



"Invest in things that have never happened before, hedge for regression to the mean, and plan for the unimaginable." - **John Burbank**

THURSDAY, MARCH 22, 2018

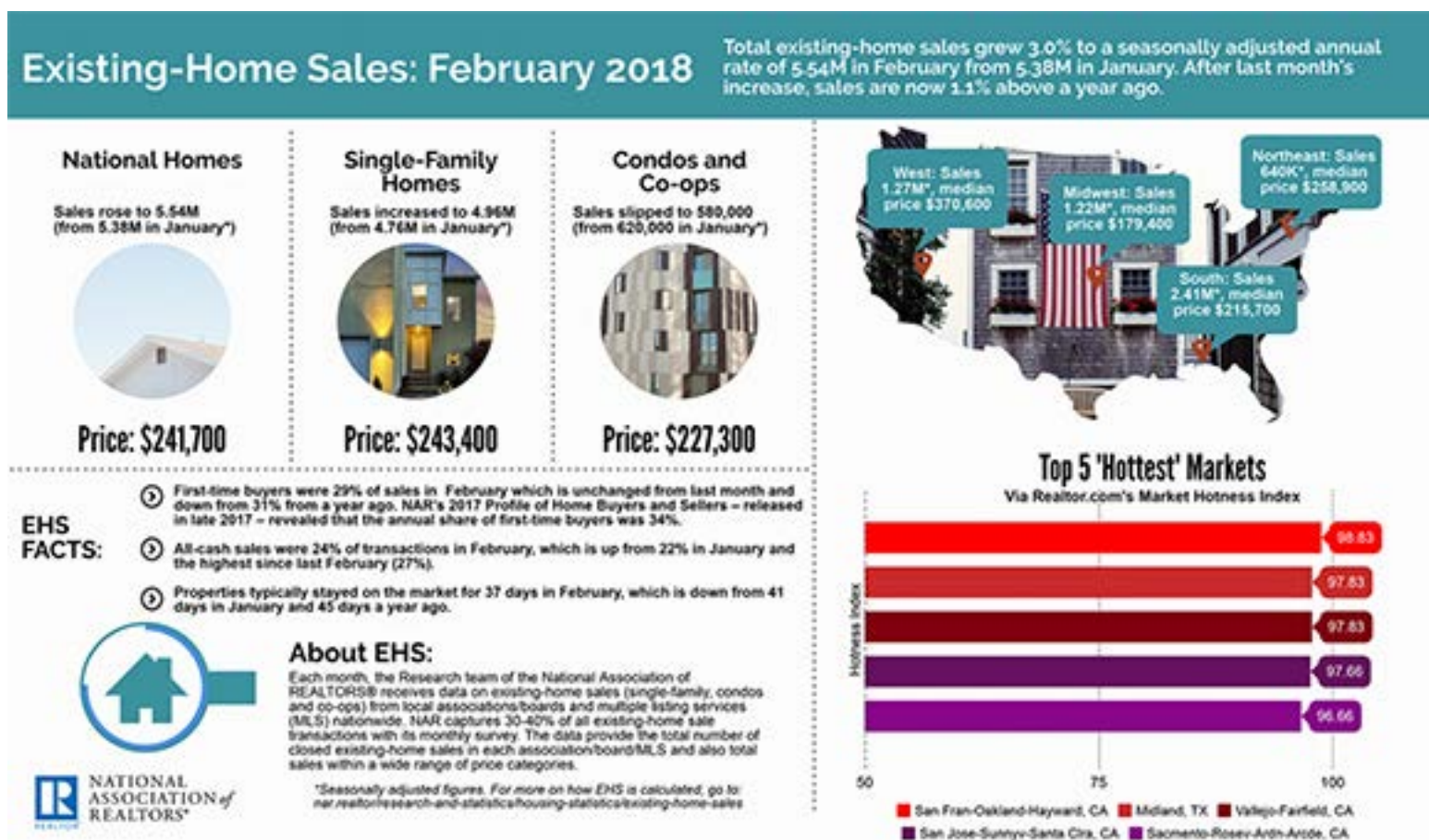
Morning Summary: Traders will be keeping a very close eye on "tariff talk" today as President Trump is supposedly announcing more taxes, or tariffs, on Chinese goods coming into the United States. From what I can gather the move is not only to trim the massive trade deficit with the Chinese but also an attempt at curbing theft of U.S. technology and intellectual property. There was no indication of the size and or scope of tariffs, but I've heard numbers ranging from between \$30 and \$100 billion, with emphasis on targeting China's high tech sector, apparel and possible restrictions on Chinese investments in the U.S. As expected, China has threaten to retaliate by hitting U.S. agricultural exports and possible big U.S. tech. Apple stock was under a bit of pressure as some insiders fear that big tech stocks could take a hit if Trump's language becomes too harsh. There are headlines already circulating that China could easily target Apple if trade retaliations become in vogue. The Federal Reserve announced yesterday they were pushing interest rates to their highest level in a decade amid a stronger U.S. economy. The move was the Central Bank's first major decision under new Chairman Jerome Powell, but had been highly advertised, so no major market movement was felt. The Fed also significantly boosted its forecast for U.S. economic growth this year and next, expecting +2.7% growth this year and +2.4% in 2019. I thought it was interesting to hear Powell emphasize that committee members' expectations (as shown in the "Dot Plot") are simply their own best estimates. Those can and will change with time and new information. I personally think the Fed hikes rates 4 times in 2018, based on faster economic growth and lower unemployment. I continue to hear talk that tax cuts and the increase in federal government spending could cause the U.S. economy to overheat. The Fed expects unemployment to fall to just 3.8% in 2018 and down to 3.6% in 2019, the lowest level since 1969. In other words, strong employment and more money in consumers hands means "inflation" could become a more real and dangerous threat to growth moving forward. The Fed Funds Futures now give the following odds: about 80% probability that the Fed increases interest rates by another quarter point in June; about 50% odds of another rate hike then in September; the big question then becomes the overall economy and the December meeting.

Why I Still Own Bitcoin: *Twitter CEO Jack Dorsey told the Times of London, "The world ultimately will have a single currency, the Internet will have a single currency. I personally believe that it will be Bitcoin". He said it will happen "probably over ten years, but it could go faster". Read more at [Fortune](#)*

Oil Price Pushing Higher: *Oil prices extended their recent rally and are now at multi-week highs after U.S. crude inventories registered an unexpected decline. The U.S. Energy Information Administration (EIA) showed U.S. crude stockpiles dropped -2.6 million barrels last week, while analysts were expecting a +2.5 million barrel build. The*

recent rally puts oil prices less than \$2 from its three-year highs set back in January. Despite new record in U.S. production, there's still a ton of political unrest and uncertainty brewing in the Middle East. I think prices this summer could continue to push higher.

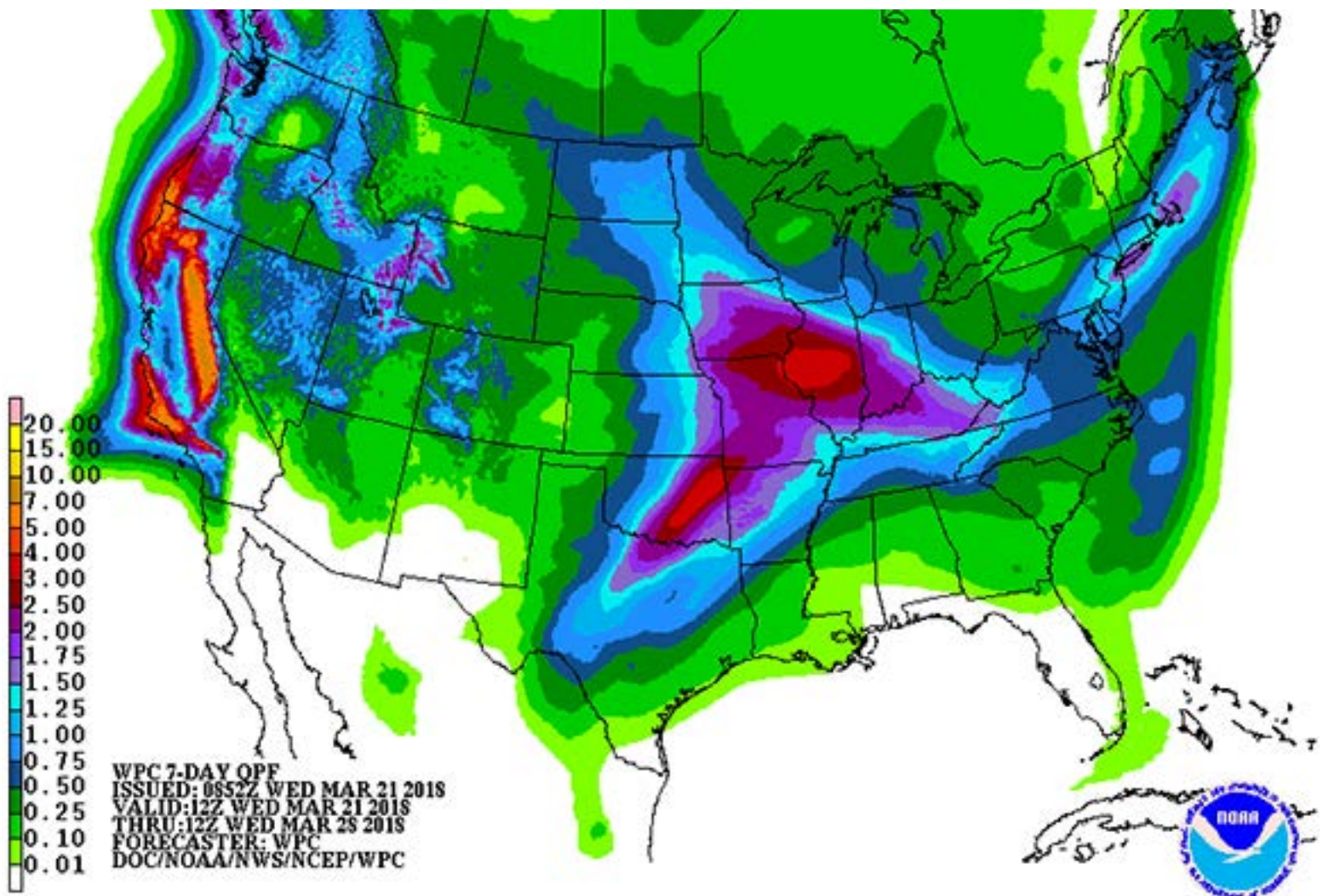
U.S. Existing Home Sales Jump Higher: Boosted by hefty gains in the South and West regions, U.S. home sells surged in February, but a chronic shortage of houses on the market remains an obstacle heading into the spring selling season. The National Association of Realtors said on Wednesday that existing home sales jumped 3.0 percent to a seasonally adjusted annual rate of 5.54 million units last month. That ended two straight months of declines. January's sales pace was unrevised at 5.38 million units. Economists polled by Reuters had forecast existing home sales rising 0.5 percent to a rate of 5.40 million units in February. Sales soared 6.6 percent in the South, where the bulk of sales activity occurs and vaulted 11.4 percent in the West. They tumbled 12.3 percent in the Northeast and fell 2.4 percent in the Midwest. Existing home sales, which account for about 90 percent of U.S. home sales, increased 1.1 percent on a year-on-year basis in February. Read more [HERE](#).



Weather in the Corn Belt saw snow occur west of the Mississippi River, while precipitation — mostly cold rain — fell yesterday in the mid Ohio Valley. Chilly, breezy weather prevails throughout the Midwest. Episodes of rain, some mixed snow and periods of cooler weather will likely delay early fieldwork during the next seven to 10 days. On the Plains, cool, dry weather prevails, except for snow across northern areas. In the southern Plains, a more active southern pattern suggests a chance for needed rains to occur in north central Texas

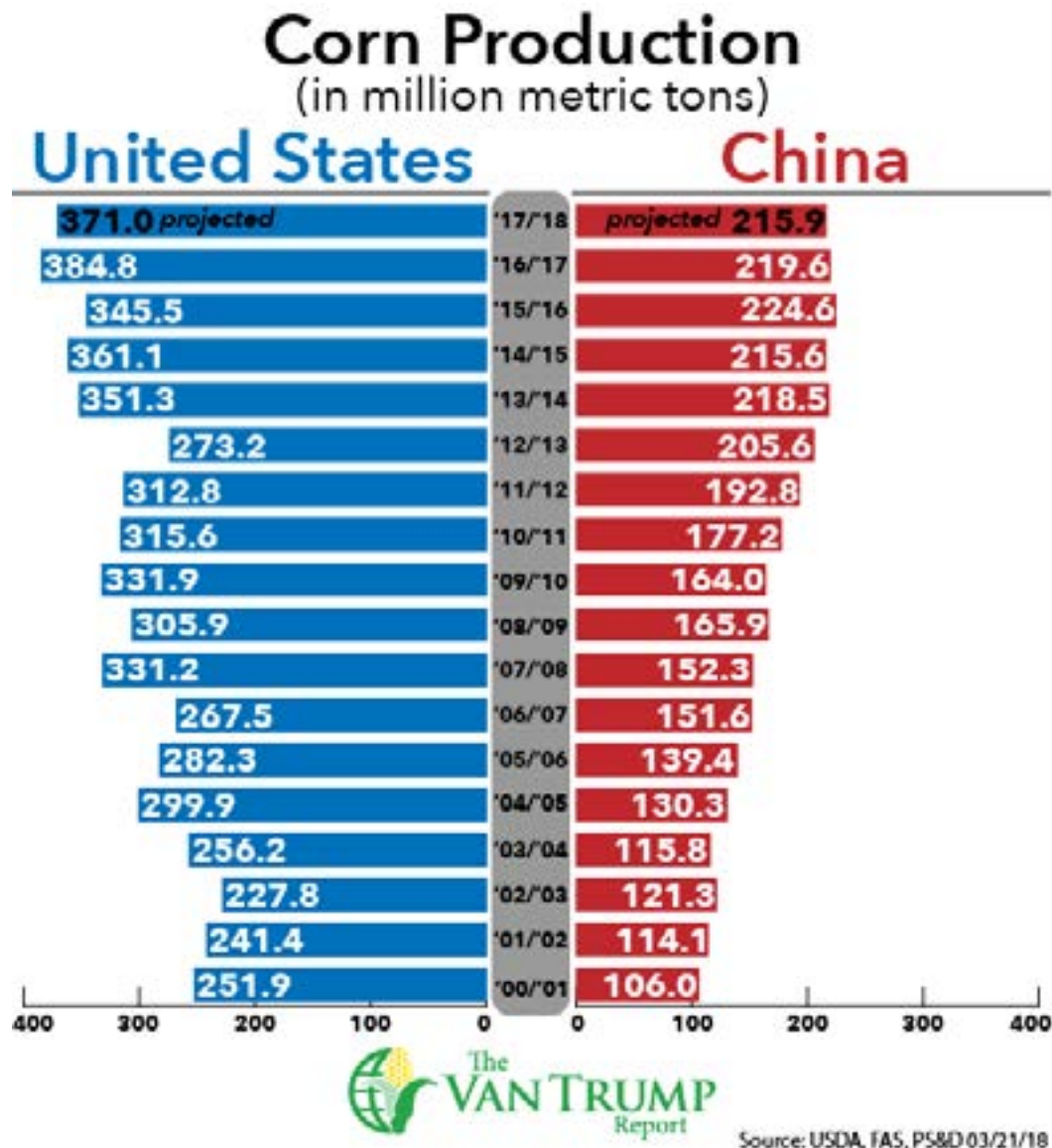
and southwest Oklahoma early next week. This is somewhat uncertain forecast due to the current dry pattern in the area, but model agreement leads to increased confidence in this possibly occurring. However, it is unlikely that the driest areas of the region, the Texas and Oklahoma Panhandle and southwest Kansas will get much out of it. In the South, drier and warmer weather at the end of this week and into the weekend may improve conditions for spring fieldwork. However, rain is expected to return early next week and could be very heavy. Dry weather is expected to prevail through week's end in the south-central U.S., while a late-week storm will produce rain and snow from the northern Plains into the Ohio Valley.

Possible Rain Chance for Southern Plains: *An active weather pattern has been confirmed on recent weather model runs suggesting a chance for greatly needed rain to occur in northern Texas southwest Oklahoma next week. While this forecast is a bit uncertain, weather models are in agreement which is leading to increased confidence in this forecast. Again, it's not likely that the driest region of Texas, Oklahoma and Kansas will get much rain, but this system is something we need to keep our eye on.*

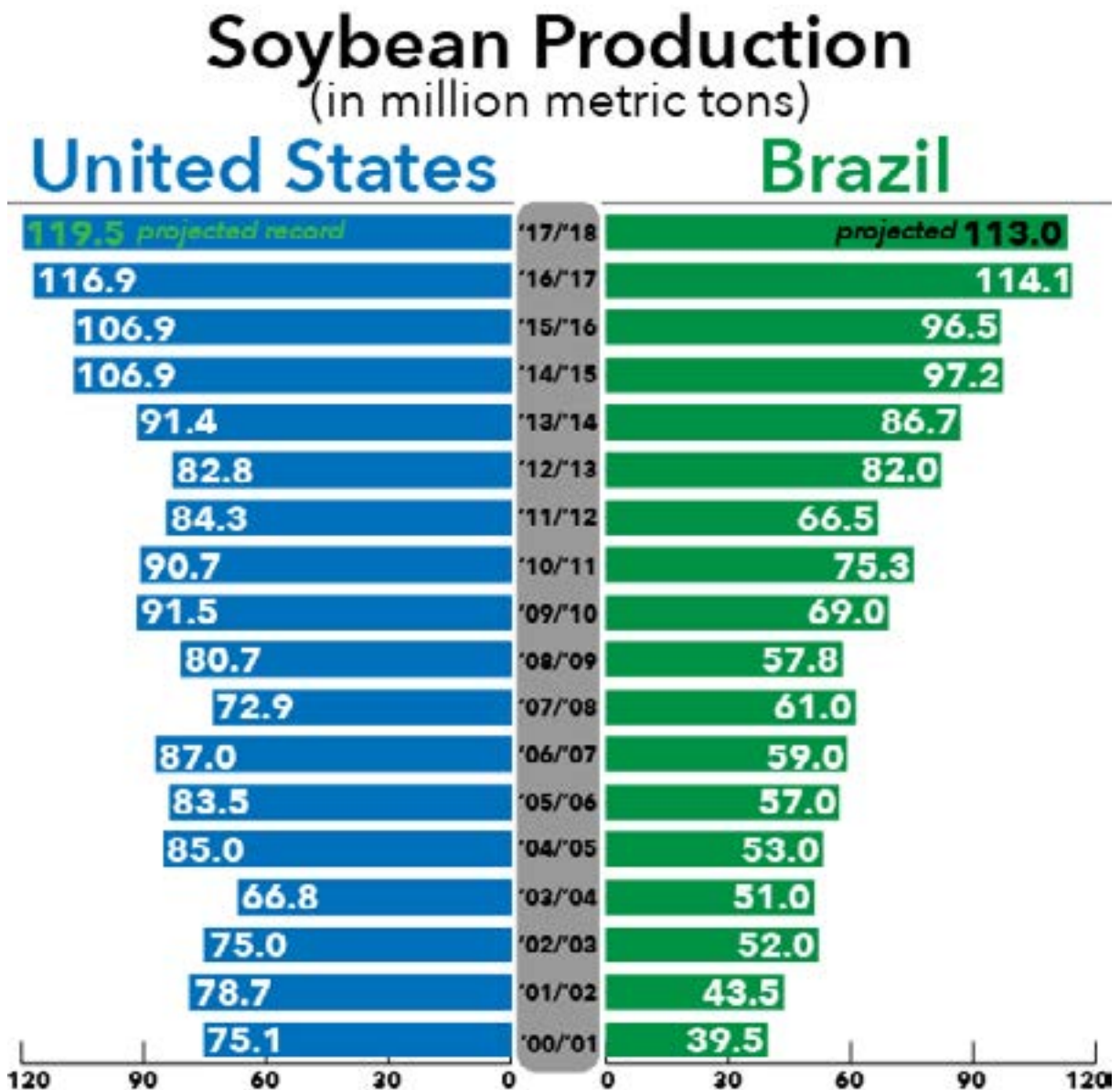


Corn bulls continue to point to uncertainty in South America. Second-crop corn planting in Brazil has been widely delayed. The question moving forward is if Brazilian rains can deliver enough late-moisture to keep the second-crop acres healthy? I will continue to closely monitor weather forecast for the weeks ahead, especially in areas to the south. As

for Argentina, I continue to hear talk of complications and struggling yield. Most sources inside the trade continue to forecast the Argentine crop at between 30 MMTs and 35 MMTs. The USDAs current Argentine estimate is 36 MMTs, which is down from 39 MMTs in February, and down from 42 MMTs in January. In other words, most suspect to see the Argentina number trimmed again by the USDA. Here at home, the trade is starting to gear up for a couple of heavily anticipated reports scheduled for release at the end of the month. Not only will the trade be digesting Quarterly Stocks, but also the 2018 Prospective Plantings Report. I keep hearing U.S. planted corn acres will probably end up between 88.5 and 89.5 million, slightly lower than the USDA's early guess. It obviously is not the acres in Iowa, Illinois and Nebraska that will be in major question, as producers in these states tend to stick with traditional rotation. It's more the acres in the Dakota's, Minnesota, Wisconsin and those corn acres in the East and South that will be in big question. Producers to the North can often be handicapped as they are forced on the front-end to wait on warmer soil temps, and handcuffed on the back-end by early frost dates. Down South and in parts of the East, many producers can at times be dealing with heavy rains and flooding. Again, weather extremes and anomalies that can shift U.S. acres in a hurry. In fact, I'm thinking producers in the Delta are already dealing with some concerns. Bottom-line, weather in Argentina has already created complications and provided a boost. The trade is now switching its attention to weather forecasts that may create complications for second-crop corn in Brazil or forecast that could complicate U.S. planting. As both a producer and a spec, I'm sticking with a bullish tilt.



Soybean bears continue to say Argentine crop losses are already priced into the market. Everyone in the trade realizes lack of rainfall has created a substantial yield drag from Argentina. At the beginning of the year, the trade was thinking Argentina would produce a crop of around 55-57 MMTs, now most suspect the crop is closer to 45 MMTs or lower. The recent rains in Argentina have currently subsided and forecasts again remain quite dry overall. Bulls are thinking the continued dryness and reduction in harvested acres will pull the crop down to sub-40 MMTs and create more opportunity for U.S. exports. In fact, I've started hearing more talk of a 38-39 MMT crop. The bulls are also pointing to headlines out of China, where a report issued by the U.S. Department of Agriculture's attache pushed the Chinese imports in the 2018/19 marketing year to 100 million tons. Meaning heavy import demand for soybeans might make it much tougher for China to retaliate against U.S. trade tariffs. Rains in Brazil have been plentiful, but I don't think they will be enough to deal with the harvest in a meaningful capacity. From a technical perspective, it feels like the soybean market is now content trading in a much narrower sideways channel, at least until it has a better understanding of the Argentine crop and if U.S. exporters are going to gain much market share. As a producer, I continue to like the thought of reducing more price risk if we catch another run to the upside. As a spec, I remain on the sideline.



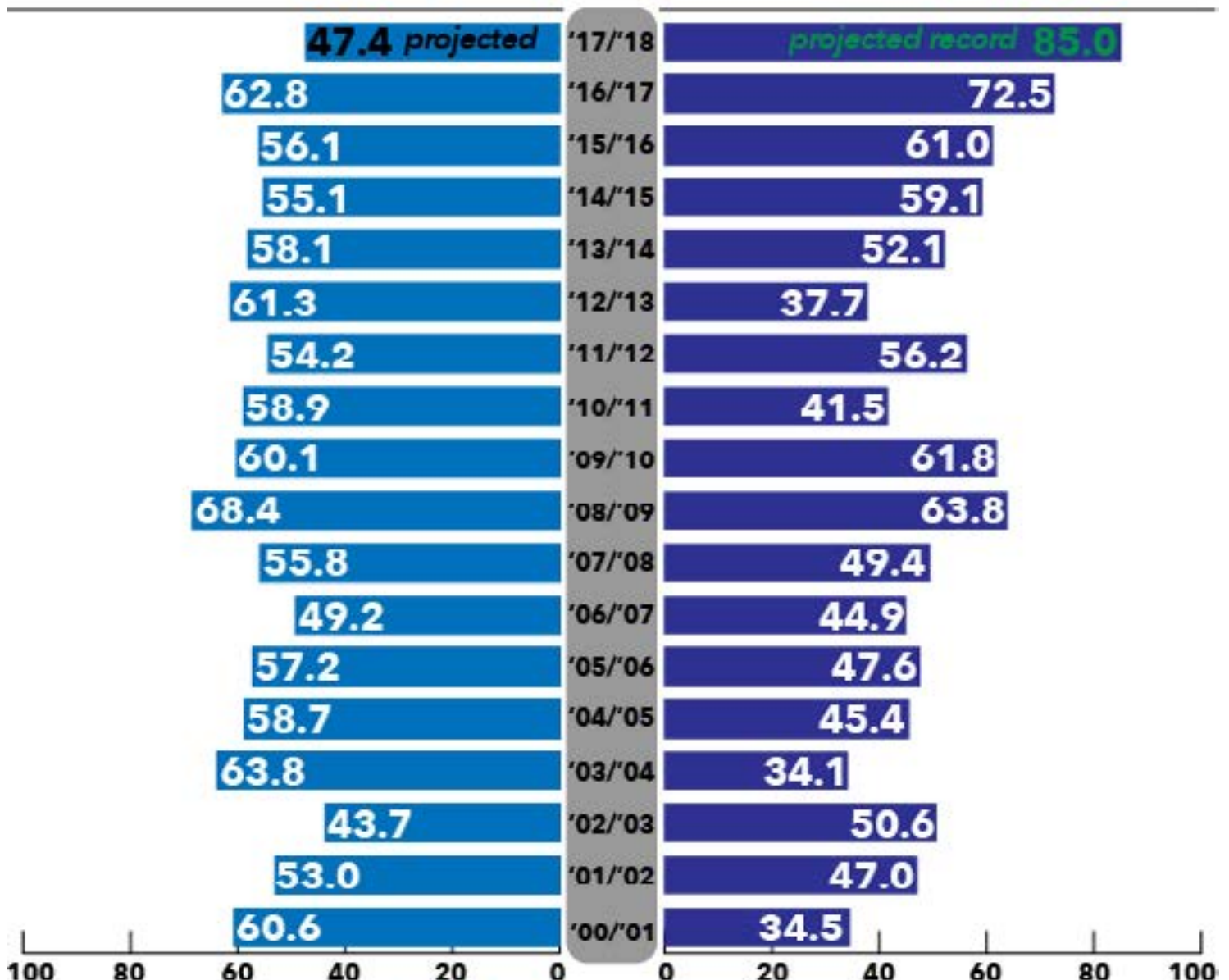
Wheat bulls are talking about Russia's crop and the fact it could ultimately be down -10 to -12 MMTs compared to the previous crop. Bears are saying the production hiccups probably aren't that extreme, even if, exports from the Russian region more than likely remain the same and continue to create heavy headwinds for U.S. exporters. Here at home, rains across the U.S. Plains have dried up. The forecasts moving forward don't show much until late-weekend or perhaps early next week. I have to imagine if more wide spread rains hit the ground the trade will again want to take a few steps backwards. As a producer, I made some great sales on the rally and now remain patient. As a spec, I have no current position.

Wheat Production

(in million metric tons)

United States

Russia





> U.S. Ethanol Production Remains Robust: *Let me start by saying, ethanol production has become a vital market for U.S. agriculture and supports +360,000 jobs in rural communities. So we need Washington to be on board. Ethanol production last week was again robust, increasing week-on-week production to over +1.04 million barrels per day. Meaning we chewed through +110 million bushels of corn during the week ending March 16th. Ethanol stocks dropped by a half million barrels to 23.7 million. It feels like the USDA may once again have to bump their current 5.575 billion bushel corn used for ethanol estimate higher.*

> Chinese Oil Refiners Prepare For Ethanol Blending: *Several Chinese independent oil refiners, commonly known as 'teapots', are getting ready to start buying ethanol and blend it with their fuel to meet China's regulation that says by 2020, gasoline in the country should contain 10 percent ethanol. The Chinese government announced in September last year a new nationwide ethanol mandate to expand the mandatory use of E10 fuel—gasoline containing 10 percent ethanol—from 11 trial provinces to the whole of China by 2020. Ethanol consumption in China would at least quadruple in the next three years due to this nationwide mandate, according to the Agricultural Policy Review of Iowa State University. China is the world's third-largest ethanol producer and consumer after the United States and Brazil. (Source: OilPrice.com)*

> Saudi Corn Demand Increasing: *Saudi Arabia's corn consumption is estimated to climb 12% to 4.45 million mt during 2018/19, taking a larger share of the countries feed demand as domestic barley production and imports fall, according to USDA. Corn is predominately used as feed stock in Saudi Arabia which has seen a "continued expansion in animal feed processing facilities and domestic poultry farms," which led to the increase in "demand for feed corn over the past six years," the USDA said. (Source: agriCensus)*

> Canola Planted Acres Top Wheat For First Time Ever In Canada: *Area seeded to canola in Canada exceeded area seeded to wheat for the first time in 2017-18, as strong canola returns continued to extend crop rotation decisions and draw area from wheat and other grains into canola, according to a March 20 Global Agricultural Information Network report from the U.S. Department of Agriculture. Canola production 2017-18 increased 9% to 21.3 million tonnes, the report said, noting that the increase primarily was due to increased area seeded as well as improved yields in Manitoba. (Source: World-Grain.com)*

> Are The Chinese Trying To Curb U.S. Soybean Imports: *A story that ran in a Chinese newspaper affiliated with China's ruling Communist Party has urged "strong restrictive measures" against alleged U.S. soybean dumping. They are saying the imported U.S. soybean have taken over their domestic market because they are unfairly subsidized. No formal anti-dumping investigation has been launched, although several sources have reported that President Xi has been studying the impact of restricting soybean imports in*

retaliation for U.S. tariffs. Obviously this type of rhetoric makes the bulls nervous. Keep in mind this comes at the same time others in China are forecasting imports of soybeans will hit a record 100m tonnes next season. Hard for me to imagine they will be able to kick U.S. soybeans to the curb. (Source: Bloomberg)

> India Drops Plan to Raise Wheat Import Tax: India has dropped a plan to double a wheat import tax to 40 percent, two government sources said, in a sign it needs to make up for a shortfall in domestic production for the third year in a row. Traders said the decision to avoid hiking the import tax implied that the crop could be lower than forecast. (Source: Reuters)

> Wheat Researchers and Farmers Take To Capitol Hill: More than 20 researchers and farmers from across the country are visiting Capitol Hill to discuss with members of Congress and their staff the importance of federal funding of research to the wheat industry. The National Wheat Improvement Committee is comprised of 24 members representing regional public and private sector researchers, growers and the food processing industry. "Growers are dealing more and more with extreme weather conditions, disease and pest challenges, which can only be addressed through public and private research efforts," said Chandler Goule. (Source: High Plains Journal)

> Former Uber CEO Travis Kalanick Investing In New Business: The controversial Silicon Valley entrepreneur is joining a startup called City Storage Systems that focuses on repurposing distressed real estate assets like parking lots or abandoned strip malls and turning them into spaces suited for new industries, such as food delivery or online retail. "There are over \$10 trillion in these real estate assets that will need to be repurposed for the digital era in the coming years," he wrote. Kalanick will be the new CEO and is investing \$150 million.

> Google Is Buying A Company Called Lytro For About \$40 Million: Multiple sources say that Google is acquiring Lytro, the imaging startup that began as a ground-breaking camera company for consumers before pivoting to use its depth-data, light-field technology in VR. The sale would be far from a big win for Lytro and its backers. The startup has raised just over \$200 million in funding and was valued at around \$360 million after its last round in 2017, according to data from PitchBook. Its long list of investors include Andreessen Horowitz, Foxconn, GSV, Greylock, NEA, Qualcomm Ventures and many more. Rick Osterloh, SVP of hardware at Google, sits on Lytro's board. I suspect a pricetag of \$40 million is not quite the exit that was envisioned for the company when it first launched its camera concept. Sounds like a great bargain for Google. (Source: [TechCrunch](#))

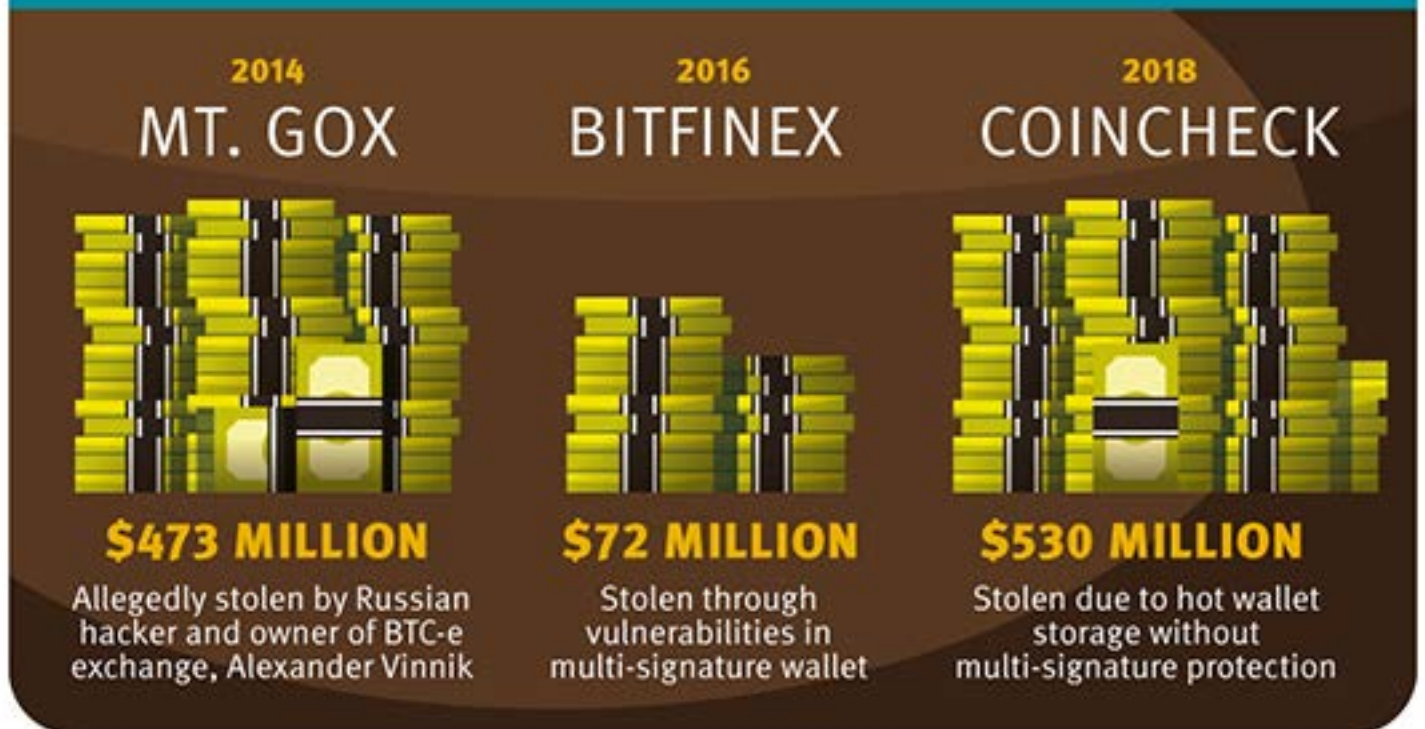
> Gun Videos on YouTube Being Pulled: Facing growing pressure to limit the promotion of firearms, YouTube is banning videos relating to the sale or assembly of guns and certain accessories. Instructions on upgrading firearms to automatic or simulated automatic firing will also be outlawed. (Source: SeekingAlpha)

> Keeping Your Crypto Safe: Part of the appeal of cryptocurrency is that it exists "outside" of the system. Using complex cryptography and decentralized ledgers, a blockchain can operate independently from the world's most powerful countries, corporations, and banking institutions. While this detachment from authority is extremely powerful, existing almost exclusively in the digital realm does have its drawbacks. See full infographic and read more [HERE](#).

WAYS CRYPTOCURRENCIES WERE STOLEN IN 2017



BIG HACKS OF MAJOR EXCHANGES



Central Minnesota - We have gotten more snow today totaling maybe 1" to 3" but I must say that many fields are bare and have been for most of the winter. We have been extremely cold this winter and I would think that the frost is pretty deep in the ground. We were very wet last fall and battled the mud during harvest causing some compaction issues, which hopefully will be somewhat removed as the frost comes out of the ground.

We watch the calendar and the weather to get the planters rolling but like to be going by mid to late April. We have really heavy black soil and it doesn't hurt to wait a few days to make sure things are right. We had a very good crop last year with the whole farm corn yield at 215bpa and the beans making 60bpa. We will stay with our normal rotation that will be a little more corn just because the way certain fields fall. It will be interesting to see if bean acres get all the way up between 91 and 92 million acres.

Central Mississippi - We are planning on hitting the fields tomorrow but saw a lot of guys going at it today. We run some corn, bean and rice down here and will get the corn in the ground first as the conditions are good heading into planting. From what I'm hearing there will definitely be more bean acres planted in this area as guys like how they will enhance the bottom line better than corn. We are seeing rents come down by 10-20% over the last year but the sale prices are holding steady. There isn't a lot of land moving lately, but the acres that are moving seem to get snatched up by investors. Everyone down here is rooting on the lady dogs as they head to the NCAA Sweet 16 in KC this weekend.

Northeast Illinois - We are really wet now from some good rains recently. We generally start planting in mid April when the opportunity allows. Last year the corn was good and the beans were weak. We have it all marketed like we do every year, as we do not have storage. We will deliver all crops to two elevators in the area. Our rotation is 50/50 and we are hearing about guys switching to more bean acres this year. We haven't added any new tech or new acres, simply trying to make it through another single margin year. Rents are staying in the \$220-\$250 area and acres that are selling go for around \$8,000-\$8,500.



Why Cockroaches Are Indestructible: They can regrow lost legs. They make their own antibiotics. And they have an almost supernatural sense of smell. Now Chinese researchers have sequenced the genome of the American cockroach and discovered why they are so hard to kill. When under stress, females can lay unfertilized eggs that will hatch in a process called parthenogenesis or "virgin" reproduction. The insects have developed sophisticated ways to deal with their dirty environments. Their cells respond to infection with bacteria and fungi by secreting antimicrobial peptides that go into the hemolymph — the juice that squirts out when you stomp on a roach. Plus they have natural detoxification mechanisms. It's all in the DNA... The team researchers have found genes that explain how this can happen. Read in a more detailed report titled, ["The genomic and functional landscapes of developmental plasticity in the American cockroach"](#).

McDonald's Cuts GHG's To Boost Sales And Reputation: Changes to beef production, will lower greenhouse gases from the company's supply chain by 31 percent, McDonald's said. Suppliers are experimenting with new paddock-style grazing practices, in which herds are rotated across sections of pasture. Along with that, the world's largest restaurant chain is adding LED lights and more efficient kitchen equipment, such as grills and

fryers, in a bid to reduce emissions at its restaurants and offices by 36 percent by the year 2030 from 2015 levels. Read more [HERE](#).

L'Oreal Using AR On Your Face: The app ModiFace scrutinizes your skin type, points out what's wrong with your face, (you've got wrinkles here, a spot there), and suggests cosmetics that might be able to repair or cover those flaws. If you just thought, "Hey, making people feel insecure is a great way to get people to buy cosmetics," you're not alone. French cosmetic giant L'Oreal recently purchased the Canadian company for an undisclosed sum. Learn more about L'Oreal's cool convenient process to check out how a new color will look on your face by clicking [HERE](#).

Ford's 1927 Attempt At Flying Cars...The "Flivver": Long before Elon Musk, there was Henry Ford. Never satisfied to revolutionize just one industry, he typically worked on several at once. Over the course of his career, beside mass-producing Model Ts, Ford dabbled in shipbuilding, home construction, rubber planting in Brazil, radio broadcasting, soybean farming, and, for a brief period in the 1920s and early 1930s, aviation. Read more [HERE](#).

Have You Ever Heard Of A "Root Bridge"? During monsoon season in northeast India, rainwater gushes through the emerald valleys and deep gorges of Meghalaya, the "abode of the clouds." Long before the availability of modern construction materials, the Khasi devised an ingenious way to traverse the turbulent waterways and link isolated villages: living root bridges, locally known as jing kieng jri. Read more more and see the cool pictures [HERE](#).

Why MLB Managers Think "Bullpenning" Is The Way To Go: Finding the best path to 27 outs is perhaps baseball's most evolving and enduring puzzle. Yet in many quarters, a permanent solution appears at hand. "Some form of bullpenning," Seattle Mariners general manager Jerry Dipoto says of the art of limiting starting pitchers' exposure while optimizing reliever use, "is the future of baseball. It's just a matter of the extremity." Read more [HERE](#).

Where Is The Most Fast Food Located: Close to a quarter of adults in American eat fast food *every single day*. The popularity of the drive-through window is a good indicator that we like to eat on the go, or at least that we are too busy to stop for a meal. It's not surprising then, that fast food restaurants are in every city in America. However, people and their tastes vary from place-to-place, and some fast food restaurants are more popular than others. So what are the most popular fast food joints? (Source: [priceonomics](#))

Fast Food Restaurants Per Capita for All States

Fast Food Restaurants Per 10K Residents

| Rank | State | Restaurants Per Capita | |
|------|----------------------|------------------------|--|
| 1 | Alabama | 6.3 | |
| 2 | Nebraska | 5.4 | |
| 3 | West Virginia | 5.3 | |
| 4 | Oklahoma | 5.3 | |
| 5 | Tennessee | 5.2 | |
| 6 | Indiana | 5.0 | |
| 7 | District of Columbia | 5.0 | |
| 8 | Georgia | 4.9 | |
| 9 | Missouri | 4.9 | |
| 10 | South Carolina | 4.9 | |
| 11 | Kentucky | 4.8 | |
| 12 | Nevada | 4.7 | |
| 13 | Ohio | 4.7 | |
| 14 | Arkansas | 4.7 | |
| 15 | Kansas | 4.7 | |
| 16 | Iowa | 4.7 | |
| 17 | Arizona | 4.6 | |
| 18 | North Carolina | 4.5 | |
| 19 | Illinois | 4.5 | |
| 20 | Louisiana | 4.4 | |
| 21 | Texas | 4.3 | |
| 22 | New Mexico | 4.3 | |
| 23 | South Dakota | 4.3 | |
| 24 | Virginia | 4.3 | |
| 25 | Delaware | 4.1 | |
| 26 | Wyoming | 4.1 | |

| Rank | State | Restaurants Per Capita | |
|------|---------------|------------------------|--|
| 27 | Colorado | 4.0 | |
| 28 | Michigan | 4.0 | |
| 29 | Wisconsin | 4.0 | |
| 30 | Maryland | 3.9 | |
| 31 | Idaho | 3.8 | |
| 32 | Montana | 3.8 | |
| 33 | Minnesota | 3.7 | |
| 34 | North Dakota | 3.6 | |
| 35 | Utah | 3.6 | |
| 36 | Oregon | 3.6 | |
| 37 | California | 3.6 | |
| 38 | Florida | 3.3 | |
| 39 | New Hampshire | 3.2 | |
| 40 | Pennsylvania | 3.2 | |
| 41 | Hawaii | 3.2 | |
| 42 | Washington | 3.1 | |
| 43 | Maine | 3.1 | |
| 44 | Massachusetts | 3.1 | |
| 45 | Alaska | 2.6 | |
| 46 | Rhode Island | 2.5 | |
| 47 | Connecticut | 2.4 | |
| 48 | Mississippi | 2.1 | |
| 49 | New York | 2.1 | |
| 50 | New Jersey | 2.0 | |
| 51 | Vermont | 1.9 | |

Data Source: Datafiniti





China To Import A Record 100 MMTs Of Soybeans

The latest out of the USDA attache in Beijing shows Chinese imports of soybeans will hit a record 100 million metric tons next season, as unrelenting consumption boosts growth in the giant nation. In its first forecast for 2018/19, the USDA forecast China's imports rising by 3 million metric ton from this season's 97 million metric tons, which is the current record high. There are numerous reasons for this growth -- expanding consumer preferences for meat, seafood, vegetable oils and soybeans for food processing is one of the key pieces. Add to this, the fact that China's crushing industry continues to be strong, with an estimated potential to crush 500,000 metric tons of the oilseed a day. China's low imports of DDGS is also a factor in boosting soybean imports in 2018. The bureau also pointed to China's soybean production falling back to 14.3 million metric tons this year as corn remains the better option for farmers. Plus, you have little public support from updated seed technology which causes yields to remain stagnant. Without the latest seed technology Chinese soybean farmers struggle to improve productivity. Of course, the bureau highlighted continued competition from rival origins, particularly Brazil. Interestingly, the bureau did not speak about the rising trade tensions between U.S. and China. We continue to hear that U.S. soybeans are a top target of tariffs the Chinese government could levy on U.S. exporters. (Source: USDA, Beijing Bureau)



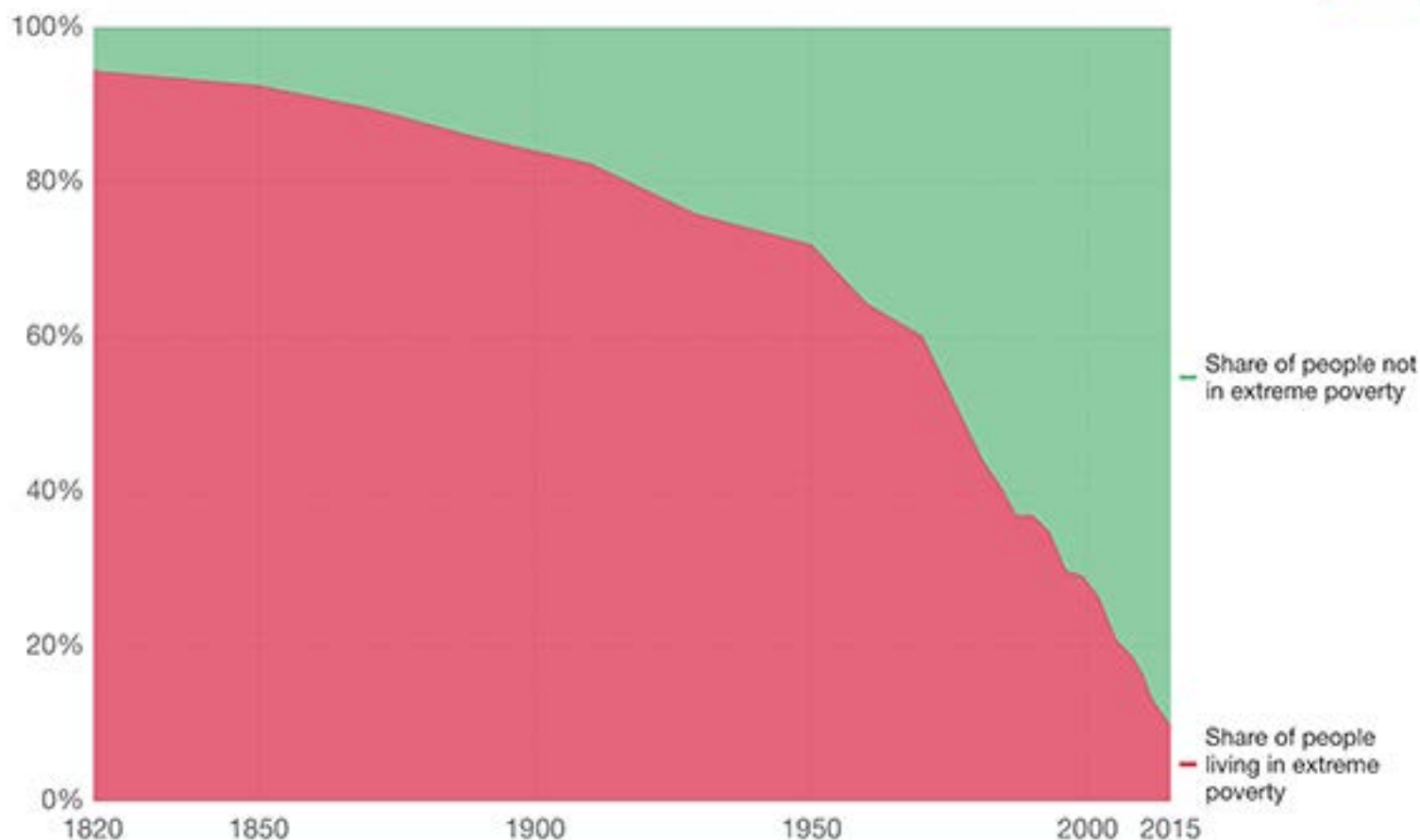
Why The World Is Getting Better

I received this interesting study that confirms the world is becoming a better place. I found some of the insight so intriguing that it's the only thing I shared today. With technology and media constantly bombarding our minds with the "bad", it's easy to get lost in all the noise. I thought passing along some of the highlights from the report and a link to the entire study might provide better perspective. The report by Max Roser is titled "The short history of global living conditions and why it matters that we know it". Interestingly, a recent survey asked "All things considered, do you think the world as a whole is getting better or worse, or neither getting better nor worse?". In Sweden just 10% thought things are getting better, in the US they were only 6%, and in Germany only 4%. Bottom-line, very few people think that the world is getting better and this makes moving forward much more difficult. What is the evidence that we need to consider when answering this question? The question is about how the world has changed and so we must take a historical perspective. And the question is about the world as a whole and the answer must therefore consider everybody. The answer must consider the history of global living conditions – a history of everyone. Unfortunately the media is overly obsessed with reporting single events and with things that go wrong and does not pay nearly enough attention to the slow developments that reshape our world. I hope this helps shed some light... I should also note, Bill Gates recently called Steven Pinker's new book, "Enlightenment Now," his "favorite book of all time." Which is extremely high acclaim considering Gates is known for his extensive reading. In case you haven't read any of Pinker other books, he's a professor of psychology at Harvard and the author of countless popular books that take a sweeping look at human history, and comes to the optimistic conclusion that we are living in the most peaceful era humans have ever enjoyed. Despite the doom and gloom we often see within the news, Pinker's findings are astounding. You can purchase the book directly on Amazon by clicking the graphic on the right side of the report.

Poverty - *To see where we are coming from we must go far back in time. 30 or even 50 years are not enough. When you only consider what the world looked during our life time it is easy to make the mistake of thinking of the world as relatively static – the rich, healthy and educated parts of the world here and the poor, uneducated, sick regions there – and to falsely conclude that it always was like that and that it always will be like that. Take a longer perspective and it becomes very clear that the world is not static at all. The countries that are rich today were very poor just very recently and were in fact worse off than the poor countries today. To avoid portraying the world in a static way – the North always much richer than the South – we have to start 200 years ago before the time when living conditions really changed dramatically. Researchers measure extreme poverty as living with less than 1.90\$ per day. The poverty measure is also corrected for different price levels in different countries and adjusted for price changes over time (inflation) – poverty is measured in so-called international dollar that accounts for these adjustments. The chart shows the estimates for the share of the world population living in extreme poverty. In 1820 only a tiny elite enjoyed higher standards of living, while the vast majority of people lived in conditions that we would call extreme poverty today. Since then the share of extremely poor people fell continuously. More and more world regions industrialized and thereby increased productivity which made it possible to lift more people out of poverty: In 1950 three-quarters of the world were living in extreme poverty; in 1981 it was still 44%. For 2015 – the last year for which we currently have data – research suggests that the share in extreme poverty has fallen below 10%. That is a huge achievement! In a world without economic growth, such an increase in the population would have resulted in less and less income*

for everyone; A 7-fold increase in the world population would have been enough to drive everyone into extreme poverty. Yet, the exact opposite happened. In a time of unprecedented population growth our world managed to give more prosperity to more people and to continuously lift more people out of poverty. The media could take this data and run a headline that reads, "The number of people in extreme poverty fell by -130,000 since yesterday" and they wouldn't have this headline once, but every single day since 1990, since, on average, there were -130,000 people fewer in extreme poverty every day.

World population living in extreme poverty

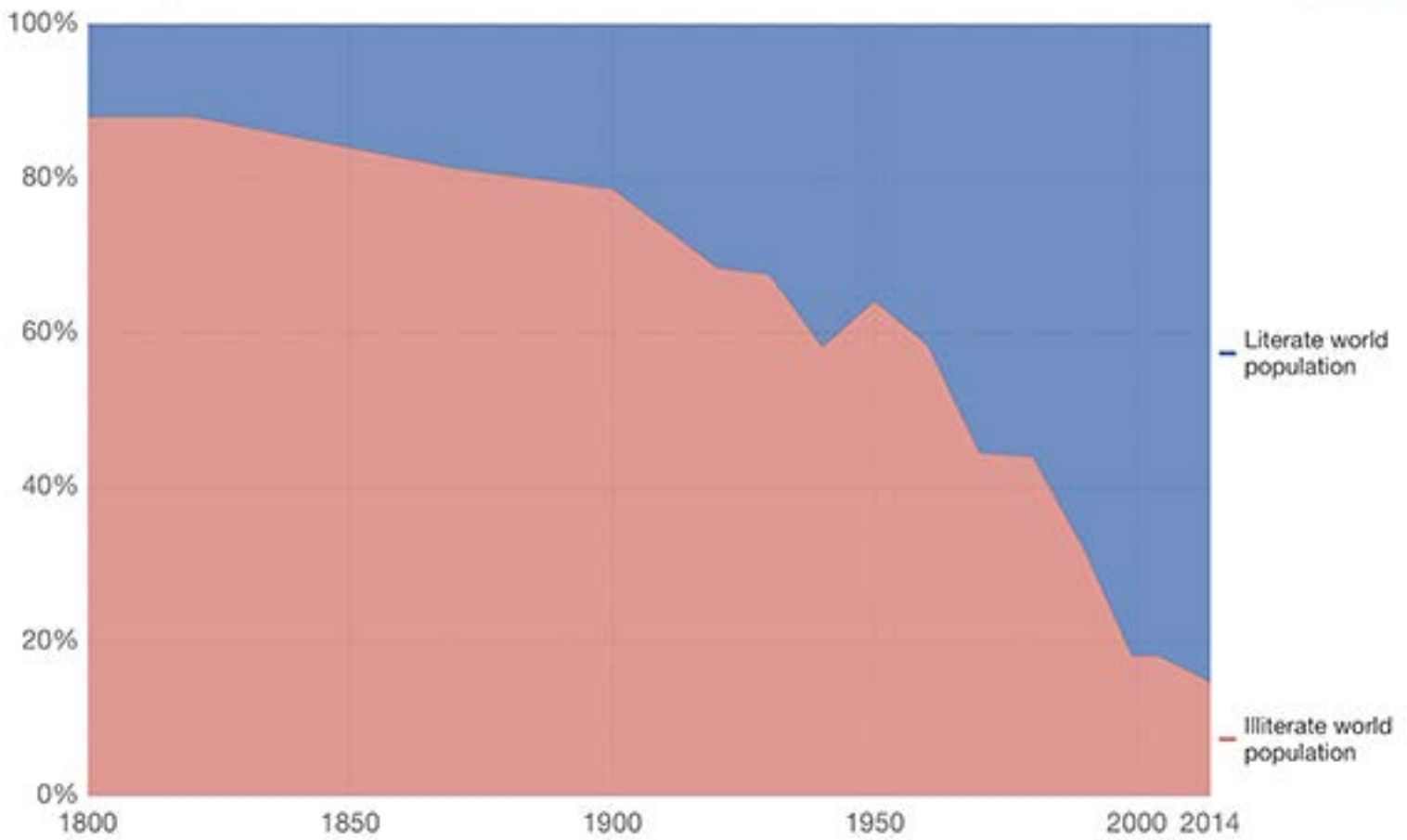


Source: World Poverty in absolute numbers - OWID based on World Bank (2016) and Bourguignon and Morrisson (2002)
 OurWorldinData.org/a-history-of-global-living-conditions-in-5-charts/ • CC BY-SA

Literacy - How did the education of the world population change over this period? The chart below shows the share of the world population that is literate over the last 2 centuries. In the past only a tiny elite was able to read and write. Today's education – including in today's richest countries – is again a very recent achievement. It was in the last two centuries that literacy became the norm for the entire population. In 1820 only every 10th person older than 15 years was literate; in 1930 it was every third and now we are at 85% globally. Put differently, if you were alive in 1800 there was a chance of 9 in 10 that you weren't able to read – today more than 8 out of 10 people are able to read. And if you are young chances are much higher since many of today's illiterate population are old.

Literate and illiterate world population

Population 15 years and older.



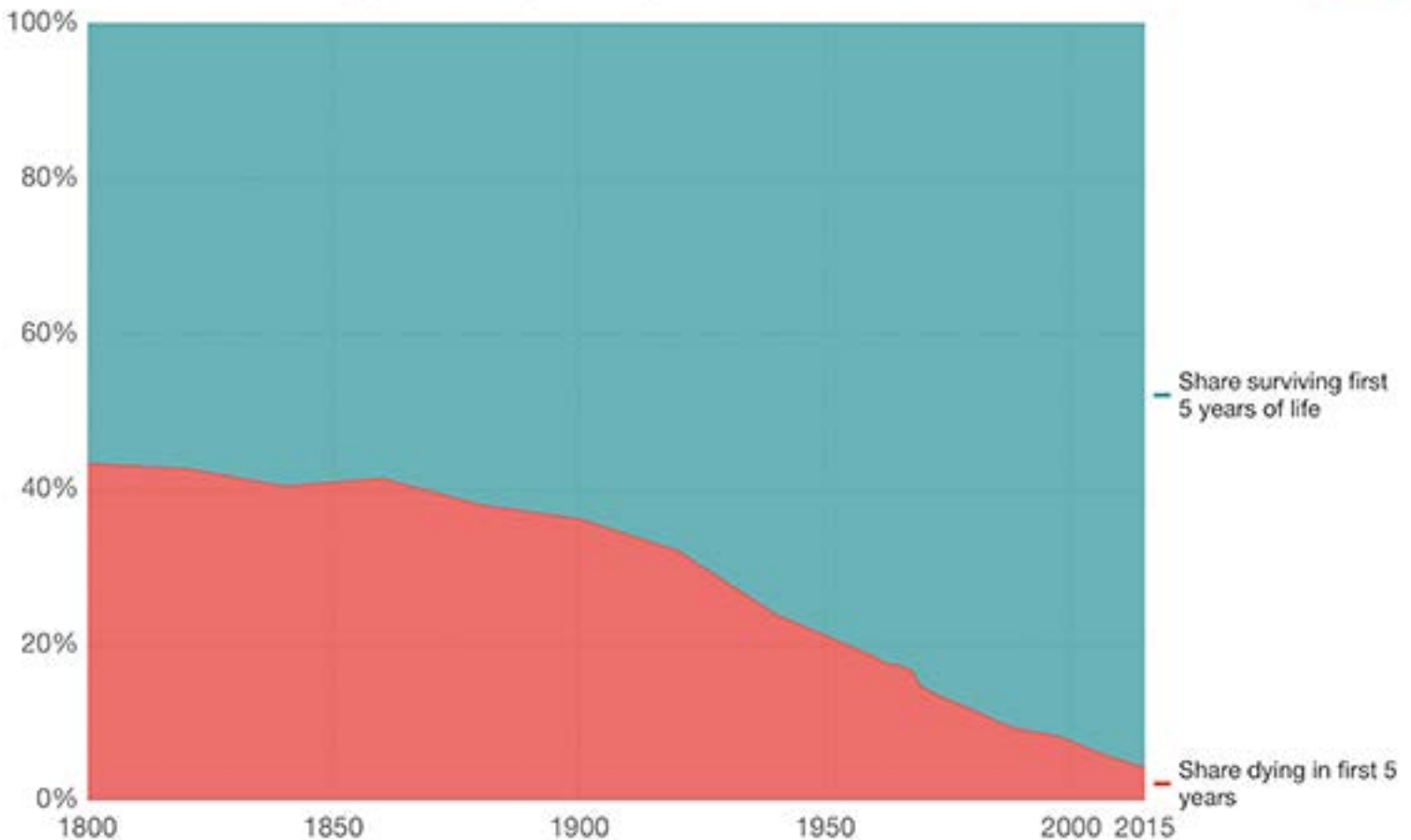
Source: Our World in Data based on OECD and UNESCO (2016)

OurWorldInData.org/global-rise-of-education • CC BY-SA

Health - One reason why we do not see progress is that we are unaware of how bad the past was. In 1800 the health conditions of our ancestors were such that around 43% of the world's newborns died before their 5th birthday. The historical estimates suggest that the entire world lived in poor conditions; there was relatively little variation between different regions, in all countries of the world more than every third child died before it was 5 years old. It would be wrong to believe that modern medicine was the only reason for improved health. Initially rising prosperity and the changing nature of social life mattered more than medicine. It were improvements in housing and sanitation that improved our chances in the age old war against infectious disease. Healthier diet – made possible through higher productivity in the agricultural sector and overseas trade – made us more resilient against disease. Surprisingly improving nutrition and health also made us smarter and taller. A more educated population achieved a series of scientific breakthroughs that made it possible to reduce mortality and disease further. Particularly important was the discovery of the germ theory of disease in the second half of the 19th century. In retrospect it is hard to understand why a new theory can possibly be so important. But at a time when doctors did not wash their hands when switching from post-mortem to midwifery the theory finally convinced our ancestors that hygiene and public sanitation are crucial for health. The germ theory of disease laid the foundation for the development of antibiotics and vaccines, and it helped the world to see why public health is so very important. Public health mattered hugely: Everybody benefits from everybody else being vaccinated, and everybody benefits from everybody else obeying the rules of hygiene.

Global child mortality

Share of the world population dying and surviving the first 5 years of life.



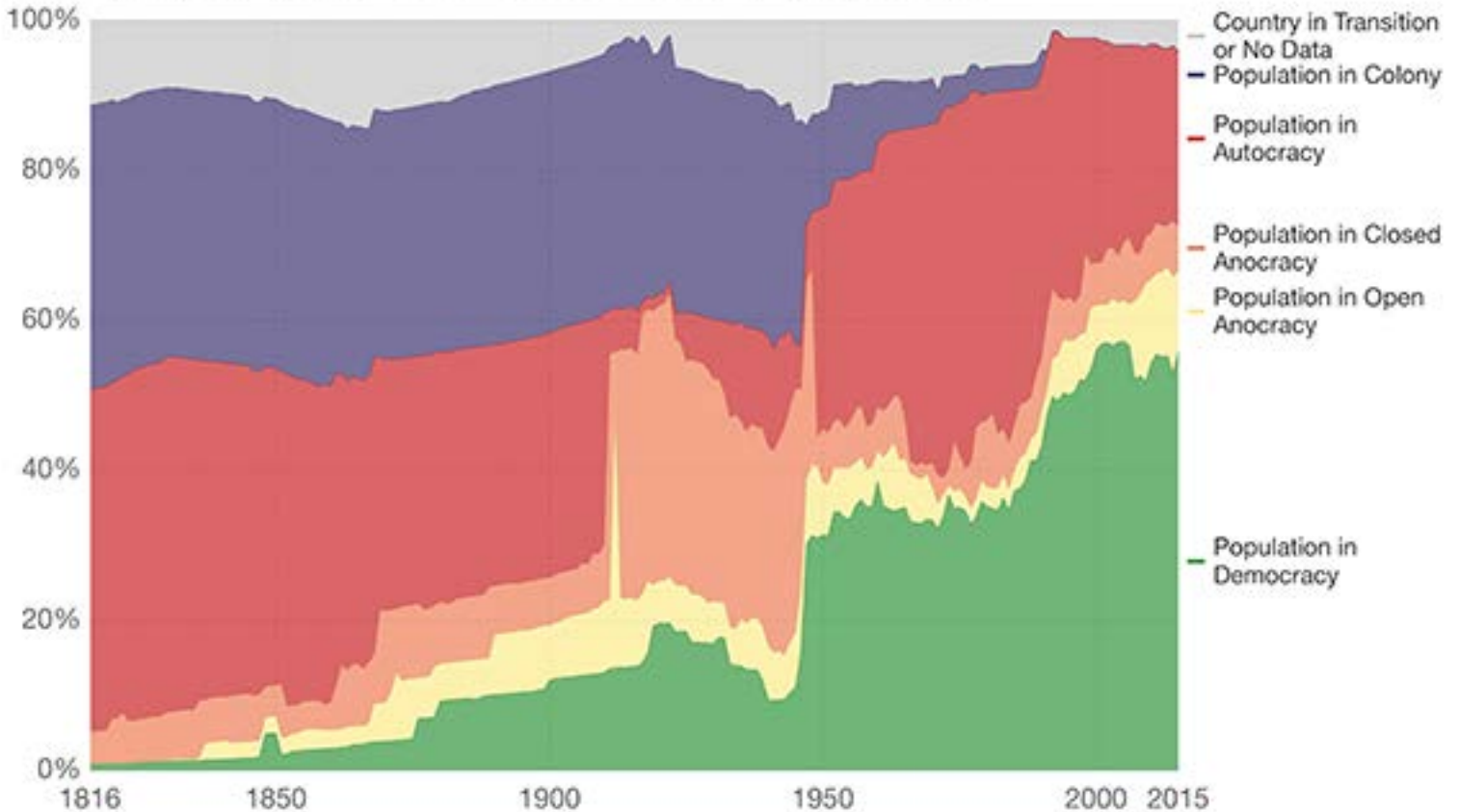
Source: Gapminder and the World Bank

OurWorldInData.org/a-history-of-global-living-conditions-in-5-charts/ • CC BY-S

Freedom - *Political freedom and civil liberties are at the very heart of development – as they are both a means for development and an end of development. Journalism and public discourse are the pillars on which this freedom rests, but qualitative assessments of these aspects bears the risk that we are mistakenly perceiving a decline of liberties over time when in fact we are raising the bar by which we judge our liberty. Again I want to give a time perspective to get an idea of how political freedom has changed over the last 200 years. The chart shows the share of people living under different types of political regimes over the last 2 centuries. Throughout the 19th century more than a third of the population lived in colonial regimes and almost everyone else lived in autocratically ruled countries. The first expansion of political freedom from the late 19th century onward was crushed by the rise of authoritarian regimes that in many countries took their place in the time leading up to the Second World War. In the second half of the 20th century the world has changed significantly: Colonial empires ended, and more and more countries turned democratic: The share of the world population living in democracies increased continuously – particularly important was the breakdown of the Soviet Union which allowed more countries to democratize. Now more than every second person in the world lives in a democracy.*

Number of world citizens living under different political regimes

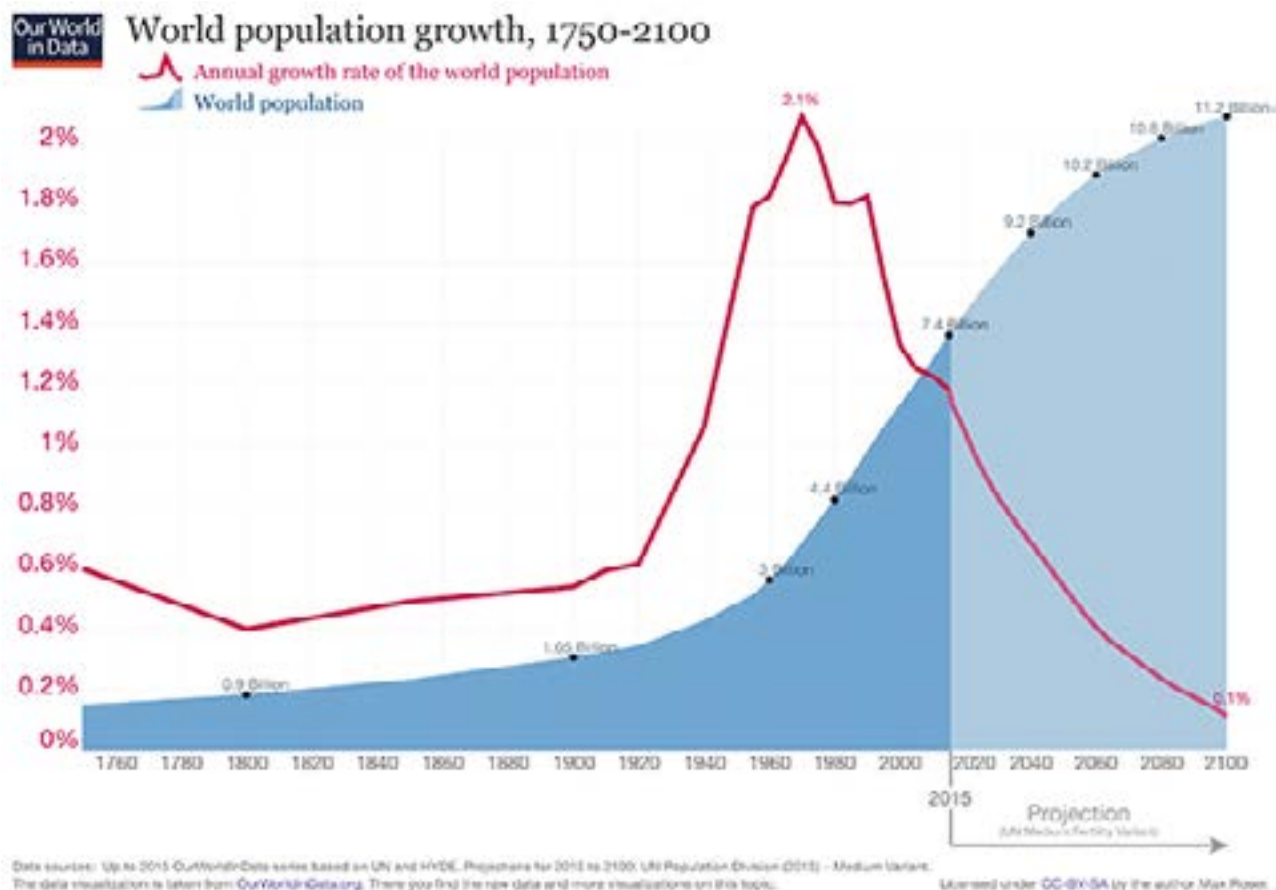
The Polity IV score captures the type of political regime for each country on a range from -10 (full autocracy) to +10 (full democracy). Regimes that fall into the middle of this spectrum are called anocracies.



Source: World Population by Political Regime they live in (OWID (2016))
OurWorldinData.org/a-history-of-global-living-conditions-in-5-charts/ • CC BY-SA

Population - The world population was around 1 billion in the year 1800 and increased 7-fold since then. Population growth increased humanity's demand for resources and amplified humanity's impact on the environment. But this increase of the world population should evoke more than doom and gloom. First of all, this increase shows a tremendous achievement. It shows that humans stopped dying at the rate at which our ancestors died for the many millennia before. In pre-modern times fertility was high – 5 or 6 children per woman were the norm. What kept the population growth low was the very high rate with which people died and that meant that many children were dead before they reached their reproductive age. The increase of the world population followed when humanity started to win the fight against death. Global life expectancy doubled just over the last hundred years. What we have seen in country after country over the last 200 years is that once women realize that the chances of their children dying has declined substantially they adapt and chose to have fewer children. Population growth then comes to an end. This transition from high mortality and fertility to low mortality and fertility is called the demographic transition. In those countries that industrialised first it lasted at least from the mid 19th century to the mid 20th century – it took 95 years for fertility to decline from above 6 children to less than 3 children per woman in the UK. Countries that followed later sometimes achieved this transition much faster: South Korea went from more than 6 children per woman to less than 3 in just 18 years, Iran even achieved it in just 10 years. Just as countries went through this transition so is the world going through this transition. Global fertility has more

than halved in the last 50 years, from more than 5 children per woman in the early 1960s to below 2.5 today. This means that the world is well into the demographic transition and global population growth has in fact peaked half a century ago. Now that we see fertility declining everywhere we come to an end of population growth: The global population has quadrupled over the course of the 20th century, over the course of this century it will not double. And at the end of the century the UN expects a slow annual population growth of 0.1% whereas the demographers from IIASA expect an end of global population growth around the year 2075.

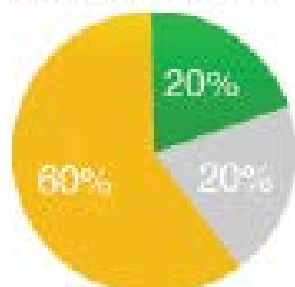


Why This Is So Important - The motivation for this is to try and help overcome the very negative perspective of global development that most of us have. More than 9 out of 10 people do not think the world is getting better. I do not think the media are the only ones to blame, but I do think that they are to blame for some portion of the negativity. This is because the media does not tell us how the world is changing, it tells us what in the world goes wrong. One reason why the media focuses on things that go wrong is because the media focuses on single events and single events are often bad – look at the news: plane crashes, terrorism attacks, natural disasters, election outcomes that we are not happy with. Positive developments on the other hand often happen very slowly and never make the headlines in the event-obsessed media. Look at what happens day-to-day in our own lives, then step back and look at the bigger and longer-term picture and how much we have all accomplished. It's extremely easy to let the short-term blips and negativity that's often associated with the daily grind, impact our our longer-range views.

CASH SALES & HEDGING TOTALS

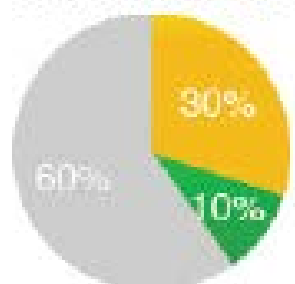
CORN 2017 CROP

60% SOLD
20% HEDGED
20% UNPROTECTED



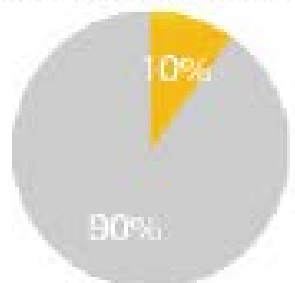
CORN 2018 CROP

30% SOLD
10% HEDGED
60% UNPROTECTED



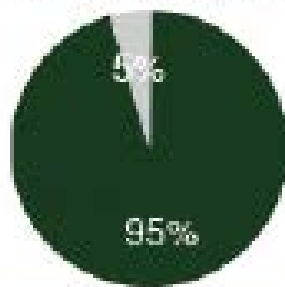
CORN 2019 CROP

10% SOLD
0% HEDGED
90% UNPROTECTED



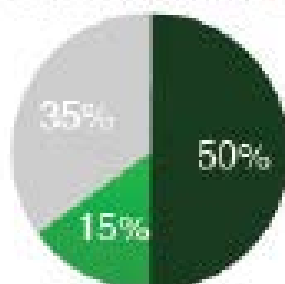
SOYBEANS 2017 CROP

95% SOLD
0% HEDGED
5% UNPROTECTED



SOYBEANS 2018 CROP

50% SOLD
15% HEDGED
35% UNPROTECTED



SOYBEANS 2019 CROP

0% SOLD
0% HEDGED
100% UNPROTECTED



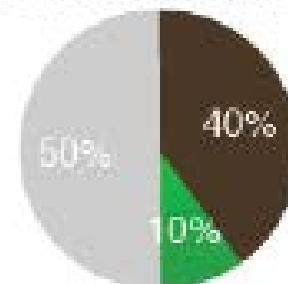
WHEAT 2017 CROP

100% SOLD
0% HEDGED
0% UNPROTECTED



WHEAT 2018 CROP

40% SOLD
10% HEDGED
50% UNPROTECTED



WHEAT 2019 CROP

20% SOLD
0% HEDGED
80% UNPROTECTED

