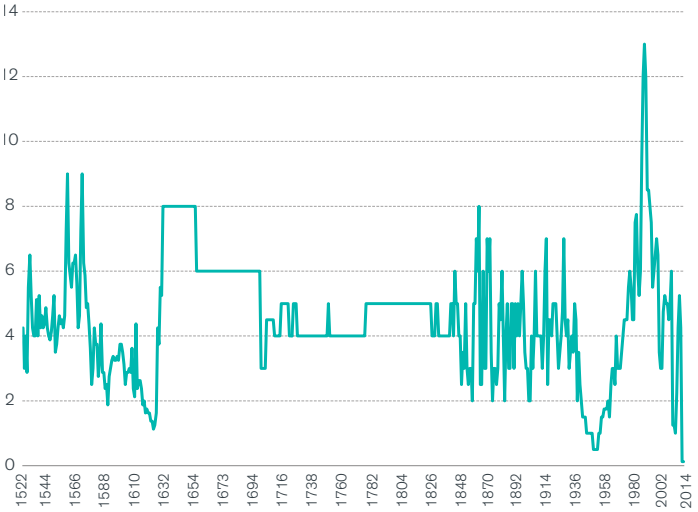
At the risk of being accused of hyperbole, interest rates over the past few years have been the lowest in human history. Why is this? Sure, growth has been fairly slow recently, and so has inflation in the wake of the financial crisis; but there have been many financial crises and many periods of worse growth and deflation over the centuries, yet interest rates never went this low.

Globalization of product and capital markets might help keep rates low. Greater global competition helps keep inflation low, reducing inflation expectation, and increased capital flows might mean lower returns in some parts of the world and help keep rates down everywhere.

But maybe it's just Central Bank policy. Perhaps the straightforward explanation is in Figure 3, which illustrates the policy rates of central bankers over the years as compiled by Global Financial Data, Inc. From 1651 to 1934, policy rates were about 4%, ranging from 2-6% with an occasional, brief spike above 6%. During the Great Depression and World War II, rates hit new lows below 2%. During the inflation of the 1970s, rates soared into double-digits. In response to the financial crisis of 2008/09, rates hit all-time lows, where they remain in 2015. In addition to low rates, the US, Europe, and Japan have engaged in quantitative easing, where the central bank buys bonds on the open market, paying for them with central bank credits. This is designed to push down long rates, increase liquidity, improve credit availability, and boost risky assets. Global central bank policies have never been as accommodative as they have been in the past several years.

3 / CENTRAL BANK POLICY HAS NEVER BEEN MORE AGGRESSIVE

Historical Central Bank Discount Rate Index (1522 - 2014)



As of 12/31/2014.
Source: QMA, Global Financial Data, Inc.

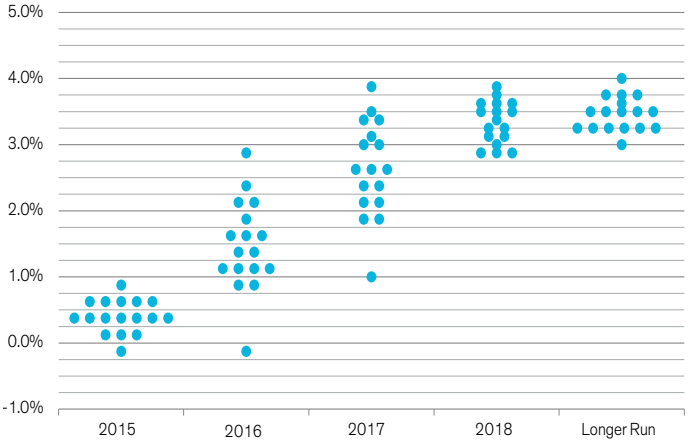
This index uses the deposit rate at the St. Genoa Bank from 1522 to 1625; the legal limit on loans in England from 1625 to 1692; the discount rate of the Bank of England from 1693 to 1913, the discount rate of the Federal Reserve Bank of New York from 1914 to 2002 and the Fed funds target rate from 2003 to date.

Perhaps this is the simple explanation for record-low long rates. Central bankers have never been as aggressive as they are today at using monetary policy to try to influence economic activity. Long rates can be considered to be a kind of average of expected future short rates. If short rates are expected to stay low, so should long rates.

If central bank policies are the full explanation of why long rates are the lowest they have been in human history, it implies that central banks are keeping rates artificially low. That is, absent bank policy, rates would be at a more normal level relative to similar economic conditions. Since inflation is generally low and economic conditions remain somewhat fragile, a normal short term rate by historical standards might be about 2-4%. Indeed, the US Federal Reserve's "dot chart" (each dot represents the forecast of a member of the Fed's Open Market Committee (FOMC)), presented here as Figure 4, suggests that the Fed expects that the Fed funds rate will rise to that 2-3% range over the next few years, and eventually reach a more "normal" level of about 3.25%. The implication is that rates have been kept low due to the emergency of the financial crisis, but eventually the new normal will look like the old normal. None of us know the future with certainty, so perhaps that is correct.

4 / THE FEDERAL RESERVE BOARD EXPECTS SHORT RATES TO RISE

Individual FOMC Participant's Fed Funds Rate Expectations



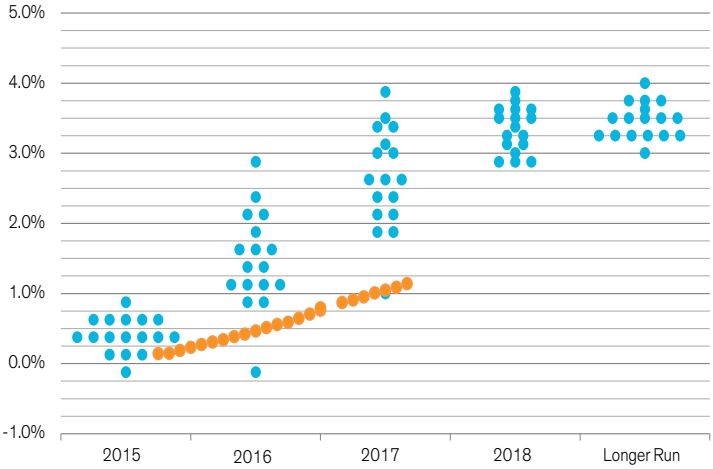
Source: QMA, Federal Reserve's 9/17/2015 meeting economic projections.

Data shows midpoint of target range or target level for the Federal funds rate. There is no guarantee these projections will be achieved.

However, market prices suggest that investors are not buying the Fed dot chart. In Figure 5, we overlay expectations of rates based on Fed funds futures contracts. The collective wisdom of the market is that rates will likely stay low by historical standard for the foreseeable future. If the Fed is right, yields will likely rise more rapidly than the market expects, and the bond market is basically a big short. If the market is right, then policy makers, pension plans, institutions, and individuals expecting rates and returns to get back to historically normal levels might face a rude awakening. So who's right?

5 / THE MARKET EXPECTS RATES TO RISE SLOWLY

FOMC Fed Funds Rate Expectations Overlaid with Market Fed Funds Rate Expectations



Source: QMA, Federal Reserve's 9/17/2015 meeting economic projections (blue dots). Data shows midpoint of target range or target level for the Federal funds rate.

Source: Thomson Reuters Datastream (orange dots). Data as of 9/17/2015, the time of the Fed Meeting's release of dot chart. Orange dots show Federal funds futures.

There is no guarantee these projections will be achieved.

If Central Bank rates are artificially low, there might be significant misallocations of capital, as some charge exist today. Low rates are sometimes referred to as "financial repression," that is, central bankers are effectively taking capital from savers in the form of negative real rates. If policy rates are not far from what market rates would be without Central Bank intervention, we might still need to consider why that is, but at least the negative consequences of misallocation of capital and financial repression might be less dire.

So how do we know what rates would be without Central Bank intervention? We don't. Economics is not a laboratory science (if it is a science at all), where we can isolate and test how a single variable influences the entire economy.

We can, however, ponder the concept of artificially low rates. It implies that absent Fed policy, economics actors would be willing to borrow and lend at higher rates. This is not unprecedented. In the 1970s and 80s, bank regulators capped rates payable on savings accounts at about 5%. As inflation rose above that level, savers were losing money in real terms. But potential borrowers also found it hard to get capital at the low nominal rates on offer, due to both regulatory constraints and the unwillingness of banks to lend at low or negative real rates in an uncertain environment. Just as water tends to flow despite efforts to hold it back, markets tend to find ways around regulations if there are many willing buyers and sellers. And in the 1970s and 80s, that happened through the great growth of money market mutual funds.

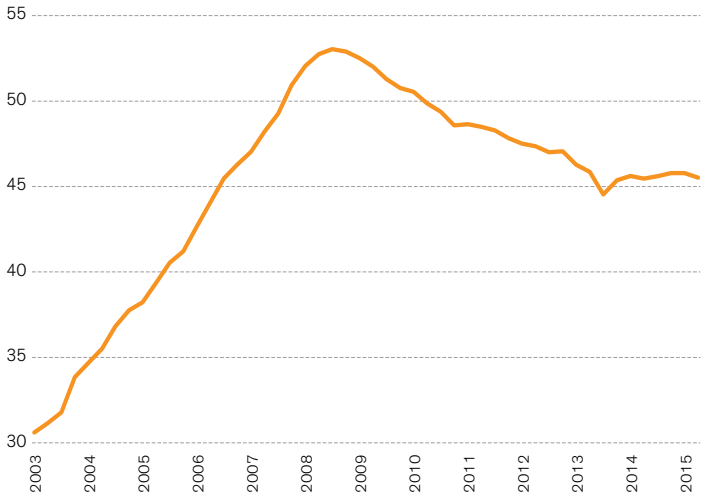
If rates are artificially low, we would expect borrowers to borrow as much as possible. There are some signs of this, for example, corporations have been issuing bonds even when they have ample cash on hand. But in part, that is due to the valuation gap between stocks (earnings yield of about 6%) and bonds (corporate bond yields about half that). Borrowing money at 3% and buying back stock at an earnings yield looks like a sort of arbitrage opportunity for some corporations.

But one big source of potential borrowing is clearly not trying to borrow more: banks themselves. If banks thought that rates were artificially low, they would try to gather the maximum amount of deposits, which are effectively cheap loans to the banks. Yet some banks have started charging large depositors for the privilege of parking money at the bank. In part, of course, this is due to regulations requiring banks to maintain higher capitalization ratios; deposits are a liability to the bank. But if rates were artificially low by a meaningful margin, logically, banks would gladly raise additional capital to take advantage of the cheap money available from depositors.

Households have been de-leveraging. The household sector has been a big source of demand for debt for many decades. With rates historically low, unemployment relatively low and the economy growing, we would expect robust demand for credit. But as Figure 6 shows, the household sector has been de-leveraging over the past several years. Granted, regulatory constraints and the reluctance of banks to lend to those without pristine credit contributed to their de-leveraging, but we think that demographics also played a key role.

6/ HOUSEHOLDS HAVE DE-LEVERED SINCE 2008

US Household Debt Balance per Capita



2/2003 - 5/2015.
Source: QMA, Thomson Reuters Datastream, Federal Reserve. Shown for informational purposes only.

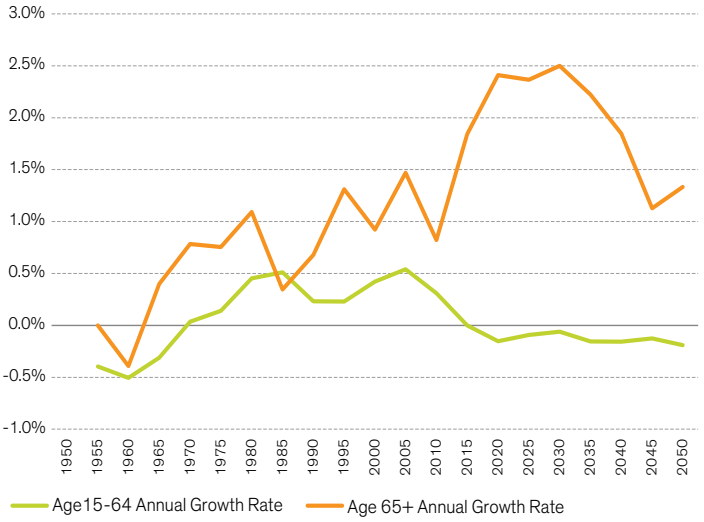
To be clear, there is no doubt that aggressive Central Bank policies contribute to today's low long-term interest rates. But is this the sole cause, or even the most important long-term cause? The Federal Reserve can set policy rates like the Fed funds rate, the rate member banks pay for overnight loans, but it cannot force anyone to borrow or lend. It's impossible to know where rates would be without aggressive easing by Central Banks, but is it possible that today's rates might not be far below fair prices, the rates at which supply and demand for money clear among willing borrowers and lenders? If so, why? What explains the lowest interest rates in human history? What else is unprecedented that might provide a plausible explanation? **The answer, we think, might be the aging population.** That is, there are plenty of historical periods where the typical drivers of low interest rates were more dramatic (slow growth, low inflation, etc.) than they are now; we can identify only one fundamental factor that is bigger now than it has ever been before: the greater number and higher prosperity of older people.

MIGHT DEMOGRAPHICS EXPLAIN TODAY'S ECONOMY?

Figure 7 shows the growth rate of the world's population overall versus the growth of the 65+ age cohort. Between 1950 and 1985, the two grew at about the same rate. Between 1985 and 2000, the growth of the 65+ cohort increased slightly, probably due to improved health care, while growth overall was relatively slow. In the new century, however, growth of the 65+ cohort has jumped as the post-war Baby Boomers have started to hit 65. That upward kink corresponds roughly to the period that Ben Bernanke termed the "savings glut"—the idea that excessive savings (assumed to be mostly from Asian nations with high savings rates) was holding down rates below where they would have otherwise been expected to be. It also corresponds with the housing bubble in the US and elsewhere, which in our 2008 paper,[2] we argued this was enabled by excessive demand for fixed income product relative to supply.

7/ THE NUMBER OF OLDER PEOPLE WORLDWIDE IS SOARING, EVEN THOUGH OVERALL POPULATION GROWTH IS FLAT TO DOWN

Annual Global Population Growth Rate by Age Cohort



Source: QMA, United Nations, Department of Economic and Social Affairs, Population Division (2015). World Population Prospects: The 2015 Revision, custom data acquired via website. There is no guarantee that these projections will be achieved.

We are right in the middle of the steepest part of the 65+ population growth curve, so we might also be in the middle of the biggest impact from this population shift. There are many possible social and public policy implications of this shift, but here we will concentrate on the economic and market impacts. Let's start with the facts: how has the population shift influenced the distribution of wealth and income?

AGE AND WEALTH: THE OLD GET RICHER

According to the Fed's Flow of Funds (FoF) Report, the net worth of the household sector reached an all-time high in 2014 at $83 trillion, fully recovering the $10 trillion loss of wealth during the Great Recession of 2008/09. Indeed, wealth in 2006/07 was about $66 trillion, so aggregate wealth has not merely recovered, it is 25% higher in nominal terms and 15%+ higher in real terms than it was before the crisis started.

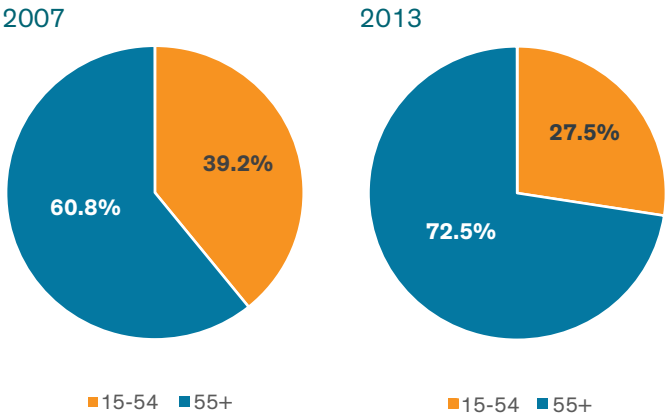
That overall gain, however, masks changes in the distribution of wealth, as measured by the Survey of Consumer Finances (SCF). The SCF is based on a sample of about 6,500 households, the data is self reported and it is not as comprehensive as the FoF data.

In fact, from an aggregate perspective, it is an apples and oranges comparison. Yet the SCF gives us a way to estimate the changes in wealth distribution by age cohort.

The other striking change is the distribution by age. Older folks have always had greater wealth than younger folks. But the crisis exacerbated this difference in two ways: the portion of older households grew and the median net worth of older households fell less, perhaps because older people are more likely to own homes without mortgages. Although there are some issues with the calculations caused by data limitations (we would prefer to have means rather than medians for this purpose), **QMA estimates that the proportion of total wealth held by those over 55 increased from 61% to 73% between 2007 and 2013 as seen in Figure 8.**

8/ OLDER AMERICANS HOLD A MUCH HIGHER SHARE OF WEALTH

Change in Share of US Total Wealth by Age Cohort



Source: QMA, Survey of Consumer Finances.

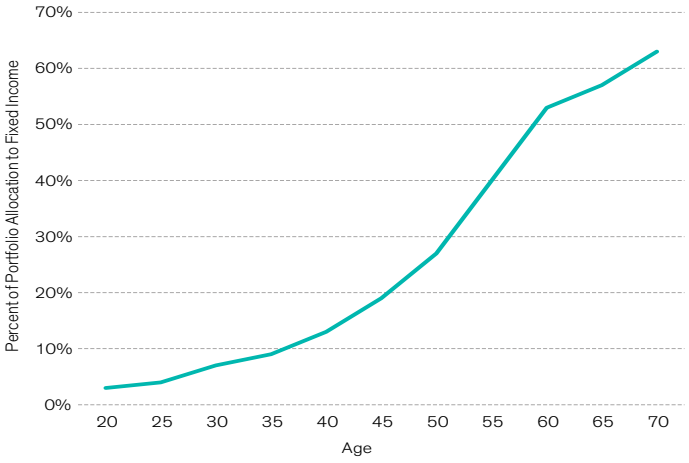
[2] Keon Jr., Edward. "The Financial and Economic Crisis of 2008: How Did We Get Here, and How Might We Get Out?" QMA, December 2008.

We think that skew in wealth distribution to older Americans helps explain investment flows. The conventional financial advice for older people and for institutions who serve older people is straightforward: reduce risk in portfolios by shifting from equities to fixed income.

For example, Figure 9 shows the approximate allocation to fixed income assets as a function of age for the Prudential Day One Target Date Funds. Other target date funds, which collectively manage about $1 trillion, follow a similar allocation strategy of increasing fixed income as the client ages. During the bull market of the 1980s and 1990s, when Baby Boomers were in their 30s to 50s, equity funds received the lion's share of flows. But over the past ten years, as Boomers reached or approached what Prudential calls the Retirement Red Zone—the ten years prior and the first ten years of retirement—bonds have seen the big flows.

9/ OLDER INVESTORS TEND TO HOLD MORE BONDS

Fixed Income Allocation of Prudential's Day One Target Fund by Age



As of 9/30/2015.
Source: QMA, Prudential. Assumes retirement age of 65. Shown for illustrative purposes only.

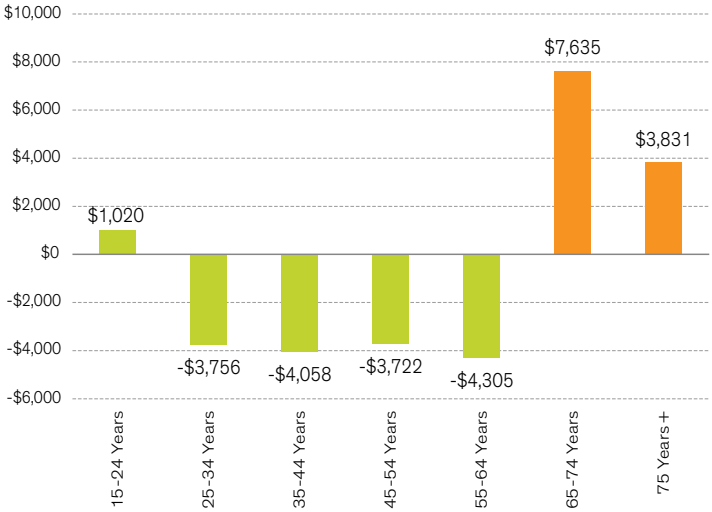
Even though equities roughly tripled in value from their lows of 2009, flows into equities have been weak or negative, and flows into fixed income products have been robust. Despite paying nearly no interest and therefore netting a net negative real return, checking and savings accounts had about $3.5 trillion higher levels in 2014 compared to 2006. No doubt the anxiety of the second market crash in less than a decade contributed to this conservative asset allocation. But there is clearly some impact from the aging of the population and the greater concentration of wealth in older hands.

AGE AND INCOME: THE OLD ARE GAINING SHARE

It might not be particularly surprising that wealth has been more concentrated in older hands, but what about income? In Figure 10, we show data from the Census Bureau of income by age cohort. Please note that this is a broad definition of income that includes transfer payments like unemployment insurance and Social Security checks. On average, income was up about 3% in real terms from 2006 to 2014, but the distribution changed dramatically. All age cohorts below 65 saw a drop in mean real income, while income for the oldest cohorts rose. In addition, the 55-64 cohort, though it saw a slight drop in average income, grew by more than three million persons, so that the total income earned in that age cohort grew. Figure 11 shows the net result is that the income of Americans over 55 grew by almost $800 billion between 2006 and 2014, while younger Americans saw their income drop in real terms by $400 billion over the same period.

10/ OLDER AMERICANS ARE EARNING MORE, YOUNGER FOLKS LESS

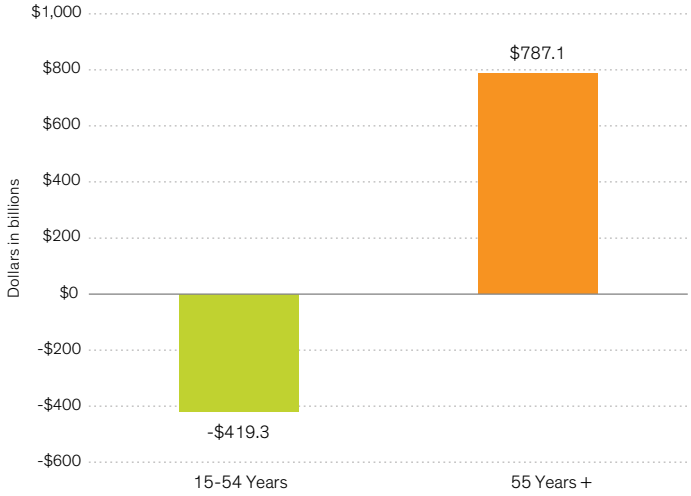
Change in US Average Annual Real Income by Age Cohort (2006 - 2014)



Source: QMA, US Census Bureau.

11/ INCOME IS FLOWING INTO OLDER HANDS

Change in Total Income by Age Cohort (2006 - 2014)

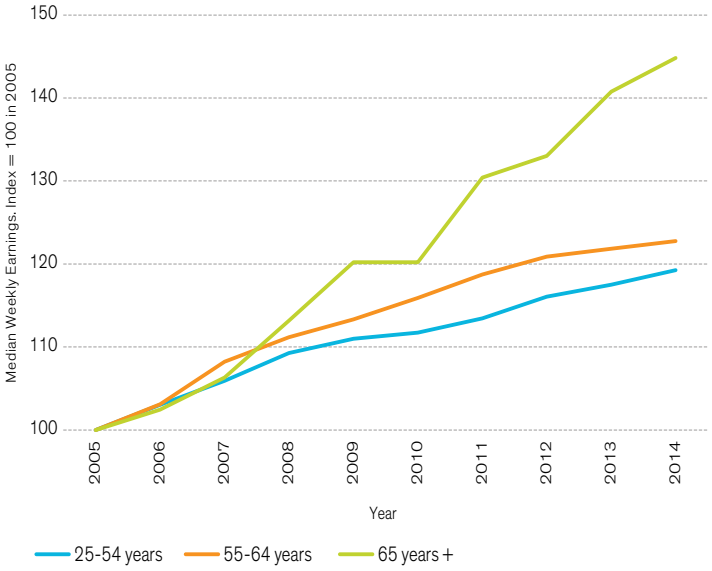


Source: QMA, US Census Bureau.

Total income has shifted into older hands, but what about wages? Social Security payments explain part of the phenomenon described above, but earned income has also shifted into older hands. Figure 12 displays data from the US Bureau of Labor Statistics comparing weekly earnings for full-time workers across age cohorts in 2005 versus 2013. Overall nominal (i.e. not inflation adjusted) median weekly wages are up from $651 to $776, an arithmetic average annual gain of 2.4%. But workers in the younger age cohorts have seen slower than average growth, about 2%. The fastest growth, about 5% per year, has been for workers over the age of 65. The second fastest growth, nearly 3% annualized, has been for workers age 55-64. Conventional wisdom imagines that the financial crisis forced older workers to resume or continue working as greeters in retail stores or other low wage jobs to make ends meet. The data suggest, however, that older full-time workers are quite likely to be accountants, doctors, lawyers, or in at least one case, portfolio managers who make a pretty good living. In addition, the number of full-time workers 55+ has soared by ten million (24%), while the number of younger workers has been flat to down; there were nearly 3 million fewer workers age 35-44 in 2013 compared to 2005.

12/ OLDER FOLKS WHO WORK ARE EARNING HIGHER WAGES

Median Weekly US Earnings by Age Cohort (2005 - 2014)



Source: QMA, Bureau of Labor Statistics.

The data and analyses in the paragraphs above show that the combination of more older people and of the higher average wealth and income of this population has dramatically shifted the distribution of income and wealth in the US. Although we do not have as detailed data, we believe that this phenomenon might also pertain to Europe and other established markets. As we showed in Figure 7, the sharp relative acceleration of the older population is global in scope. Youth unemployment and underemployment, however, remains high. So we think that the shift in income and wealth is likely global.

SO WHAT MIGHT THE INCREASED PORTION OF WEALTH AND INCOME IN OLDER HANDS MEAN FOR THE ECONOMY AND FINANCIAL MARKETS IN THE SECOND HALF OF THE TURBULENT TEENS AND BEYOND?

As we have acknowledged through this series of white papers, the only thing we can say for sure about predictions is that many will be wrong. But, that will not stop us from offering some ideas.

We know that older people spend, save, and invest differently than younger people do. There is a reason that advertisers tend to focus on the 18-49 age bracket. Younger people are more likely to buy fashion, household goods, and other discretionary purchases. Older people might spend a lot in the aggregate, but they are more price sensitive and more likely to skew purchases to necessities like health care. Also, older folks save more and borrow less, the opposite of those earlier in life's journey. We suggest that the pattern of spending, borrowing, and saving in 2015 for a given increase in national income is much different than the pattern of spending and savings for the same increase in the 1970s or 80s.

Our first idea is that interest rates might stay relatively low, even as Central Banks, led by the US Fed, start to "normalize" rates. In a recent white paper,[3] we discussed the idea that 3% for the 10-year Treasury bond yield might not be exceptionally low, but rather about average or even a bit above average, as 6% has been for most of the past 100 years. We think that current rates, though surely driven to a substantial degree by Central Bank policies, are also greatly influenced by the fixed income desires of older people and the institutions who serve them in the US and worldwide. Money has continued to pour into bonds, bond funds, and other fixed income vehicles despite record-low rates. If rates were to go back to near-historical levels, say a 3% short-term rate and a 5% 10-year rate, we think older folks would gladly shed their remaining risky assets to grab higher, safe, fixed returns. We think this powerful demand from older people will continue to keep fixed income prices high and yields low for several more years. Since older people are also less likely to borrow, we suspect that the aging of the population will both increase the demand and suppress the supply of debt. We think short rates will stay below 3% for an extended period; we think the Fed will struggle to get the Fed funds rate and other short rates much above 1% for the next couple of years without significant negative consequences for the economy and the equity market.

If rates stay low, what might that mean for stocks? Historically, investors have demanded about a 4-5% risk premium for holding stocks rather than long-term bonds. Our guess is that risk premium is roughly the same today. If the current yield is a reasonable proxy for bond expected returns, then bonds might deliver returns of 2% or so and the expected nominal return of stocks might be 6-7%.

Might our forecasts above be upended by a spike in inflation? It is not impossible, of course, but we think it is unlikely. We know that older people have greater price sensitivity and a lower marginal propensity to consume than younger people. For inflation to rise to the Fed's target of 2% or to some significantly higher level, someone has to be willing to pay the higher prices. Perhaps cash-strapped younger folks cannot pay higher prices, while older folks are unwilling to pay higher prices except for necessities. Absent some shock, we find it hard to believe that inflation in the developed world will accelerate sharply; indeed for the past several years deflation has been the greater economic threat.

Demographics might seem like an old and obvious story. The Baby Boom phenomenon started almost 70 years ago, and it has been widely discussed for half a century. What might be less widely appreciated, however, is the influence of the financial crisis and Great Recession at accelerating the shift of income and wealth into older and generally more conservative, risk-averse hands. We see some evidence that younger households are finally seeing some real income growth in the past year or so. But compared to what we grew accustomed to in the post-World War II boom, we think that the graying of America and most of the developed world will lead to slower growth, lower interest rates and inflation, and lower equity returns over the rest of this decade and into the next. Combined with slower population growth, slower GDP need not mean that the general level of prosperity cannot increase; we think it will, as innovation and entrepreneurship keep productivity growing. But with an increasing portion of the population planning to use financial assets to finance retirement without increasing debt, the buy side of the financial assets trade will be crowded, especially for fixed income, even as the supply of fixed income product produced by debt from the household sector stagnates. Although we cannot be sure how rates will change as the Fed "normalizes" rates, we think the demand for fixed income will keep rates well below the Fed's "dot chart" for years to come.

[3] Keon Jr., Edward. "Is 3 the New 6?: The Importance of Active Management in a Low Returns Environment." QMA Insights, May 2015.

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For more information

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About QMA

Since 1975, QMA has served investors by combining experienced judgment with detailed investment research in an attempt to capture repeatable long-term outperformance. Today, we manage approximately $105 billion* in assets globally for a worldwide institutional client base, including corporate and public pension plans, endowments and foundations, multi-employer pension plans, and sub-advisory accounts for other financial services companies.

*As of 9/30/2015.

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