Demography Goes Mainstream

See the collection of the individual charts linked below.

(1) More concern about the extinction prediction. (2) The rest of the world is catching up to Japan’s birth dearth problem. (3) A new book predicts an “empty planet.” (So it should be easier to make a reservation at good restaurants.) (4) Hungary running out of goulash eaters. (5) It’s official: China’s maternity wards are emptying out as its nursing homes fill up. (6) Chinese producing more debt, fewer babies. (7) Stimulating baby-making with incentives in Russia. (8) Round up the usual suspects: US DOJ has a long rap sheet on Chinese spies.

Global Demographics: The Extinction Prediction. Population decline has become a real concern around the world. Melissa and I are seeing more articles relating the slowdown in global economic growth to demographic developments. I examined this problem in Chapter 16 of my 2018 book Predicting the Markets. Melissa and I most recently discussed the decline in global fertility in our 1/30 Morning Briefing. Fertility rates around the world have been falling below a level that can support population growth, we observed. The global average total fertility rate of 4.7 children per woman of child-bearing age in 1950 fell to 2.4 in 2017 (Fig. 1). It is now below 2.0 in Japan (1.4), China (1.6), Europe (1.6), and the US (1.9), according to data compiled by the UN (Fig. 2, Fig. 3, Fig. 4, and Fig. 5).

Declining fertility is an economic problem because it means fewer young working-age people to support older retirees, who have been living longer and longer. On an individual-country basis, immigration could serve as a relief valve, but on a global basis, a declining world population over the coming decades is concerning—as the media’s increasingly alarmist headlines suggest. We concluded in our 1/30 Morning Briefing that productivity may matter more in a world where the total population isn’t replacing itself.

Previously, we’ve written about Japan’s birth dearth and its government’s efforts to encourage more baby-making. A few recent related stories have caught our eye; here’s a recap:

(1) Wanted: people. A new book Empty Planet: The Shock of Population Decline, by Darrell Bricker and John Ibbitson, questions the most popular population predictions of one of the most reputable sources on the planet, the United Nations (UN). According to the UN’s World Population Prospects: 2017 Revision, there will be approximately 9.0 billion and 11.0 billion people on Earth by 2050 and 2100, respectively, compared to roughly 7.5 billion now (Fig. 6).

Countering those projections, the authors write: “In roughly three decades the global population will begin to decline,” according to a 2/4 Wired interview. “Once that decline begins, it will never end.” They assert that the UN’s methodology, based on just three variables—fertility, migration, and death rates—fails to capture the expansion of education for females or the speed of urbanization in the fertility assumptions. “The UN has a grim view of Africa,” Ibbitson noted. But education is improving in the region and Africa is urbanizing at a rate double the global average.
However, a close look at the UN’s population report shows that the global agency doesn’t discount the possibility of a shrunken world population by 2100. It noted that fertility levels just half a child below the UN’s assumption for its most probable scenario “would lead to a global population of 8.8 billion at mid-century, declining to 7.3 billion in 2100.” Yes, that’s less people than the 7.5 billion on Earth right now.

(2) **Wanted: Hungarian babies.** Population decline is already happening in Hungary, which lost a net 37,000 people in 2017. The fertility problem in Hungary has become so worrisome that the country’s Prime Minister Viktor Orban recently announced his “Family Protection Action Plan” to promote marriage and families. A 2/11 CNBC article covering the plan was titled “Have four or more babies in Hungary and you'll pay no income tax for life, prime minister says.”

The plan’s birth incentives include waivers on personal income tax for women who have at least four children, subsidies on cars for larger families, loans on home purchases for couples with at least two kids, and preferential loans for women who get married before age 40. Benefits extend to extended families: Grandparents are paid a fee for taking care of their grandchildren when the parents cannot.

Why is the plan so aggressive? To put it simply: “We need Hungarian children,” the Prime Minister said. Orban, a conservative nationalist, is a long-time proponent of homegrown population growth as opposed to growth via immigration. Of course, countries with less rigid immigration policies, like the US, may experience population growth despite declining fertility rates.

(3) **Wanted: Chinese newborns.** Mounting evidence suggests that China is destined to become the world’s largest nursing home, as we have previously observed. The Chinese people haven’t responded as intended to the lifting of the one-child policy in late 2015, i.e., by having more kids. Demographics are deteriorating faster than expected in China, observed analysts quoted in a 2/9 WSJ article titled “China’s Demographic Danger Grows as Births Fall Far Below Forecast.”

Data from China’s National Bureau of Statistics reveal that the 15.23 million babies born during 2018 represent 2 million fewer than in 2017. The figure also is 30% below the median official forecast of 21 million and the lowest level of births since 1961, during China’s Great Famine. Maybe China could ward off some of the looming economic problems of a shrinking population via Hungary’s strategy of incentivizing young couples to have more babies—if it’s not too late.

(4) **Wanted: more Putins.** Yesterday, Russian President Vladimir Putin used his televised State of the Nation address to offer several measures to improve living conditions for families. He included incentives for baby-making: "The principle should be very simple—the more children you have the less tax you should pay," said Putin. Subsidies for mortgage borrowing will increase with the number of children.

**China Economy: One Silver Lining.** China’s one demographic silver lining is on the heads of the graying senior citizen population. China’s healthy life expectancy has overtaken that of the US for the first time per recently released 2016 World Health Organization data, reported Reuters. China’s overall life-expectancy is also catching up with that of developed nations, having increased from 48.57 in 1964 to 76.25 in 2016, according to World Bank Data. So the good news is that the Chinese people are living longer lives.

The bad news is that the aging population is weighing on China’s economic growth. The efforts of China’s central bank to stimulate consumer spending through credit expansion aren’t working. China’s bank loans are growing, but not being productively used, which is weighing on output and inflation. The government’s go-to solution to these problems is more credit and more spending on white elephant projects, but those efforts are experiencing diminishing returns. Consider the following:
(1) **Credit expanding.** During January, Chinese bank loans soared by a record $525 billion *(Fig. 7).* Over the past 12 months through January, Chinese bank loans rose by a record $2.5 trillion *(Fig. 8).* Since December 2008, bank loans are up a whopping $16.1 trillion to a record $20.5 trillion *(Fig. 9).*

Fortunately for them, the Chinese owe most of this debt to themselves since they have a very high savings rate. China’s M2 is a broad measure of money supply including cash in circulation and all deposits. It continues to well exceed bank loans.

(2) **Production softening.** The bad news is that China’s massive credit expansion is not being put to productive use. Bank loans have been growing faster than industrial production, reflecting less bang per yuan. The ratio of industrial production to bank loans has trended steadily downward since late 2008 *(Fig. 10).*

(3) **Inflation nearly deflating.** Even though China is flush with cash and credit, inflation has been markedly subdued. Reflecting China’s excess capacity, the Producer Price Index for total industrial products has plummeted to the verge of deflation, registering 0.1% y/y in January. The Consumer Price Index (CPI) rate also dipped further in January, to 1.7% y/y *(Fig. 11).*

**Geopolitics: More Spy Games.** We highlighted a number of allegations of Chinese industrial espionage in the 2/7 *Morning Briefing,* but this important subject deserves revisiting. There are many more cases pending, and no industry appears immune.

Last week, news came that the food industry had been targeted. A Chinese-born scientist working in the US was indicted for allegedly trying to steal the formula for the coating on the inside of cans and other containers. That follows cases involving batteries, advanced materials, and military technology. A quick search of “Chinese national” on the Department of Justice (DOJ) website brings up a laundry list of reading.

It’s quick and easy to see a pattern, if the DOJ’s accusations are to be believed. China is actively recruiting people working in the US to funnel its trade secrets. Getting these secrets doesn’t seem very tough thanks to cell phone cameras, email, and thumb drives. And folks who are naturalized US citizens aren’t immune to returning to China with these secrets. Here are some of the recent cases we’ve come across:

(1) “Rob, replicate, and replace.” You Xiaorong, a Chinese-born, naturalized US citizen, was arrested for stealing trade secrets from her US employers, which were doing research with Coca-Cola. Working with two people in China, she allegedly intended to set up a company in China to produce a competing product and win a reward from a program sponsored by the Chinese government, a 2/14 *WSJ* article reported.

“The conduct alleged in today’s indictment exemplifies the rob, replicate and replace approach to technological development,” said Assistant Attorney General Demers in the DOJ’s 2/14 press release.

You allegedly took photographs of files open on her computer screen and pictures of her employer’s laboratory equipment in secure and restricted locations. She downloaded secrets to an external hard drive and uploaded files to her Google drive account.

You visited China on a number of occasions starting in 2017 as part of her application in China’s Thousand Talents Program. “This program was designed to induce individuals with advanced technical education, training and experience residing in Western countries to return or move to China and use
their expertise to promote China’s economic and technological development … [T]hose who were selected sometimes received an annual payment from the Chinese government calculated as a percentage of the applicant’s current salary,” according to the DOJ’s 2/12 indictment. She had also applied to a similar program run by a Chinese provincial government.

(2) All you need is a thumb drive. Hongjin Tan, a Chinese national and a legal permanent resident of the US, was arrested in December, accused of stealing trade secrets from a US petroleum company. His LinkedIn page said he’s part of a research team at Phillips 66, a 12/21 Bloomberg article stated.

Tan was a research engineer in the US company’s battery development group. Tan resigned from the US company, saying he was returning to China to be with his aging parents. However, a letter dated October 17 found on his computer appears to be an employment agreement with a Chinese battery maker, the 12/20 criminal complaint alleges. The Chinese company “had been in constant contact” with Tan since he was in graduate school, and he interviewed with the company when he visited China in September, the complaint alleges.

The US company determined that Tan accessed hundreds of files, including research reports on how to make “Product A” and market it in China in cell phone and lithium-based battery systems. He downloaded files to a personal thumb drive. These files were outside of his area of responsibility, and he had no need to access these restricted files, the complaint alleges. The value of the trade secrets is estimated to be more than $1 billion.

(3) Exporting secrets. Suren Qin, a Chinese national and lawful permanent resident of the US, was charged with conspiracy to defraud the US, smuggling, money laundering, and making false statements to government officials. He operates several companies in China, including LinkOcean Technologies, which imports goods used in underwater and marine applications to China from the US, Canada, and Europe.

The indictment alleges that between 2015 and 2016 Qin exported 60 hydrophones (devices to detect sound under water) from the US to Northwestern Polytechnical University (NWPU), a Chinese military research institute that the US Department of Commerce considers a national security risk because it has worked closely with China’s People’s Liberation Army. LinkOcean concealed that the hydrophones were being shipped to the NWPU and falsified end-user information to be filed with the US government.

“[T]he indictment alleges that during an interview with Customs and Border Protection (CBP) Officers in November 2017, Qin stated that he only exported instruments that attach to a buoy. However, Qin allegedly exported remotely-operated side scan sonar systems, unmanned underwater vehicles, unmanned surface vehicles, robotic boats, and hydrophones. The items that Qin failed to disclose to, and concealed from, CBP during this interview have military applications, and several of these items were delivered to military end-users in China,” according to an 11/2 DOJ press release.

(4) All you need is an email. Shan Shi, a US citizen, and Gang Liu, a Chinese national working in the US, were among six individuals charged with stealing trade secrets from Company A, a multinational engineering firm with headquarters in Sweden and a subsidiary in Houston. They have pled not guilty. The trade secrets involve the development of syntactic foam, a lightweight material used in commercial and military purposes, including oil exploration, aerospace and stealth technologies, and underwater vehicles such as submarines.

Shi and others allegedly recruited and hired current and former employees of Company A, including Liu, according to a 4/27 DOJ press release. It states that Liu “and others are accused of passing along those trade secrets. According to the indictment the technology was ultimately destined for China, to
benefit the government and other state-owned enterprises."

The indictment details how in 2015 trade secrets were sent from the indicted individuals’ email accounts at Company A to their personal accounts and then forwarded to the Chinese company’s US arm, which Shi owns.

**CALENDARS**

**US. Thurs:** Leading Indicators 0.2%, Jobless Claims 225k, Durable Goods Orders Total, Total Ex Transportation, and Core Capital Goods 1.2%/0.3%/0.1%, C-PMI, M-PMI & NM-PMI Flash Estimates 54.1/54.2/53.9, Philadelphia Fed Manufacturing Index 14.0, Existing Home Sales 5.05mu, EIA Natural Gas Report. **Fri:** Baker-Hughes Rig Count, Williams, Bullard, Clarida, Harker. (Econoday estimates)

**Global. Thurs:** Eurozone, Germany, and France C-PMI Flash Estimates 51.1/52.0/48.8, Eurozone, Germany, and France M-PMI Flash Estimates 50.3/49.9/51.0, Eurozone, Germany, and France NM-PMI Flash Estimates 51.3/52.9/48.5, Germany CPI -0.8%/m/m/1.4%/y/y, Japan CPI Total, Core, and Core-Core 0.2%/0.8%/0.3% y/y, Australia Employment Change & Unemployment Rate 15k/5.0%, ECB Accounts of the Governing Council’s January Meeting, Lowe, Poloz. **Fri:** Eurozone Headline & Core CPI 1.4%/1.1% y/y, Germany GDP 0.0%/q/q/0.6%/y/y, Germany Ifo Business Climate, Current Assessment, and Expectations Indexes 98.9/103.9/94.2, Canada Retail Sales -0.3%, Mexico CPI, Draghi. (DailyFX estimates)

**STRATEGY INDICATORS**

**Stock Market Sentiment Indicators** ([link](#)): The Bull/Bear Ratio (BBR) climbed this week for the sixth time in seven weeks from 0.86 (which was the lowest since mid-February 2016) to 2.51. The BBR’s bullish sentiment component rose for the seventh straight week, by 22.0ppts, to a 17-week high of 51.9% from 29.9%—which was the fewest bulls since February 2016; bullish sentiment was as high as 61.8% in early October. Meanwhile, bearish sentiment has been bouncing in a narrow range between 20.5% and 22.0% the past five weeks, falling to 20.7% this week; it was 13.9ppts below its recent high of 34.6% seven weeks ago—which was the most bears since March 2016. The correction count fell for the third week, from 33.6% to 27.4%—the lowest since early October; it was at 41.1% 11 weeks ago—which was the highest percentage since late September 2015. The AAII Ratio slipped to 58.3% last week after jumping to a four-month high of 63.6% the prior week. Bullish sentiment fell from 39.9% to 35.1% last week, while bearish sentiment moved up to 25.1% after falling from 36.3% to 22.8% the previous three weeks.

**S&P 500 Earnings, Revenues, Valuation & Margins** ([link](#)): Consensus S&P 500 forward revenues and earnings forecasts both dropped for the fifth time in six weeks. Forward revenues is now down 1.1% from a record high in early January, and forward earnings is now 2.2% below its record high in early December. Analysts expect forward revenues growth of 5.0% and forward earnings growth of 6.0%, down from week-earlier readings of 5.2% and 6.2%, respectively. Forward revenues growth is down from a seven-year high of 6.3% in February 2018 to its lowest level since August 2016, and forward earnings growth is down from a six-year high of 16.9% last February to its lowest reading since April 2016. Prior to the passage of the Tax Cuts and Jobs Act (TCJA), forward revenues growth was 5.5% and forward earnings growth was 11.1%. Turning to the annual growth expectations, analysts expect revenues growth to slow from 8.7% in 2018 to 4.8% in 2019 and 5.5% in 2020. They’re calling for earnings growth to slow sharply from 24.1% in 2018 to 4.4% in 2019 before improving to 11.3% in 2020. The forward profit margin remained steady w/w at a nine-month low of 12.1%, and is down 0.3ppt from a record high of 12.4% in mid-September. Still, that’s up from 11.1% prior to the passage of the TCJA in December and compares to a 24-month low of 10.4% in March 2016. The S&P 500’s forward
P/E rose to a 14-week high of 16.2 from 16.0. That’s up from 14.3 during December, which was the lowest reading since October 2013 and down 23% from the 16-year high of 18.6 at the market’s valuation peak in late January. The S&P 500 price-to-sales ratio of 1.96 is up from 1.94 a week earlier and 1.75 during December, which was the lowest since November 2016 and down 19% from a record high of 2.16 in late January.

**S&P 500 Sectors Earnings, Revenues, Valuation & Margins** (link): Consensus forward revenues rose w/w for five of the 11 sectors, and forward earnings rose for four sectors. Communication Services and Health Care were the only sectors to have both measures rise w/w. In addition, Energy saw both measures fall at a faster rate. Forward revenues and earnings are at or around record highs for 4/11 sectors: Consumer Discretionary, Health Care, Industrials, and Tech. The forward profit margin is rolling over from recent highs for all but Financials and Utilities. They were at record highs during 2018 for 8/11 sectors, all but Energy, Health Care, and Real Estate. Energy’s forward earnings had about tripled from the 18-year low in April 2016 through early November, but has tumbled 24.7% since then. Forward P/S and P/E ratios are now well below their 2018 highs for all sectors, and had been at multi-year lows during December for five sectors: Energy, Financials, Industrials, Materials, and Tech. Energy’s forward P/E of 17.2 is on the rise again as earnings deteriorate. Due to the TCJA, margins rose y/y in 2018 for all sectors but Real Estate, but that sector’s earnings includes gains from property sales, which typically are infrequent. The outlook for 2019 shows lower margins are now expected y/y for 6/11 sectors: Communication Services, Energy, Health Care, Information Technology, Materials, and Real Estate. During the latest week, the forward profit margin actually edged up for Energy, and dropped for three sectors: Communication Services, Real Estate, and Utilities. Nine sectors are down from record highs just a few months ago. Here’s how the sectors rank based on their current forward profit margin forecasts versus their highs during 2018: Information Technology (22.2%, down from 23.0%), Financials (18.9, down from 19.2), Real Estate (15.2, down from 17.0), Communication Services (14.6, down from 15.4), Utilities (12.8, down from 13.0), S&P 500 (12.1, down from 12.4), Materials (10.7, down from 11.6), Health Care (10.5, down from 11.2), Industrials (at a record high of 10.3), Energy (6.8, down from 8.0), Consumer Staples (7.5, down from 7.7), and Consumer Discretionary (7.5, down from 8.3).