



## MORNING BRIEFING

April 26, 2017

### Brain Drain

See the [collection](#) of the individual charts linked below.

(1) Turing Test. (2) Tech's latest Great Disruption: From brawn to brain. (3) Robots are easy-going, but will AI make them cranky? (4) AI at YRI. (5) Head in the Cloud. (6) The sinister goal of knowledge workers. (7) IT+R&D spending up from 26% to 44% of capital spending since 1981. (8) Consumers are spending more than business on computers, really. (9) Swamp vs Valley people. (10) The Great Disruptors want to read your mind with a quantum computer, while you are cruising in an electric flying car. (11) When taxing robots, beware of the one called "Spartacus."

**Technology I: From Brawn to Brain.** The movie "Ex Machina" (2014) is in some ways the sequel to "The Imitation Game" (2014), which was about British mathematician Alan Turing, who cracked the Nazi code with a computer he designed. He posited the "Turing Test" of a machine's ability to exhibit intelligent behavior equivalent to, or indistinguishable from, that of a human. In "Ex Machina," a programmer is selected by his boss—a Google-type of entrepreneur—to judge whether a beautiful female robot he created with artificial intelligence can pass the test.

In the past, technology disrupted animal and manual labor. It speeded up activities that were too slow when done by horses, like pulling a plow or a stagecoach. It automated activities that required lots of workers. Assembly lines required fewer workers, and increased their productivity. The focus was on brawn. Today, the "Great Disruption" is increasingly about technology doing what the brain can do.

Robots with artificial intelligence are coming. Should we laugh out loud—happy that they will do lots of our dirty work? Or should we cry out loud—fearing that they will take away all of our jobs? Perhaps the most significant disruptive force at the forefront of technological innovation is the meeting of machines and hyper-connected systems. "Smart machines," such as robots and self-driving cars, are computing systems that can make autonomous decisions. Several industries are on the verge of reaching, or have already reached, the point where it's cheaper to employ robots than humans.

Robots ultimately may make better employees than humans in a lot of ways. They don't need to take bio breaks, eat lunch, go home to see their families, or sleep. And you won't find them making trips to the water cooler, getting involved in office politics, or otherwise losing focus from assigned tasks. They can work anywhere and won't hesitate to relocate. They can operate in dangerous environments without requiring employers to worry about government regulations and lawsuits. They won't care, complain, or get frustrated unless they're programmed to do so—or learn to on their own.

At YRI, our experience with technology suggests that the government may be underestimating the productivity of technology. Many years ago, we started to maintain our huge library of chart publications on an off-site server that we owned and was maintained by an outsourced vendor. The system was buggy and often needed to be "rebooted" by the local operator, causing us frequent downtime and lots of agita. We used only a small fraction of the capacity of the servers during the day and not much at night.

In March 2006, Amazon officially launched Amazon Web Services (AWS). We signed up in 2008 for this fantastic Cloud service, which has been remarkably reliable and very cost effective for us. When we need more computing and storage power, we turn up the dial for more resources. AWS is running its servers much more efficiently and productively than we and everyone else had done at the “server farms.” No more downtime and no more agita!

We don't have any plans to buy robots. However, our current system has incorporated crude Artificial Intelligence for many years. Anytime that our data vendors update any series we use, the system automatically updates all the charts that include that series and refreshes the publications on our website with those updated charts.

**Technology II: By the Numbers.** Will an increase in knowledge-based employment offset the job losses attributable to the Great Disruption? Many knowledge workers are tasked with the job of eliminating the jobs of other workers, including well educated ones! They are constantly looking for ways to use technology to increase productivity. Many of them have their heads in the Internet Cloud and other technologies, and are using them to produce more goods and services with less labor. They are doing so in manufacturing, services, and even in information technology. Consider the following:

(1) *Employment.* Payroll employment in all information industries peaked at a record 3.7 million during March 2001. It dropped to 2.7 million during mid-2010, and has remained around that level since then ([Fig. 1](#)).

(2) *Real knowledge capital.* The real GDP report for Q4-2016 showed that spending on “knowledge” capital is in record-high territory for information processing equipment (\$352.3bn, saar), software (\$352.4bn), and R&D (\$288.3bn) ([Fig. 2](#)). The total of these three was a record \$993.0 billion, up 3.4% y/y, 96% since Q4-1999, and 52% since Q4-2005. Pre-Y2K, from Q1-1995 through Q4-1999, this total rose 93%.

(3) *Current-dollar IT capital.* In current dollars, the three categories listed above summed to \$1.01 trillion (saar) during Q4, the highest on record ([Fig. 3](#)). Aggregate knowledge-based capital spending accounted for 43.5% of nominal nonresidential investment during Q4 ([Fig. 4](#)). That's up from 25.6% during Q3-1981, when the first IBM PC was introduced.

(4) *More bang-per-buck.* I reckon that there is more bang per buck in knowledge-based capital spending today than in the past, as evidenced by the deflationary trend in the prices of high-tech hardware and software ([Fig. 5](#)). Since Q1-1980, the price deflators for information processing equipment and software are down 78% and 31%.

(5) *Business vs consumer spending.* As I was sifting through the GDP data on high-tech spending, I was surprised to see that on an inflation-adjusted basis consumers have been spending more than business on hardware since Q4-2014 ([Fig. 6](#)). Prior to Y2K, real capital spending on IT equipment rose 506% from Q1-1995 through Q4-1999. During the next five years through Q4-2005, it rose 87%. The slowdown was undoubtedly attributable to all the purchases in anticipation of Y2K. Since Q4-2005 through Q4-2016, it is up only 52%. Might this reflect the impact of AWS and other Cloud vendors allowing IT users to rent rather than to own hardware? I think so. Meanwhile, real spending by consumers on computers and peripheral equipment remains on a relatively steep ascending slope.

On the other hand, real capital spending on software continues to significantly exceed real consumer spending on software, which isn't a surprise ([Fig. 7](#)).

In current dollars, during Q4-2016, business still spent more than consumers on hardware, i.e., \$74

billion vs \$64 billion, both saar ([Fig. 8](#)). However, the former has been on a slight downward trend since Y2K passed without incident, while the latter remains on an upward trend. In current dollars (as in real ones), software spending by businesses well exceeded consumer spending during Q4-2016, i.e., \$344 billion vs \$53 billion, both saar.

**Technology III: The Great Disruptors.** While the headlines are giving lots of attention to all the swamp people in Washington, DC, there's lots of important things happening that the rest of us are doing every day. Much of the drama coming out of our nation's capital was hardwired by the Founders, who designed an exceptional political system of checks and balances. It often leads to gridlock with lots of screaming on both sides of the aisle, as the Founders intended. That means that despite all the noise, not much gets done in Washington, and change tends to be relatively slow.

The same cannot be said about the Silicon Valley people. They live and breathe creative destruction. Change is what they do for a living. They were born to disrupt our lives, most often in good ways. However, their innovations can also have adverse consequences including the use of the Internet by terrorists and social media bullies to bully other kids. Brick-and-mortar retailing is getting clobbered by online vendors that now account for a record \$526 billion in GAFO sales, or a whopping 29.5% of all GAFO sales ([Fig. 9](#) and [Fig. 10](#)).

On the other hand, thanks to the Valley people, Yardeni Research is thriving. The fracking revolution in the oil patch owes much to the IT revolution. The greatest disruptions are yet to come. Amazon continues to clobber traditional retailing by offering the same prices as at the malls, but with free delivery subsidized by all the cash flowing from AWS. Uber may be hurting car sales as more young and elderly people opt to use the remarkably efficient service rather than own a car. Tesla will soon sell a mid-priced electric car. Such vehicles could put dealers out of business if more electric cars are sold online. Service departments could also go out of business if the mechanic can come to your house to replace a defective electric motor or battery. So what have the Great Disruptors been up to recently?

(1) *Amazon*. On March 31, 2015, Amazon introduced its Dash Buttons. The small, thumb-sized devices let customers reorder paper towels, laundry detergent, and toilet paper by merely clicking a button. Two years later, Dash is among Amazon's fastest-growing services. Orders using Dash Buttons are placed more than four times a minute compared to once a minute a year ago, according to Amazon. Amazon told *Fortune* that many brands—such as Folgers Coffee, Peet's Coffee, Pepperidge Farm, and Ziploc—are seeing more than half of their Amazon.com orders placed via Dash Button devices. Household items are particularly popular. To date, customers have placed millions of orders with Dash Buttons, according to Amazon. Overall, Amazon now has more than 300 Dash Buttons for products.

(2) *Apple*. Apple is hiring former NASA and Tesla employees as part of a self-driving car initiative, per several reports. Although Apple has declined to comment about its plans for self-driving cars, news reports over the last few years have suggested that the company is working on such technology. Unknown is whether Apple is developing its own car. More likely is that Apple is focused on technology that it could sell to automakers to put into their self-driving cars.

(3) *Facebook*. At last week's Facebook F8 conference in San Jose, California, CEO Mark Zuckerberg updated his ambitious 10-year plan for the company, first revealed in April 2016. Business Insider reported: "On Facebook's planet of 2026, the entire world has internet access, with many people likely getting it through Internet.org, Facebook's connectivity arm. Zuckerberg reiterated last week that the company was working on smart glasses that would look like your everyday Warby Parkers. And underpinning all of this is artificial intelligence that Facebook says will be good enough that we can talk to computers as easily as chatting with humans. ..."

“In fact, Michael Abrash, the chief scientist of Facebook-owned Oculus, said last week that we could be just five years away from a point where augmented-reality glasses become good enough to go mainstream. And Facebook is now developing technology that would let you ‘type’ with your brain, meaning you’d type, point, and click by thinking at your smart glasses. Facebook is giving us a glimpse of this with the Camera Effects platform, making your phone into an AR device.”

Elon Musk, the SpaceX and Tesla CEO, gave more details about [NeuraLink Corp](#), his venture to merge the brain with artificial intelligence, in a [Wait But Why explainer](#). In four years, Musk hopes to have a brain-machine interface. Cool, then anyone can hack into your brain and download it ... the ultimate brain drain!

(4) *Google*. According to a 4/21 [article](#) in *MIT Technology Review*, a research group at Google is working on building amazingly powerful computer chips that manipulate data using the quirks of quantum physics. By the end of this year, the team will build a device that achieves “quantum supremacy,” meaning it can perform a particular calculation that’s beyond the reach of any conventional computer. Proof will come from a kind of drag race between Google’s chip and one of the world’s largest supercomputers.

(5) *Tesla*. Later this year, Tesla will start selling its Model 3, which the company says achieves 215 miles of range per charge while starting at only \$35,000 before incentives. These cars will be powered by batteries from the Gigafactory, a huge factory Tesla has constructed in the Nevada desert. If the car is a hit, the Gigafactory will ensure Tesla has plenty of batteries to meet demand for this relatively affordable mass-market vehicle. Other car companies would have to scramble—not only to design a similar vehicle but also to find suppliers for yet more batteries.

(6) *Uber*. Yesterday, Uber started hosting its first “[Elevate Summit](#),” a three-day conference in Dallas on vertical take-off and landing (VTOL) aircraft, i.e., “flying cars.” Its focus is on the possibilities and pitfalls in developing an on-demand airborne ride-hailing service. Last October, the company released a [white paper](#) that envisioned a flying taxi service as a network of lightweight, electric aircraft that take off and land vertically from preexisting urban heliports and skyscraper rooftops. A few months later, Uber hired [Mark Moore](#), the former chief technologist for on-demand mobility at NASA’s Langley Research Center and one of the leading thinkers on VTOL aviation.

**Technology IV: Taxing Robots.** The robots are coming, that’s for sure. Less certain is whether they will make lots of humans unemployable or lead to the creation of better jobs, as technological innovation has done in the past. Pessimistic futurists are already chattering about ways to support all the human economic zombies. Consider the following:

(1) *Fewer jobs?* A recent [tweet](#) from self-made billionaire Mark Cuban received a lot of press: “Automation is going to cause unemployment and we need to prepare for it.” Attached to his tweet was a 2/18 [article](#) titled “A warning from Bill Gates, Elon Musk, and Stephen Hawking.” Melissa and I explored various studies on just how many human jobs could be lost to machines by 2025 in our [12/21/15 Morning Briefing](#). The bottom line is that no one knows, but automation is likely to hurt employment on balance.

(2) *Tax robots?* “Taxing robots is Bill Gates’s dumbest idea yet” was the title of a 2/22 MarketWatch [article](#). Gates said that there will need to be taxes related to robot automation in a 2/17 [interview](#) with Quartz. Because “you can’t just give up that income tax” on a human worker that’s been replaced by a robot. Especially given that more people might need support from social programs once the robots take over. Gates isn’t alone.

A [5/31/16](#) draft report from the European Parliament's committee on legal affairs reads like science fiction. It stated that "consideration should be given to the possible need to introduce corporate reporting requirements on the extent and proportion of the contribution of robotics and AI to the economic results of a company for the purpose of taxation."

But really, "why pick on robots?" as Lawrence Summers asked in a 3/5 opinion [piece](#) for the *FT*. We only have more questions to add to the mix: How would a robot tax even work? How much should the tax be? Should there be a flat tax on owners of robot capital? Or should the tax be graduated based on how much labor-saving technology is implemented? Further, should there be a separate tax on robots versus labor-saving automation? How would companies even begin to separate the two?

(3) *Define "robot."* The word "robots," or "bots" for short, has become synonymous with many automated labor-saving technologies run on software programs rather than hardwired machinery. In a 2/24 *Wired* [article](#), Andy Rubin, the creator of Android (which was purchased by Google), observed that a robot must meet three qualifications: It must sense, it must compute, and it must actuate. The definition of a robot will continue to evolve as robots do. That may make it harder to tax them.

(4) *Speed bumps.* Gates thinks some sort of robot tax would be helpful to "slow down the speed" of robotic adoption, thereby allowing for policy adjustments as human workers are displaced. In response to Gates, a 2/25 [article](#) in *The Economist* observed that a robot is a form of capital investment. Taxing capital investments is not typically a good idea. It would discourage companies from innovating! Besides, how would Gates feel about an additional robotics tax on software?

(5) *Subsidize humans?* If robots are taxed, should the revenues fund a Universal Basic Income (UBI), where everyone would receive a small stipend to cover basic needs? The European Parliament report cited above added that the Committee "takes the view that in the light of the possible effects on the labour market of robotics and AI a general basic income should be seriously considered." Cuban [told](#) Business Insider in late February that UBI was a "slippery slope" that raises hard-to-resolve questions, like: "Should I get UBI? Who doesn't get it? How much? Who pays for it? How?" These questions will be pondered by lots of brains in the years to come, no doubt including artificial ones.

## CALENDARS

**US. Wed:** MBA Mortgage Applications, EIA Petroleum Status. **Thurs:** Durable Goods Orders Total, Ex Transportation, and Core Capital Goods Orders 1.1%/0.4%/0.4%, Advanced Merchandise Trade - \$65.3b, Jobless Claims 244k, Pending Home Sales -0.5%, Kansas City Fed Manufacturing Index, Weekly Consumer Comfort Index, EIA Natural Gas Report. (Bloomberg estimates)

**Global. Wed:** Canada Retail Sales Total and Ex Autos 0.2%/-0.3%, Australia CPI 2.2% y/y, Japan Small Business Confidence 49.4, Lowe. **Thurs:** Eurozone Economic Confidence 108.1, Germany CPI -0.1%/m/1.9%/y/y, Japan Headline, Core, and Core-Core CPI 0.3%/0.2%/0.0%, Japan Industrial Production -0.8%/m/4.0%/y/y, Japan Retail Trade -0.3%/1.5%/y/y, ECB Central Bank, Marginal Lending Facility, and Deposit Facility Rates 0.00%/0.25%/-0.40%, ECB Asset Purchase Target (euros) 60b, BOJ Policy Balance Rate & 10-Year Yield Target -0.10%/0.00%. (DailyFX estimates)

## STRATEGY INDICATORS

**S&P 500 Sectors Net Earnings Revisions** ([link](#)): The S&P 500's NERI improved to a six-month high of -1.6% in April from an 11-month low of -3.3% in March. However, NERI was positive for 3/11 sectors and improved m/m for eight (compared to five positive and five improving in March). Financials topped all sectors in March, and Industrials was at a 10-month high. Energy turned negative for the first time in

10 months, and Telecom recorded its second-lowest reading ever since 1995, as it fell to its lowest level in more than nine years. Utilities turned negative m/m and has been negative in 16 of the past 17 months. Tech has the longest positive NERI streak of nine months, followed by Financials (7) and Industrials (2). Real Estate's is the worst, with 20 straight months of negative NERIs, followed by Telecom (12). Here are the sectors' April NERIs compared with their March readings, ranked in descending order: Financials (7.4% in April, up from 6.6% in March), Tech (6.3, 2.8), Industrials (2.4, 0.1), Utilities (-1.0, 0.1 [16-month high]), Energy (-4.0, 7.4), Health Care (-4.1, -10.2), Real Estate (-5.8, -9.8), Materials (-6.4, -10.1), Consumer Discretionary (-8.2, -11.2), Consumer Staples (-8.7, -15.5), and Telecom (-34.0 [lowest since December 2008], -28.2).

**S&P 500 Earnings, Revenues & Valuation** ([link](#)): S&P 500 consensus forward revenues and earnings rose slightly last week to fresh record highs. The forward profit margin forecast was steady at a 16-month high of 10.8%, nearing the record high of 10.9% in September 2015 and up from its 24-month low of 10.4% in late March. Forward revenue growth for the S&P 500 was steady w/w at 5.5%. That compares to 5.8% in late January, which was the highest since May 2012 and up from a seven-month low of 2.7% in late February 2016. Forward earnings growth improved to a 12-week high of 11.0% from 10.9%, but is down from 11.7% in early January; that was the highest since October 2011 and compares to an 11-month low of 4.8% in February 2016. Valuation fell to 17.4 from 17.5, which compares to a 13-year high of 18.0 in early March and a 15-month low of 14.9 in January 2016. S&P 500 forward revenues and forward earnings are enjoying a tailwind now due to easy y/y comparisons for Energy and improving prospects for Financials, but currency translation is likely to be a slight drag. Looking at last week's results ex-Energy, the forward revenue and earnings growth rates are lower at 4.3% and 8.3%, respectively. However, Energy's contribution is beginning to wane. The ex-Energy forward profit margin improves to 11.4%, which is close to its record high of 11.5% in August 2007.

**S&P 500 Sectors Earnings, Revenues & Valuation** ([link](#)): Consensus forward revenue forecasts rose last week for 7/11 sectors, and forward earnings rose for 8/11. Consumer Discretionary, Energy, and Telecom saw both measures decline w/w. 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 are at or near 15-month highs. Forward P/S and P/E ratios both fell w/w for 5/11 sectors. Financials' P/E is up from 12.0 before the election to 13.2, but that's down from a post-election high of 14.6 in early March. Health Care's P/E of 15.5 and P/S of 1.62 are down from early March's 19-month highs of 16.1 and 1.70, respectively, and remain well below their early 2015 highs of 17.9 and 1.88, respectively. With Energy's forward revenues and earnings improving, its valuation is beginning to come back to Earth; its P/S ratio of 1.31 compares to a record high of 1.56 in May 2016, and its P/E of 26.7 is down from a record high of 57.5 then. Higher y/y margins occurred for only 7/11 sectors in 2016, and margins are expected to improve in 2017 for all but Real Estate, Telecom, and Utilities. However, Real Estate's forecasted margin should improve as the year progresses when gains on property sales are included in the forecasts. Here's how the 11 sectors rank based on their current 2017 forecasts: Information Technology (to 19.8% in 2017 from 19.2% in 2016), Real Estate (16.2, 25.2), Financials (15.7, 14.4), Telecom (11.2, 11.2), Utilities (10.9, 11.4), S&P 500 (10.5, 10.1), Health Care (10.4, 10.3), Materials (10.1, 9.4), Industrials (9.0, 8.8), Consumer Discretionary (7.3, 7.2), Consumer Staples (6.8, 6.5), and Energy (4.3, 1.1).

## US ECONOMIC INDICATORS

**Consumer Confidence** ([link](#)): Consumer confidence retreated this month, but retained most of the post-election surge. The Consumer Confidence Index slipped to 120.3 this month after soaring from 100.8 in October to 124.9 in March—which was the highest since December 2000. Both the present and expectations components declined, but remained near March's cyclical highs. The former fell to 140.6 after climbing 20.8ppts from October through March to 143.9 (the highest since August 2001),

while the latter sank to 106.7 after a 26.3ppts rise over the prior five months to 112.3 (the highest since September 2000). Consumers viewed both the current and short-term outlook on the labor market only slightly less favorably than in March. This month, the percentage of respondents saying jobs are plentiful fell to 30.8% from 31.8% in March, which was the highest since August 2001, while those saying jobs are hard to get ticked up to 19.1% from 19.0%, which was the lowest since July 2007. Consumers' six-month job outlook also slipped a bit, with those expecting more jobs (23.0% from 23.8%) continuing to exceed those expecting fewer jobs (13.1 from 12.7); April's spread was 9.1ppts, only slightly below March's 11.1ppts, which was the most favorable since January 1984!

**Existing Home Sales** ([link](#)): Existing home sales—tabulated when a purchase contract closes—climbed to their highest pace in over 10 years in March. According to NAR's chief economist, "The early returns so far this spring buying season look very promising as a rising number of households dipped their toes into the market and were successfully able to close on a home last month," he said. "Although finding available properties to buy continues to be a strenuous task for many buyers, there was enough of a monthly increase in listings in March for sales to muster a strong gain. Sales will go up as long as inventory does." Existing home sales more than reversed February's decline, jumping 4.4% to 5.71 million units (saar)—the most since February 2007. Single-family sales rebounded 4.3% to a ten-year high of 5.08mu (saar), while multi-family sales rose 5.0% to 630,000 units, remaining in a volatile flat trend. Sales rose in every region, by 10.1%, 9.2%, 3.4%, and 1.6% in the Northeast, Midwest, South, and West, respectively. The number of existing single-family homes on the market rose for the third month to 1.61mu, from 1.45mu in December, which was the lowest supply since December 1994. Unsold inventory was a very low 3.8 months' supply.

**New Home Sales** ([link](#)): New home sales in March were a surprise on the upside, climbing to their best level since last July, while April builder optimism held firm near 11-year highs. New home sales advanced for the third month from 551,000 units at the end of last year to 621,000 units (saar) last month—the second-highest reading since early 2008, behind last July's 622,000 units. (These sales are tabulated when contracts are signed, making it a timelier barometer of the residential market than existing home sales.) Regionally, sales were led by double-digit gains in both the Northeast (25.8%) and West (16.7). In March, there were 268,000 new single-family homes on the market, the highest level since July 2009. The months' supply of homes dipped to 5.2 from 5.6 at the end of last year. A 6.0-month supply is viewed as a healthy balance between supply and demand. April's survey of the National Association of Homebuilders (NAHB) showed builders' optimism edged down to 68 from March's cyclical high of 71, which was the highest since June 2005. "The fact that the HMI measure of current sales conditions has been over 70 for five consecutive months shows that there is continued demand for new construction," said NAHB Chief Economist Robert Dietz. "However, builders are facing several challenges, such as hefty regulatory costs and ongoing increases in building material prices."

**Regional M-PMIs** ([link](#)): Four Fed districts have now reported on manufacturing activity for April—New York, Philadelphia, Dallas, and Richmond—and show growth in the sector slowed for the second month from February's fast pace. We average the composite, orders, and employment measures as data become available. The composite index slipped to 16.0 this month from 22.0 last month and 25.9 in February—which was the highest reading since summer 2004. The Philadelphia (to 22.0 from 43.3), New York (5.2 from 18.7), and Dallas (16.8 from 24.5) measures all slowed the past two months after improving dramatically in February, though the latter's was little changed in April. Richmond's index fell for the first time in eight months, ticking down to 20 from 22 in March, which was the highest reading since April 2010. The new orders gauge slipped to 18.0 this month from 23.9 last month, which was the best reading since March 2006. New orders in both the Philadelphia (27.4) and New York (7.0) regions grew at the slowest pace in four months, though Philly's held near March's cyclical high. Meanwhile, Dallas' orders (11.5 from 9.5) expanded at a slightly faster pace than March; Richmond's was unchanged at March's seven-year high of 26. The employment measure eased a bit, slipping to 11.8

after improving the prior three months from -3.3 to 13.7, which was the best hiring pace since April 2012. Manufacturers in the Philadelphia (19.9) and New York (13.9) regions are showing a pickup in hiring, adding to payrolls at the fastest pace since May 2011 and March 2015, respectively. Dallas' gauge (8.5) shows a steady pace of hiring, holding around February's 14-month high of 9.6. Meanwhile, hiring in Richmond slowed dramatically, with its index falling from 20 to 5 this month.

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