



MORNING BRIEFING

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Head Count

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(1) Fed officials watch prime-age male dropouts. (2) Nonparticipating slackers. (3) Fed study finds that technology is creating “job polarization.” (4) Vanishing “middle-skills” jobs. (5) Education level matters more than ever. (6) Almost half of nonparticipating prime-age males are on daily pain medication. (7) Fed study explains productivity slowdown resulting from retiring older workers being replaced by younger ones. (8) Technology could overcome Age Wave in productivity equation. (9) Only immigration can halt America’s evolution to same aging profile as Japan’s current geriatric society.

US Demography I: Out of It. For today’s *Morning Briefing*, I asked Melissa to review some of the recent literature on important demographic trends. Here is her report.

Most prime-age men, i.e., aged 25 to 54, who aren’t currently participating in the labor force aren’t likely to enter it. “Nonparticipators” in the labor force are neither employed nor unemployed but rather on the sidelines of the workforce for whatever reason—often a permanent one. Many are ill or disabled. Assuming that most of these men don’t return to the workforce, then there probably isn’t much, if any, slack remaining in the labor market. For that reason, members of the Federal Reserve are closely watching this group.

Nonparticipating prime-age men rose to 7.1 million in 2016 from 4.6 million in 1996, a 2.5 million increase, according to Didem Tüzemen, an economist at the Federal Reserve Bank of Kansas City (FRB-KC). Her 2/21 [paper](#), “Why Are Prime-Age Men Vanishing from the Labor Force?,” is the result of an analysis of the survey-based Current Population Survey (CPS) labor force flows over the past two decades. The author concludes that “the most common personal situation reported among nonparticipating prime-age men was disability or illness.”

Tüzemen adds that “job polarization,” a “phenomenon that describes declining demand for middle-skill workers in response to advancements in technology and globalization, has been a key contributor to the increase in nonparticipation among prime-age men.” The “effects of job polarization are unlikely to unwind any time soon.” In other words, the survey evidence suggests that “nonparticipating prime-age men are unlikely to return to the labor force if current conditions hold.” Let’s review a few more of the study’s key points:

(1) *Middle-skill.* Job polarization has contributed to the mix of nonparticipation rates among prime-age males. Middle-skill jobs accounted for 43.2% of jobs in 2016 compared to 53.9% in 1996. High- and low-skill jobs accounted for 38.6% and 18.2% in 2016 compared to 31.7% and 14.4% two decades before. The author estimates, based on a simple counterfactual calculation, that this shift in mix explains 80% of the increase in the nonparticipation rate for prime-age males.

Relatedly, the most significant increase in prime-age male nonparticipation was for those in the middle-education groups. That includes those “who had only a high school degree, some college, or an associate’s degree,” the author observes. More specifically, over the period analyzed, the nonparticipation rate for prime-age men with only a high-school degree increased by 70.3%, while the

rate for prime-age men with some college or an associate's degree increased by 61.7%. The rate for prime-age men who had a bachelor's degree or higher increased even less, 45.9%, while the rate for those in the lowest education group, i.e., who never graduated from high school, increased the least of all, by 10.6%.

(2) *Younger prime.* The nonparticipation rate for younger prime-age men, i.e., in the 25-34 age group, surged by 67.0% from 1996 to 2016. Over the same period, the rate for men in the 35-44 age group increased by 25.1%, while the rate for men in the 45-54 group increased by 24.4%. At the same time, the ranks of younger prime-age nonparticipating men increased as a share of all prime-age male nonparticipants.

(3) *Not in school.* "A natural question is whether the increased share of nonparticipating prime-age men in school could explain the especially dramatic hike in the nonparticipation rate for younger prime-age men. However, schooling does not appear to be the main driver of nonparticipation," the author observes. Only one-third of the increase in nonparticipating younger prime-age men reflects nonparticipation due to being in school, she reports.

(4) *Disabled or ill.* During 2016, 48.3% of nonparticipating prime-age men reported that they were disabled or ill, 14.6% reported taking care of family, 13.8% reported being in school, 13.2% reported "other situations" as the reason for nonparticipation, and 10% reported being retired. Nearly half of nonparticipating prime-age men were "taking pain medication on a daily basis." Two-thirds of them were "using prescribed pain medication," the FRB-KC paper notes, citing a 2016 Boston Fed [paper](#). While the paper doesn't discuss the opioid crisis specifically, it seems likely to us that the severe epidemic is boosting the nonparticipation rate for prime-age males.

(5) *Want a job?* One of our favorite questions in the CPS asks whether nonparticipants even want a job. The responses are the most obvious available indicator of likelihood to enter/reenter the labor force. During 2016, less than 15% of nonparticipating prime-age males said that they want a job, but even those men weren't actively seeking one. The share of nonparticipating prime-age men who want a job recently peaked during the Great Recession at around 18%. From the mid-2000s to late 2007, just before the recession, the share had hovered in the range of 13% to 15%. That means that the current share is probably close to its natural or structural rate. It seems that most sidelined prime-age men who had been discouraged by the recession already have returned to the labor force. (See chart 10 on page 25 of the FRB-KC study.)

US Demography II: Are Retiring Boomers Weighing on Productivity? A new study suggests so, but not in the way you might think. Guillaume Vandenbroucke, author of a Q4-2017 St. Louis Fed (FRB-SL) [publication](#) titled "Boomers Have Played a Role in Changes in Productivity," hypothesizes that the productivity slowdown of the 1970s and the current productivity slowdown are related to a "single, common factor," the Baby Boom. Essentially, productivity has declined because the Baby Boomers are retiring and being replaced with younger and less productive workers. Let's explore:

(1) *Human capital.* Older workers have accumulated more "human capital" than younger workers. "The accumulation of human capital can be achieved in multiple ways. One is simply via experience: Older workers have more human capital, i.e., they know more just because they have done more and have experienced 'learning by doing.' Another possibility is that workers go through periods of formal on-the-job training throughout their careers; so, they learn more as they grow older. Human capital is what makes a worker productive: The more human capital, the more output a worker produces in a day's work," states the author.

(2) *Paid to produce.* Figure 2 of the FRB-SL publication presents a visual profile of a worker's human

capital. The shape of human capital relative to age resembles a learning curve. Human capital sees its most significant increases early on and experiences diminished returns later on. It peaks around age 50 and begins to level off and slightly declines just before retirement years around 55. Even so, workers aged over 55 (until it comes time to retire) still tend to be more productive than those younger than 40. While that's just a theoretical stylized portrait, the curve does tend to follow the typical earnings profile of a US worker, the author points out. "This is because, in theory, workers are paid according to their productivity."

(3) *Productivity wave*. It follows that if there were a larger proportion of young workers than older workers in the population, then labor productivity would be reduced. To further demonstrate this point, the author charts the growth rate of GDP per worker against the share of 23- to 33-year-olds in the US. It shows an obvious inverse correlation—when these younger workers represented a greater share of the population, output was suppressed. If labor force composition can explain the productivity slowdown, then it can't really be "fixed."

(4) *New shape*. If the author's argument is true, then might productivity go even lower as the Baby Boomers age out of the workforce? Perhaps if worker age were the only relevant factor. However, technological innovation—which is not discussed in the Fed publication—may play a productivity-enhancing role too, helping to overcome the slowdown from Boomer retirement. Anecdotally, younger people also tend to be savvier with newer technologies and may be more apt to work alongside highly productive robots. So theoretically, the shape of productivity over a worker's lifetime might look very different in the near future than it has in the recent past.

US Demography III: The Elderly & Foreign Born Are Our Future. The 2030s will be a transformative decade for the US population. By the year 2030, all Baby Boomers will be older than 65. By 2035, older adults are projected to outnumber children for the first time in US history. Due to the aging population, immigration is expected to become the primary driver of population growth in the US. Largely because of immigration, the US population is still expected to grow into 2060, reaching the 400 million milestone in 2058.

These demographic milestones are highlighted in the Census Bureau's 3/13 [report](#), "Demographic Turning Points for the United States: Population Projections for 2020 to 2060." Here are takeaways from the detailed 15-page report:

(1) *More elderly than children*. By 2030, the Census Bureau projects, 73.1 million Americans, or 21%, will be 65 years and older. That's up from 15% in 2016. The nation's 65-and-older cohort is expected to expand from 49 million people in 2016 to 95 million in 2060, outnumbering the 80 million projected children. The under-18 cohort is projected to increase by only 6 million people from 2016 to 2060. By 2060, the US will look a lot like Japan does today, with older adults composing about 25% of the population.

(2) *Elderly-dependent*. The old-age dependency ratio is the population aged 65 and older divided by the working-aged population multiplied by 100. "Between 2010 and 2060, the old-age dependency ratio is projected to nearly double, rising from 21 to 41. In other words, there will be 41 people aged 65 and older for every 100 work-age adults between 18 and 64 years. Another way of looking at this is, in 2020, there are projected to be about three-and-a-half working age adults for every older person eligible for Social Security. By 2060, that number is expected to fall to two-and-a-half working-age adults for every older person eligible for Social Security."

(3) *More deaths, less births*. Despite the aging population, the population is still expected to grow by an average of 1.8 million people per year from 2017 to 2060. However, the rate of the population growth is

slowing—by a projected 2.3 million people per year from 2017 to 2030, to 1.8 million per year between 2030 and 2040, to just 1.5 million per year between 2040 and 2060. Natural population growth will slow because the number of deaths is projected to rise faster than the number of births. As 2060 approaches, the number of deaths is projected to spike as the Baby Boomers balloon the stats for one last time.

(4) *More foreign born.* Even though the projections for immigration are held relatively flat, immigration is expected to become the driver of population growth as natural population growth declines. Interestingly, foreign-born residents tend to have higher fertility rates and lower mortality rates than the native born, according to the Census Bureau. In 2028, foreign-born people living in the US will reach 15% of the population, the highest level since 1850. By 2030, net international migration should be the primary driver of US population growth.

Importantly, the Census caveats: “Of course, these projections will hold true only if all other past trends continue and all assumptions about births, deaths, and international migration hold true. Migration trends are especially sensitive to policy and economic circumstances in both the United States and migrants’ country of origin. The projections in this report are based on historical trends in international migration and do not attempt to account for future policy or economic cycles.”

CALENDARS

US. Wed: Existing Home Sales 5.420mu, MBA Mortgage Applications, Current Account -\$126.8b, EIA Petroleum Status Report, FOMC Meeting Announcement 1.625%. **Thurs:** Leading Indicators 0.3%, Jobless Claims 225k, C-PMI, M-PMI, and NM-PMI Flash Estimates 55.2/55.4/55.7, Kansas City Manufacturing Index, FHFA Price Index, Weekly Consumer Comfort Index, EIA Natural Gas Report. (*Wall Street Journal* estimates)

Global. Wed: UK ILO Employment Change & Unemployment Rate (3-month) 84k/4.4%. **Thurs:** Germany IFO Business Climate, Current Assessment, and Expectations Indexes 114.6/125.6/104.4, Eurozone, Germany, and France C-PMI Flash Estimates 56.8/57.0/57.0, Eurozone, Germany, and France M-PMI Flash Estimates 58.1/59.8/55.5, Eurozone, Germany, and France NM-PMI Flash Estimates 56.0/55.0/57.0, UK M-PMI Flash Estimate 58.1, UK Retail Sales Including & Excluding Fuel 1.4%/1.2% y/y, Japan Headline, Core, and Core-Core CPI 1.5%/1.0%/0.5%, Japan M-PMI Flash Estimate, Australia Employment Change & Unemployment Rate 20k/5.5%, BOE Rate Decision and Asset Purchase Target 0.50%/435b, ECB Publishes Economic Bulletin, EU Leaders Meet in Brussels. (DailyFX estimates)

STRATEGY INDICATORS

S&P 500 TCJA Earnings Leaders & Laggards ([link](#)): The 2018 earnings forecast for the S&P 500 has surged 8.0% in the 13 weeks since the TCJA was signed into law on December 22. This outstanding performance has no comparison over the years since consensus earnings forecasts were first derived in 1978. However, the 2018 forecast was unchanged in the latest week and comes on the heels of meager 0.1% gains in the prior two weeks. With the Q4 earnings season complete, companies have finished providing post-TCJA guidance, and revisions could revert back to their usual historical pattern of declines throughout the rest of the year. For now, though, eight of the 11 sectors had their 2018 consensus earnings estimate edge higher w/w. The top sector gainers since the TCJA was passed: Energy (23.9%), Telecom (16.8), Financials (11.5), Industrials (9.5), and Consumer Discretionary (8.1). Real Estate is the sole decliner, with a drop of 3.8%; also underperforming the S&P 500 are Utilities (1.1), Consumer Staples (4.2), Tech (5.2), Health Care (5.5), and Materials (6.8). Higher oil prices, a.k.a. “animal spirits,” have contributed heavily to the improvement in Energy’s 2018 earnings forecast,

but it fell slightly w/w.

S&P 500 Sectors Net Earnings Revisions ([link](#)): The S&P 500's NERI was positive for an 11th straight month in March, its longest positive streak since the 26-month string ending August 2011. Powered by big revisions due to the passage of the TCJA, NERI improved to a record high of 22.1% from 21.0% in February. NERI was at a record high in March for three sectors as it improved m/m for 6/11 sectors and was positive for 10 sectors (compared to nine improving and ten positive in February). Tech has the longest positive NERI streak of 20 months, the best since August 2011 when its 28-month streak ended. Financials has the next best positive streak at 18 months, followed by Materials (6). Real Estate has the worst recent track record, with seven straight months of negative NERI. Here are the sectors' March NERIs compared with their February readings, ranked in descending order: Financials (33.9% in March [record high], up from 33.1% in February), Industrials (29.7 [record high], 27.8), Energy (25.3, 26.8 [148-month high]), Consumer Staples (25.0, 25.2 [record high]), Telecom (23.5, 24.8 [record high]), Tech (22.7 [94-month high], 20.8), Materials (21.4 [141-month high], 19.5), Consumer Discretionary (19.0 [93-month high], 17.2), Health Care (18.2 [record high], 16.4), Utilities (-0.1, 0.7), and Real Estate (-12.2 [14-month low], -11.1).

S&P 500 Earnings, Revenues & Valuation ([link](#)): Last week saw S&P 500 consensus forward revenues improve to 0.1% below its early March record high, but forward earnings rose to a new record for a 34th straight week. With the Q4 earnings season complete, all companies should have already provided initial guidance about the positive impact of the TCJA on margins. We eagerly await further positive guidance from companies during the Q1 earnings season. The 2018 and 2019 profit margin forecasts were steady w/w at 11.8% and 12.5%, respectively. The forward profit margin was steady too, at a record high of 12.0%. Prior to the passage of the TCJA, the forward profit margin had been steady at 11.1% since October, which was the highest since September 2015 and up from a 24-month low of 10.4% in March 2016. The easy growth comparisons are waning too: Forward revenue growth for the S&P 500 was steady w/w at 6.0%, which is down from an 80-month high of 6.3% at the end of February. That reading compares to a cyclical low of 2.7% in February 2016. Forward earnings growth remained steady at 16.2%, but that's down from 16.9% in late February, which had been the highest since October 2010. Still, that's up 5.1ppts from 11.1% prior to the passage of the TCJA, and 11.4ppts from the cyclical low of 4.8% in February 2016. Among the 11 sectors, four had their forward earnings growth forecast improve 0.1ppt each w/w, and two weakened between 0.1-0.3ppt. Energy's contribution to forward growth peaked at the start of 2017. Looking at last week's results, the S&P 500 ex-Energy's forward growth was steady at 5.5% for revenues and 14.9% for earnings. The S&P 500 ex-Energy forward profit margin remained steady at a record high of 12.6%, which is up from 11.7% before the TCJA. The S&P 500's forward P/E edged up to 17.2 from 17.1, which compares to a 16-year high of 18.6 at the market's peak in late January and a 15-month low of 14.9 in January 2016. The S&P 500 price-to-sales ratio rose to 2.06 from 2.05, which compares to late January's record high of 2.16.

S&P 500 Sectors Earnings, Revenues & Valuation ([link](#)): Consensus forward revenues forecasts rose last week for 9/11 sectors, and forward earnings rose for 8/11. Energy had both measures decline, and these seven had both rise: Consumer Staples, Financials, Industrials, Materials, Tech, Telecom, and Utilities. Forward revenues and earnings are at or around record highs for 5/11 sectors: Consumer Discretionary, Consumer Staples, Health Care, Industrials, and Tech. Energy's forward revenues and earnings appear to be back on uptrends after stalling during 2016-2017, and earnings have nearly tripled from their 18-year low in April 2016. Forward P/S and P/E ratios are down from their highs for all sectors. Energy's valuations remain elevated relative to historical levels, but are normalizing now after soaring in 2016 when revenues and earnings collapsed. Energy's P/S ratio of 1.19 compares to a record high of 1.56 in May 2016, and its P/E of 18.8 is down from a record high of 57.5 then. Due to the TCJA, higher margins are expected y/y in 2018 for all but Real Estate, but the sector's earnings includes gains from property sales and typically improves as the year progresses. The post-TCJA

improvements in forward profit margins are waning now, as not one sector improved w/w and two edged down 0.1ppt (Financials and Real Estate). Here's how the sectors rank based on their current forward profit margin forecasts: Information Technology (22.3%), Financials (18.4), Real Estate (16.3), Telecom (13.3), Utilities (12.1), S&P 500 (12.0), Materials (11.3), Health Care (11.2), Industrials (10.1), Consumer Discretionary (8.1), Consumer Staples (7.1), and Energy (6.3).

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