



October 2018

# Finding Alpha

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# THE US-CHINA TRADE WAR: IT'S NOT ABOUT THE TRADES

JING PU SUN, CLAUDIA SANTILLANA

OCTOBER 31ST, 2018

**S**INCE January 2018, the United States have taken an active position in a trade war against China. So far, \$400 billion worth of Chinese goods are being affected by U.S. import tariffs, while \$110 billion worth of American goods are equally affected by Chinese retaliatory tariffs. This article will first present background information, followed by an analysis of the situation and motives, and to conclude we will be giving out some trade ideas that could profit from this trade war.



Source: South China Morning Post

## Background Facts

On January 23rd, the United States President, Donald J. Trump, imposed safeguard tariffs of 20% on imported washing machines and 30% on imported solar panels (1) as a result of many petitions and complaints from American manufacturers expressing their concerns over their Chinese counterparts taking over the market. This was one of Trump's most substantial trade actions of 2018, reinforcing one of his biggest political campaign promises, which was to increase the number of domestic jobs and encourage businesses to keep manufacturing and production within the country. Chinese Commerce Ministry expressed "strong dissatisfaction" towards the decision.

On March 8th, the U.S. protectionism took another step when the Trump administration imposed a 25% tariff on imported steel and 10% on imported aluminum from all countries except for Canada and Mexico to take effect on March 23rd.

On the 22nd of the same month, the U.S. President announces that, as a result of a report from the U.S. Trade Representative (USTR) about China's unfair trade practices (especially regarding Technology Transfer and Intellectual Property practices), the U.S. will take disciplinary actions in three different ways:

1. <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2018/january/president-trump-approves-relief-us>
2. <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2018/march/following-president-trump%E2%80%99s-section>
3. <https://www.nytimes.com/2018/04/01/world/asia/china-tariffs-united-states.html>
4. <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2018/april/united-states-china%E2%80%99s-response-us>

- Tariffs will be applied on \$50 billion worth of Chinese products (such as aerospace, information communication technology and machinery).
- USTR will file a request for consultations with China at the World Trade Organization (WTO) in regards to China's discriminatory technology licensing requirements.
- Investment restrictions will be applied on Chinese investments in industries or technologies important to the U.S. (2)

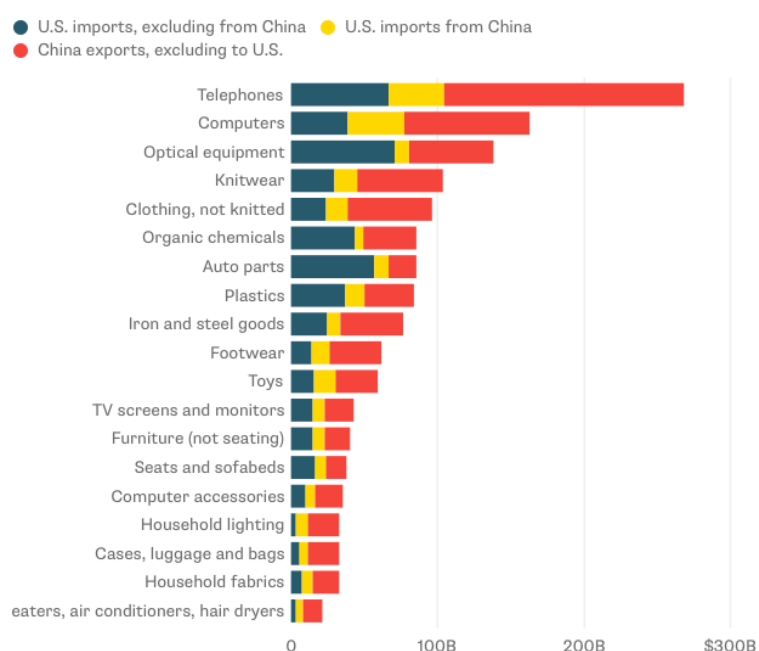
The following day, China unveiled tariffs on \$3 billion of U.S. imports in response to the steel and aluminum tariffs, and later announced that it will impose an additional 25% tariff on imports of 106 U.S. products including automobiles, chemicals, and aircraft in response to Trump's proposed duties, worth around \$50 billion. The Dow Jones Industrial Average fell 724 points, or 2.9% after the tariffs were announced due to the concern over a trade war.

After multiple trade talks between the White House and their Chinese counterparts, both nations reached an agreement on May 19th, and they issued a joint statement agreeing to put the trade war on hold and to stop increasing tariffs on each other, as well as having China increase purchases of American goods and services to reduce the trade imbalance with the U.S., however, no numbers were discussed and it was stated details would be worked out later.

This agreement did not last long as the U.S. soon announced, on June 15th, that it was going to move ahead with tariffs on \$50 billion of Chinese exports (5) with President Trump threatening more tariffs on another \$200 billion goods if China retaliated, to which China announced a list of \$50 billion worth of U.S. imports to apply tariffs on if the U.S. followed through with this plan (6). Of the \$50 billion worth of Chinese goods, \$34 billion were set to take effect on July 6th and the other \$16 billion at a later date. The tariffs cover a wide array of goods, from minerals used in manufacturing, to vegetable juices and leather handbags. China officially retaliated with their own list of 545 product categories, including soybean, to also hit U.S. imports with a 25 percent tariff that covered roughly \$34 billion in goods, set for July 6th.

On August 8th, the USTR announces that the remaining \$16 billion of Chinese goods will be applied a 25% tariff effective August 23rd. China retaliates with similar tariffs on equally valued American goods.

After multiple trade talks between the two parties in vain, on September 17th, the U.S. released the list of a new round of 25% tariffs on Chinese goods worth around \$200 billion, effective a week later. Major categories included in the list were meat, fish and seafood, salt and minerals, fertilizers, wood and wood pulp products, cotton, fabrics, iron, steel, aluminum, plastics, furniture and more. China responded with 10% tariffs on \$60 billion of U.S. exports effective on the same day as their counter-party.



**Figure 1:** 2016 figures. Shows trade categories in which U.S. imports from China were worth at least \$5 billion.  
Source: International Trade Centre

5. <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2018/june/ustr-issues-tariffs-chinese-products>

6. <https://www.bloomberg.com/news/articles/2018-07-05/trump-s-trade-war-threat-to-turn-reality-as-china-tariffs-begin>

## Opinion

The main argument behind the Trump administration's active role in this trade war is due to the president's accusation that China is encouraging unfair trade practices. Ever since the first round of tariffs on solar panels and washing machines (industries where Chinese and Korean companies dominate), the White House vows to redefine the trade agreements between the two superpowers. In our opinion, the core of the trade war starts to surface as the second round of tariffs (and other actions) unveil, which targets Chinese investments in U.S. technology as a measure to counter China's unfair technology licensing policies.

Currently in China, the absence of intellectual property (IP) enforcement law induces an environment where Chinese manufacturers can easily appropriate the IP of any inattentive foreign investors. As Michael Koresaroff from Urandaline Investments puts it:

"With an endless supply of smart engineers and scientists, why pay for technology?" (7)

As intellectual properties are expensive to develop (companies often inject millions of dollars to develop a new product or process), when Chinese companies illegally appropriate properties developed by foreign entities, they save huge amounts of costs, allowing them to compete for shelf space with foreign products at a much lower price. Furthermore, China has a series of "forced technology transfer" laws in place, which forbids foreign multinationals from making direct investments in China and has to operate through joint ventures with local firms in which the former cannot hold majority stake. This law virtually forces foreign entities to hand over their proprietary technology to their Chinese partners, who may potentially use it to become competitors once the venture contract expires. Quoting Donald Trump's speech during his presidential campaign in Tampa; "Any country that [...] takes unfair advantage of the United States, and all of its companies who can't compete, will face tariffs and taxes to stop the cheating" (8).

The U.S. presidential office wants to put an end to the constant threat of American companies losing their properties to Chinese manufacturers by pressuring the Chinese government to enforce IP protection laws. To achieve this goal, the White House has so far deployed many actions to tackle the sector most vulnerable to IP theft: information and technology. These actions include:

- *Banning of exports of microchips to ZTE, major manufacturer of android phones in China (although this is not a direct theft, ZTE sold microchips to Iran and North Korea without notifying the owner of the IP on these chips),*
- *Seriously limiting investments of Chinese businesses in U.S. industries that are technologically important to the country*
- *Imposing heavy restrictions on companies working with Fujian Jinhua, a Chinese semiconductor manufacturer, citing "for national security reasons".* (9)

On October 30th, U.S. officials demand that China abandons its forced technology transfer policies in exchange of lifting the tariffs on \$250 billion worth of Chinese goods (note that so far the US has imposed tariffs on a total of \$400 billion worth of goods). China has yet to respond to this proposition.

7. <https://www.bloomberg.com/opinion/articles/2018-03-07/the-art-of-trade-war-hint-china-wrote-the-book>

8. <https://www.chinalawblog.com/2017/03/china-ip-theft-why-pay-for-technology.html>

9. <https://www.politifact.com/truth-o-meter/promises/trumpometer/promise/1411/raise-tariffs-goods-imported-us/>



## Potential trades

We believe that the majority of the tariffs currently applied on the Chinese goods are a mere leverage to better negotiate a new set of trade deals with China, as this strategy has been seen previously when negotiating the new NAFTA with Canada and Mexico. This leverage will become a crucial ingredient when the U.S. will request China set up a better legal environment and enforcement to protect U.S. IP from being taken by Chinese manufacturers.

On the other side, China's tariff on soybean is also, in our opinion, a leverage with both economic and political motivations. In 2017, the U.S. exported \$12.3 billion worth of soybean to China, representing a 55.16% of its global output in that commodity. A 25% tariff will deal a huge blow to American soybean producers, who are coincidentally a major group of supporters of the Republican party. In short, we believe that the tariffs will not be permanent, as it is in the interest of President Trump to alleviate those tariffs before the next elections, where he will need the votes of the soybean producers.

For this reason, we expect that the President will negotiate terms for his Chinese counterpart to lift the tariffs on soybean before his next elections, and thus returning soybean market to its equilibrium state before the tariffs. A potential trade action based on this thesis may incorporate a long 2 years soybean futures, while shorting and rolling over short term soybean futures to hedge any potential downward movements in the futures curve while we wait for the U.S.-China talks to yield results.

Alternatively, as we expect that the big chunk of tariffs on physical goods will be used as leverage to negotiate better IP protection laws for technology, one trade idea is to take advantage of the differential in materiality of the goods affected by the negotiations and long a calendar equity option spread on a basket of major ocean freight forwarders between China and the U.S. We believe that the effect of tariffs on the transportation sector is being fully priced in, thus in our opinion longing a basket of call options in the long term and shorting the same basket as we wait for negotiations to be conclusive will also be profitable in the long-run.

# THE BARRICK GOLD – RANDGOLD DEAL: A THOROUGH RUNDOWN

BILL SHU, KHALISA VALANI

OCTOBER 31ST, 2018

ON September 24th 2018, Barrick Gold Corporation, a Toronto-based gold mining giant, announced a share-for-share merger with Randgold Resources Limited, another large-cap gold miner. While the merger is still subject to approvals of shareholders and regulators, once it is completed, the new Barrick group will become the largest gold miner in the world.

## The Terms of the Deal

In a share-for-share deal like this one, the acquiring company simply proposes to pay a certain number of shares in exchange for all of the target company's shares. Thus, Barrick Gold (the acquiring company) will the investors of Randgold (the target) to receive Barrick Gold shares in exchange for their old Randgold shares. In particular, the terms of the merger allow each Randgold shareholder to receive 6.1280 new Barrick shares for each Randgold share, as these number of shares are monetarily equivalent. After the completion of the merger, Barrick's shareholders will own approximately 66.6 percent and Randgold's shareholders will own approximately 33.4 percent of the new Barrick group on a fully-diluted basis.

The deal values Randgold Resources at \$6 billion USD. The 6-billion valuation is in line with Randgold's capitalization at the time of announcement, indicating that this M&A deal does not contain a premium, which is certainly a notable point. According to Barrick's Chairman, John Thornton, "there are no premiums in the merger because we strongly believe in the opportunity to add significant value for our shareholders from the disciplined management of our combined asset base and a focus on truly profitable growth." However, since a control premium is usually paid under industry norms, the lack of premium has engendered some concerns and resentment from Randgold's investors.

## Risks – Africa

One of the potential reasons for the lack of premium would be Randgold's wave of disputes over tax and other issues in its operations in Africa, which raises the merged legal risks for New Barrick Group. In Mali, Randgold is currently still in arbitration with the government over a \$60 million tax dispute. Meanwhile, a labour dispute in Ivory Coast and revisions to mining codes in Congo may also increase costs of Randgold's operations in these areas.

## Risks – Management Team

One outcome of the Barrick-Randgold merger is the new configuration of the management team. It has been speculated that Barrick's executive chairman, John Thornton, is set to oversee the gold mines, while former Randgold CEO, Mark Bristow, will be in charge of strategy. While a strong management team is a characteristic of a highly prosperous corporation, the team's failure to collaborate effectively would pose a threat to Barrick's success.



**Figure 1:** John Thornton, Barrick's executive Chairman, and Mark Bristow, the incoming CEO of the new Barrick Gold

**Source:** Globe and Mail

1. <https://business.financialpost.com/commodities/mining/biggest-risk-to-the-barrick-randgold-merger-thornton-and-bristows-clashing-personalities>

2. <http://www.mining.com/worlds-top-10-largest-gold-mining-companies-2017/>

3. <http://www.randgoldresources.com/record-production-reduced-costs-high-performance-year-randgold>

## Strategy & Impact

In 2014, Barrick Gold had 6% of global market share in the gold industry, which was the largest share held by a single company. To date, Barrick is still regarded as a long-time front-runner in the gold industry, having mined 5.32 million ounces of gold in 2017 alone. However, its output has been on a decline, down by 3.6% from 2016 and significantly below its peak production of 7.7 million ounces in 2010 and 2011. On the other hand, Randgold Resources has been steadily increasing gold production since 2007, coming in at 1.32 million ounces produced in 2017. Barrick's position as the top gold producer globally will be well-safeguarded with Randgold's assets and production capabilities, paving the way for the new Barrick to capture an even larger portion of market share in the gold industry.

### New Barrick

5 out of the Top 10 Tier One Gold Assets (> 500 koz; > 10 year mine life; bottom half of cost curve)

Top 10 Global Tier One Gold Assets By Total Cash Cost<sup>1,2</sup> (US\$/oz)



Figure 1: The number of Tier One Gold Assets owned by the New Barrick group

Source: Barrick Gold

After the merger, not only will the new Barrick group be the leader in the gold mining industry, it will also have the largest concentration of tier 1 gold assets (5 of the 10 in the world), which can produce over 500,000 ounces of gold annually for a time period of at least a decade. In addition, the new merged entity will have the highest EBITDA and EBITDA margin in the gold mining industry, as well as the lowest total cash cost, which establishes a very competitive cost structure. In addition, from a strategic point of view, the merger of the two entities would combine Barrick's enormous size and Randgold's strong cash flow, which would theoretically generate a lot of synergy. As Thornton mentioned in a conference call, "Randgold has the agility and swift-footedness of a younger and smaller company, much like Barrick in its early years while Barrick has the infrastructure and global reach of a large corporate company."

While the merging of Barrick Gold and Randgold is far from monopolization, the aggregation of large corporations does have an impact on the industry and consumers directly, mainly through product pricing, quality and sales. In the gold industry, taking out one competitor will not significantly impact the pricing of gold determined by market equilibrium due to the large volume of active corporations. However, the new Barrick, with its intended low-cost structure may be able to slightly lower prices for consumers. In addition, it has the potential to deliver quality products faster due to increased globalization of the company that is facilitated by the geographical locations of Barrick and Randgold's respective gold mines. Barrick may become more competitive if it is able to reach a larger number of consumers in different regions of the world more quickly and thus improve its market share, which would affect the industry as a whole. Over the course of fiscal 2019, investors and consumers will surely be looking out for changes in product pricing, quality and sales as an indication of the new Barrick's performance. All in all, we see this merger as a step in the right direction for Barrick Gold.

4. <https://business.financialpost.com/commodities/mining/barrick-gold-agrees-to-buy-rival-randgold-in-all-share-deal>

5. <https://www.ig.com/sg/news-and-trade-ideas/shares-news/what-does-the-barrick-gold-randgold-merger-mean-for-gold-mining--181026>

6. <https://business.financialpost.com/commodities/barrick-bets-on-africa-with-6-billion-randgold-merger>



# OPENTEXT – THE INFORMATION COMPANY

GARBO LIU, ANANDINI GUPTA

OCTOBER 31ST, 2018

**W**ITH the continuously evolving and growing technological space, the IT and application software industries have been booming, showing great promise over the past few years and are expected to continue to do so over the coming periods. Comprised of key market segments such as enterprise information management (EIM), business intelligence (BI), enterprise resource planning (ERP), business process management (BPM) and supply chain management (SCM), the global application systems platform market size is expected to grow to \$575 billion by 2024.

## About the Company

OpenText, a Waterloo-based EIM developer, is one of Canada's largest software companies. At its core, the OpenText EIM suite is about enabling companies with automation, AI, application programming interfaces (APIs), and data management designed into its intelligent information core. These capabilities bring together information from both humans and machines, where it can be securely managed, stored, accessed and mined with analytics for insights. Its primary competitors are IBM and specialized EIM vendors such as Veeva Systems Inc., j2 Global Inc., Pegasystems Inc., Hyland Software Inc., SPS Commerce Inc., and Adobe Systems Inc.

OpenText has outperformed the Canadian market (TSX) and has generated notable results over Fiscal 2018. It has shown an overall revenue growth of 23% to \$2.8 billion, with each of the four revenue streams (licenses, cloud services, customer support and professional services) driving growth. Gross margin continues to remain strong around 66% with income from operations margin rising from 15.4% to 18% through improvement operational efficiency.

Currently trading at C\$43.64, OpenText's recent financial performance and long-term outlook makes it an attractive investment in the Canadian technology sector.



Figure 1: OpenText Stock Price Chart for the Last 5 Yrs

Source: Globe and Mail

## A Recurring Cash Flow Generator

Fiscal 2018 was another proof point in the company's long-term track record of delivering strong results. Over the last six years, the top line performance has been extremely strong – total revenue has grown 133% to \$2.8 billion; cloud revenue has gone from zero to \$800 million; customer support revenue has grown 88% to \$1.2 billion; and license revenue has grown 49% to \$438 million. In addition to substantial top line growth, OpenText has dramatically improved the quality of their revenue profile with annual recurring revenue (ARR) growing 214% to \$2.1 billion over the last six years. Management has pledged to continue to focus on growing ARR as a percentage of total revenue as it increases the predictability of future cash flows and helps the company to perform sustainably.

1. <https://www.prnewswire.com/news-releases/global-575-billion-enterprise-software-market-to-2024-increasing-global-competition-and-rising-awareness---market-is-poised-to-scale-newer-acmes-300721909.html>

2. OpenText F2018Q4 Results

## Key Metrics



1. ARR – Annual recurring revenue is defined as the sum of cloud services and subscriptions revenue and customer support revenue.  
 2. Please see reconciliation of GAAP to Non-GAAP measures at the end of this Shareholder Letter and in our historical filings on Form 10Q & 10K

**Figure 1:** OpenText's Key Financial Metrics  
**Source:** OpenText F2018 Annual Report

### “Total Growth Strategy”

The market that OpenText operates in is highly competitive, subject to rapid technological changes and shifting customer needs. Therefore, it is crucial for OpenText to remain competitive by maintaining a complex and evolving array of technologies, products, services and capabilities. While the company is dedicating significant resources to internal research and development (~12% of annual revenue), OpenText is also actively evaluating acquisition opportunities within the EIM market. This aligns with the management's “Total Growth Strategy,” which strives to deliver value through acquisitions, innovations and organic initiatives, as well as financial performance.

OpenText has made great progress over the years to de-lever their balance sheet through their strong cash flow generation – achieving a consolidated net debt leverage ratio exiting Fiscal 2018 at less than half of the debt covenant level. Through de-leveraging, the company is making itself financially ready to execute on acquisitions that are strategic fits and meet their investment criteria.

Over the last 10 years, OpenText has deployed around \$5.8 billion on M&A initiatives. In Fiscal 2018 alone, the company has made three major acquisitions of targets that specialize in a particular niche area of EIM:

- Covisint: \$102.8 million, in July 2017
- Guidance: \$240.5 million, in September 2017
- Hightail: \$20.5 million, in February 2018

OpenText has been able to successfully merge with the targets it has acquired over the years, pooling together technological knowledge and realizing synergies due to the strategic fit between the business models. The combination of organic growth and strategic acquisitions will allow OpenText to remain on the frontlines of innovation in the EIM space and create shareholder value both short- and long-term.

3. OpenText F2018 Annual Report

4. OpenText F2018 Q4 Earnings Call Transcript

# US-CHINA TRADE WAR'S IMPLICATION ON POTENTIAL CURRENCY WAR

BILL ZHUO

OCTOBER 31ST, 2018

**I**T is globally acknowledged that the US and China are undergoing a major trade war, which has already created uncertainties and volatilities in international trade. On July 6, 2018, The U.S. Customs and Border Protection (CBP) initiated the first round of 25 percent tariff on 818 imported Chinese products with a total value of USD\$34 billion. Immediately after the first round, China fired back with a retaliatory 25 percent tariff on US imports with a total value of USD\$34 billion. After three rounds of tariff bombardments between two of the largest economic entities in the world, the U.S. has imposed exclusive tariffs for China around USD\$250 billion in total, while China returned the favour with around USD\$110 billion U.S. exclusive tariffs in total. To demonstrate the severity of this trade war, it is worth noting that the amount of tariff imposed by the U.S. is already at about 50% of Chinese exports to the U.S. in 2017.

## Stating the Obvious

It is an economic principle that free trade results in a better overall outcome for both of the trading counterparties. Each economic entity has its own comparative advantage when it is compared to another economic entity. It means that one country can provide a set of products or services more efficiently (with a lower opportunity cost) than its trading counterparty. As far as the trade war is concerned, China's comparative advantage lies within the manufacturing industry with less expensive labour force and an abundance of natural resources, whereas the U.S. has a comparative advantage on innovative technology and extensive research and development. Therefore, a trade war like this will definitely cause trauma on both sides, dealing damage to the economic growths of both countries.

However, the trade war will not just result in higher prices of imported goods, which adversely impacts the export industries for both countries. As the trade war escalating, China has fewer items on the list to impose tariffs than the U.S., since the number of U.S. imports coming from China is 4 times less than the other way around. It is anticipated that China will perform a devaluation of Yuan to keep competitiveness of its export in the global market aside from the U.S. Such currency devaluation strategy might lead the trade war to a whole new war zone.

## Currency Devaluation Strategy in Global Trade

Currency devaluation is essentially decreasing a country's foreign exchange rate by purchasing foreign currency to increase Yuan supply in the foreign exchange market. Such an operation is permitted by the government and undertaken by the central bank. Unlike other countries that adopt flexible exchange rate policy, China follows the "crawling peg" strategy, which means that the central bank has the power to adjust its exchange rate over a short period of time or to hold its current exchange rate for a longer term. Under the current trade war conditions, currency devaluation decreases the total product value imported since foreign goods and services are more expensive, while also increasing total value of products exported since the Chinese goods and services are less expensive and more attractive to foreign buyers. Meanwhile, a lower exchange rate can offset the influence of the U.S. tariff on the Chinese export industry. It sounds like a weapon that is only possessed by China in this war. However, is it for free?

1. <http://www.china-briefing.com/news/the-us-china-trade-war-a-timeline>

2. <https://www.thebalance.com/u-s-china-trade-deficit-causes-effects-and-solutions-3306277>

## Concerns Involving Currency Devaluation

Currency devaluation is not a bullet-proved tactic that comes with no cost. It requires extremely sophisticated measure on how much value the People's Bank of China is going to allow its currency to slide. If the size of devaluation is too small, it will not be enough to reinforce its position in the trade war against the U.S. in terms of export competitiveness. If the devaluation is over-executed, it will result in something worse. It is not unprecedented that China utilizes currency devaluation to boost its aggregate demand. In 2015, the Chinese government carried out a 5% devaluation against USD that led to fears about China's debts issue, mainly from the real estate bubble. Individuals and businesses in China started buying foreign currencies to protect their wealth against further decreases in currency value. It was an implication on the lower faith of Chinese economic growth shown by the public, which was counter-productive to the aggregate demand. Meanwhile, foreign companies expected a lower price for Chinese import due to the fact that Yuan was a noticeable weaker currency.



**Figure 1:** The exchange rate of the U.S. Dollar against the Chinese Yuan  
**Source:** TradingView, October 2018

In an even worse hypothetical scenario, the banking system will be under immense pressure since people start taking out deposits to exchange for value maintaining products or currency. The process of money creation will be stalled and results in a lower rate of circulation of money in the economy and an implied decrease in economic growth rate. From a political point of view, a major devaluation will also anger other important trade parties, like the European Union and Japan, which have strategic values in the global layout to both China and the US. If currency devaluation is handled fallaciously, it is equivalent to a punch in one's own face.

3. <https://www.nytimes.com/2018/07/24/business/dealbook/renminbi-dollar-tariffs.html>

4. <https://www.scmp.com/comment/insight-opinion/china/article/2153565/chinas-monetary-policy-loosening-sign-central-bank>

## From Currency Devaluation to Monetary Policy

From the graph above, there is a much more substantial appreciation of USD against Yuan compared to the case in 2015. It is backed up by the fact that Beijing devalued Yuan by 9 percent for trade war concern over the spring and the summer. It can also be classified as a joint effort since the US dollar has been appreciating due to the ideology of “America First” promoted by the Trump administration. It either attracts American companies to have their major investments in the US with one of the biggest corporate tax cuts ever since Ronald Reagan. Furthermore, multiple interest rate hikes in the US by the Federal Reserve also contributed to this stronger U.S. dollar as foreign investors flooded into the US. As the trade war continues, the method devaluing currency becomes riskier and riskier for the People’s Bank of China to keep undertaking. One of the major economic concerns for China is its financial stability. Instead of creating more uncertainty and potential fear in the financial market by devaluing the currency, China might choose to loosen monetary policy and increase the money supply. In early April 2018, the People’s Bank of China released around US\$105.1 billion into the banking system to boost consumption and business investment in the country to further progress the aggregate demand. Such an operation was done before the first fire in the later trade war and it was to safeguard its financial system to have enough liquidity for any turbulence that might be caused by the trade war. It might be the direction for the Chinese government to go for since it can compensate for the decline in growth rate caused by the trade war while covering its vulnerability.

## America’s State of Mind

Many people would say such a trade war may just be a deliberate midterm election campaign run by the Trump administration but it is better to keep an objective perspective. One of the major issues about China that the Trump administration public addressed is China’s currency devaluation strategy when it comes to the competitiveness of trade. Donald J. Trump even explicitly described such a war is “not a level playing field...”. However, it is paradoxical that the truth might be the other way around that the Trump administration indeed wants to force China to utilize currency devaluation to result in tremendous volatility in Chinese capital market and financial instability.

## What’s Next?

Currency devaluation is a common strategy used by Beijing but it requires a lighter hand at the current stage of the intensified trade war. One clear point is that the longer the trade war stalls, the more obvious the negative economic impact on both countries’ people and businesses will be. As of the writing date of this article, it is reported that China and the US will be negotiating trade conflicts during the upcoming G20 Buenos Aires summit in Argentina, starting on November 31, 2018. We will see more to come.

5. [https://twitter.com/realDonaldTrump?](https://twitter.com/realDonaldTrump?ref_src=twsrc%5Etfw%7Ctwcamp%5Etweetembed%7Ctwterm%5E1020287981020729344&ref_url=https%3A%2F%2Fwww.nytimes.com%2F2018%2F07%2F24%2Fbusiness%2Fdealbook%2Frenminbi-dollar-tariffs.html)  
[ref\\_src=twsrc%5Etfw%7Ctwcamp%5Etweetembed%7Ctwterm%5E1020287981020729344&ref\\_url=https%3A%2F%2Fwww.nytimes.com%2F2018%2F07%2F24%2Fbusiness%2Fdealbook%2Frenminbi-dollar-tariffs.html](https://twitter.com/realDonaldTrump?ref_src=twsrc%5Etfw%7Ctwcamp%5Etweetembed%7Ctwterm%5E1020287981020729344&ref_url=https%3A%2F%2Fwww.nytimes.com%2F2018%2F07%2F24%2Fbusiness%2Fdealbook%2Frenminbi-dollar-tariffs.html)



# NATURAL GAS FUTURE PRICE SURGES AS WEATHER MODEL SHIFTS

JIM YANG

OCTOBER 31ST, 2018

**N**ATURAL Gas Futures have been on the rise since mid-September, and the price peaked at October 17th, 2018 at a price of \$3.320. The seemingly late-coming surge in natural gas future price is accompanied by shifts in weather models, as the market is not convinced of a mild November. This article will analyze a model the impact of shifting weather on the price of natural gas future, and what role a weather plays when one tries to model natural gas future price, using a regression model.

## Background

Natural gas is a naturally occurring hydrocarbon gas mixture, consisting primarily of methane. Natural gas is primarily used for heating, but in recent years, there has been a rising trend in using natural gas to generate electricity. Also, despite being more expensive than crude oil, natural gas is the cleanest fuel compared to crude oil and other gases because it produces less carbon dioxide.

## Modelling Natural Gas Future Price

Natural Gas Futures are commodity futures, which were first used as a way to gain protection against the price fluctuation risk. One can model the price of the natural gas using a regression model; the following factors are commonly used by analysts to predict the supply and demand of the natural gas market:

- **Cyclical Demand (C):** Natural gas is primarily used to generate heat, and the demand for natural gas hence is closely tied to heat generation. Demand for natural gas is typically higher in winter time, and later falls as spring comes. Commercial demand for natural gas usually starts to trend upward ahead of seasonal changes.
- **General Economic Conditions (G):** As natural gas is more expensive than its substitute, when the general economy is not well, the demand for natural gas usually decreases as the demand for its cheaper substitute (crude oil, other gases, etc.) increase.
- **Natural Gas Storage (S):** Underground natural gas storage acts a buffer when sudden change in demand comes into play. They are primarily used to meet peak seasonal demand. The underground natural gas storage is crucial as its helps to “meet demand which is otherwise unable to be met by domestic production and by imports”.
- **Weather (W):** Changes to weather pattern also plays a role in influencing natural gas future price. For instance, La Nina, a weather event that tends to follow an “irregular cycle which primarily affects the equatorial Pacific Ocean”, will also influence the demand of natural gas future price.

A common regression model used to model the price of natural gas future price is illustrated as follows:

$$P_i = a_{1i}C_i + a_{2i}G_i + a_{3i}S_i + a_{4i}W_i + error_i \quad (1)$$

One can then model the price of the natural gas future based on the above equation, where C, G, S and W correspond to the input variable that we listed above.  $P_i$  can be treated as the price of natural gas future at any single point in time, and can be modelled with respect to cyclical demand (national import), general economics (GDP measurements), natural gas storage (EIA report) and weather model output (See Resources on weekly publish, and API data attached at the end of the newsletter ).

1. <https://www.igu.org/natural-gas-cleanest-fossil-fuel> International Gas Union, 2012

2. <https://tradingsim.com/blog/5-things-influence-price-natural-gas-futures/> Trading Simulation, 2016

3. <http://ir.eia.gov/ngs/ngs.html> EIA Weekly Natural Gas Reserve

## Weather Forecast and Influences on Natural Gas Future Price

While modelling natural gas future price, weather indication is usually the hardest component to quantify. Global Ensemble Forecast System, and other continental Forecast Guidance provides among the best insight in quantifying such indicators. On Oct 22nd, overnight weather forecast long-range warm weather, while European guidance indicates short and medium warm range. Warm long-range weather usually spans over a one month interval, while short-range weather usually spans over a two week interval.

Often when analysts are quantifying the degree of weather impact on the natural gas future price, the input is deterministic and is calculated by composite measurements. A common method is to form a composite index that weights short-, mid-, and long-range weather guidance to arrive at a final quantified weather component (using Sophie Casanova and Bodo Ahrens's weighting of Multi-model Ensembles in Seasonal and short-range weather forecasting). A sample indicator calculation can be formulated as:

$$W_i = \sum_i^T w_i (y_{it} - u) \quad (2)$$

where the output of (2) is then the weather component used in equation (1);  $w$  is the weights used for each new periodic measurement;  $y$  is the estimated average temperature for that period; and  $u$  is the average of all estimated temperatures  $y$ .

One can treat the output  $W$  as a deterministic result, which itself will not contain error terms, however guidance provided by Global Weather Ensemble will contain error terms, which should collectively normalize against the overall error term in equation (1). For the purpose of modelling the price and analyzing the effect of weather forecasts on market sentiment, the forecast values can be used without giving much consideration to local errors.

As an example of what was just discussed, by using the October Statistics on Temperature Forecast by Global Ensemble Weather System, we can derive an input table as follows:

Time Span	Weighting	Interval Span Average Temperature Forecast	Temperature Differentials	Individual Weighting
1-week	0.3	4.2	3	0.9
3-week	0.3	3.9	2.7	1.23
5-week	0.2	2.5	1.3	0.65
10-week	0.2	1.2	0	0.24

Total weight, as given by index formula (2), would be 3.02. This would yield the last piece in equation (1).

## Conclusion

As the weather forecast were mixed in October, the natural gas future price was rather less predictable. The trend only started to unveil when market perceives a smaller risk in a warm November. Such market sentiments can be measured using the model described above; however, limited to the scope of discussion, this model can only provide readers quantitative insight on the role that weather plays in a practical regression estimate of the natural gas future price, and there are a variety of ways to model the weather component. For instance, instead of deterministically using the weather forecast, one could model the expected temperature, using a simple Monte Carlo simulation on probability of upswing and downturn in temperature to model the price. I would highly recommend readers test different modelling methods in attempt to model other commodities price behavior.

4. <https://journals.ametsoc.org/doi/pdf/10.1175/2009MWR2893.1> On the Weighting of Multimodel Ensembles in Seasonal and Short-Range Weather Forecasting

5. <https://www.ncdc.noaa.gov/data-access/model-data/model-datasets/global-ensemble-forecast-system-gefs> Global Ensemble Weather System data

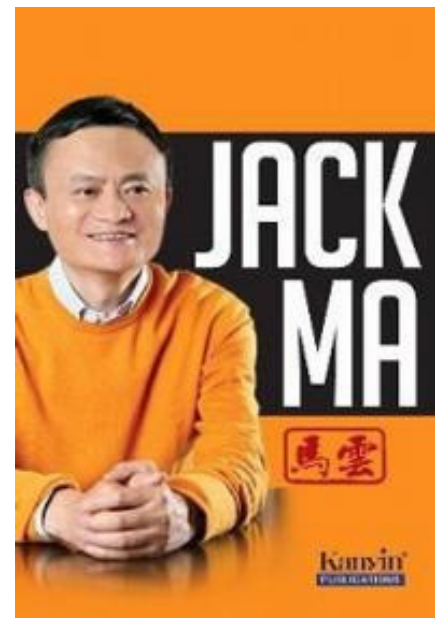
# JACK MA AND THE END OF HIS CHAPTER WITH ALIBABA

**TOBI IBIKUNLE, EVAN HIGGINS****OCTOBER 31ST, 2018**

**T**HE founder of Alibaba and one of China's richest people, billionaire Jack Ma is often considered the most recognizable symbol of the China internet explosion, and more broadly the China consumer boom. It is this that, according to Duncan Clarke, the author of "Alibaba: The House that Jack Built", explains the significance of Ma's departure and relinquishment of power over Alibaba. He is one of the key players in China's growing technology influence and has inspired a generation of entrepreneurs to follow a similar path, while simultaneously transforming how Chinese people shop online.

## The Man Behind Alibaba

In just over 19 years, Ma has grown Alibaba from an online marketplace created in his Hangzhou apartment with 17 friends to a global e-commerce behemoth with a valuation of about \$420 billion, rivalling other heavyweights like Amazon. The company dominates e-commerce in China through its platforms Tmall and Taobao where customers can purchase clothing, electronics, food and other consumer products. Major success for the company did not take off until 2003 however, when Taobao was created, and the platform started selling products directly to consumers. Ma's initial goal for the company was to use the internet to help SMEs in China sell their goods globally, but Alibaba has now moved into entertainment (with Alibaba Pictures), cloud computing (with Alibaba Cloud), and financial services with Ant Financial Services Group, its affiliate that was spun-off in 2011. Ant Financial has since grown exponentially, and processed more payments than MasterCard last year while controlling the world's largest money-market fund. Alibaba also owns media assets in China, including social media site Weibo and English newspaper the South China Morning Post.



## Ma's Departure Plan

The decision to leave the company came on Jack Ma's 54th birthday, when he outlined a timeline for the management transition and announced that he would step down as executive chairman in a year from now. The date of this departure, September 10th, 2019, will be the 20th anniversary of the company. He also said that he will stay on the board until the annual shareholders meeting in 2020. By maintaining a position on the company's board and the Alibaba Partnership, a partnership of the original founders and a group of senior executives formalized in 2010 who have the right to nominate the company's board, he still intends to be involved in the high-level decisions made by the company. This decision to remain as the "soft power" face in China is one that should address any doubts that his retirement announcement may have aroused. Action taken on the power transition process actually began in 2013, when Ma was replaced by Jonathan Lu as Chief Executive of the company, and then Daniel Zhang in 2015. Ma's announcement to retire therefore represents the completion of the power transition, with competent executives in place to lead the company into the future. In a statement made during an Alibaba event for investors, Ma spoke on how he had known about his retirement since Alibaba's purchase of Yahoo China's stake in 2005. Since 2013, Ma had still remained as the face of the company however, and had significant influence over its long-term strategy. He has a 6.4% share of the company, which is likely to remain after he parts ways from the board.

His retirement makes Ma the first founder from a generation of Chinese internet companies to step down from leadership. Other firms like Tencent, Baidu, and JD.com have all grown in size to rival American companies, with their founders still at the helm. Ma's parting from Alibaba therefore represents a new era for these companies, as we will likely see further executive turnover and founders retiring from these companies in the future. Among these Chinese internet companies, Alibaba is known for its deep ranks of management talent. Many of the original co-founders still hold influence in the company, and professionals who joined the company during its initial growth period are now in charge. Daniel Zhang, the chief executive officer, executive vice chairman Joe Tsai, and other executives have remained in their roles for a long period of time, and understand and deliver on the company's mission and values.

### **Leaving Alibaba In Good Hands**

As explained by Ma, choosing a successor is a decision that involved much thought. Opting to disregard the traditional Chinese business model of granting promotions based on heritage, Ma follows a system that seems to reward based on merit. This is evidenced in his appointment of Daniel Zhang to the position of CEO in 2015 – a decision that has proved quite favorable to the company. According to Ma in an open letter published this year when speaking about Zhang “Under his stewardship, Alibaba has seen consistent and sustainable growth for 13 consecutive quarters”. Although many of Alibaba's initiatives still showcase Ma's influence, Zhang has been the architect responsible for ensuring that everything runs smoothly. From spearheading Alibaba's intentions of global trade without frontiers, to being the driving force for new retail, it seems like Zhang is the right man for the job. Given this track record of excellence, his expected promotion to the position of executive chairman on September 10, 2019, should be one that puts all of Alibaba's stakeholders at ease. Thus, there is consensus that Ma's departure will have little effect on daily management and operations of the company as there has been solid management in place for some time.

### **What to Expect Moving Forward**

However, even with these structures in place, there are concerns that Ma's vision and guidance will be missed over the long-term. Some have drawn similarities between his exit and Bill Gates's retirement from Microsoft in 2014, in which troubled years for the company followed Gates's exit. How Alibaba will fare after Ma's departure is yet to be seen, but regardless of the outcome, developments at the company over the next few years will be intriguing, and important to monitor for shareholders and other stakeholders.

While Ma's decision to leave comes as a shock to many in global business, he has stated throughout his time at Alibaba that he does not want to “die in an office”. Originally a teacher, Ma has always expressed his desire to eventually return to education and philanthropy after retirement. In 2014, he created the Jack Ma foundation which aims to improve education in rural areas of China. After spending almost a decade on his succession plan, Ma can leave the company with trust in the Alibaba Partnership, and enjoy the company's expected future growth from afar. In his own words, “The one thing I can promise everyone is this: Alibaba was never about Jack Ma, but Jack Ma will forever belong to Alibaba.”

3. <https://www.wsj.com/articles/daniel-zhang-to-succeed-jack-ma-as-alibaba-chairman-1536542559>

4. <https://www.bloomberg.com/news/articles/2018-09-10/jack-ma-is-leaving-alibaba-without-a-clear-business-plan>