

Taking the lead

How China is driving the global economy and creating opportunities



Executive summary

While trade tensions, debt concerns, and doubts about market reforms have driven newscycles over the past year, global investors can find good prospects within China's fundamental drivers like wide-ranging reforms, growing data pools, expanding consumer demand, rapid innovation, and an evolving trade sector.

This extensive report shows that these thematic trends are not only propelling growth in China and the global economy, but also creating long-term investment opportunities that every global investor can be positioned for.

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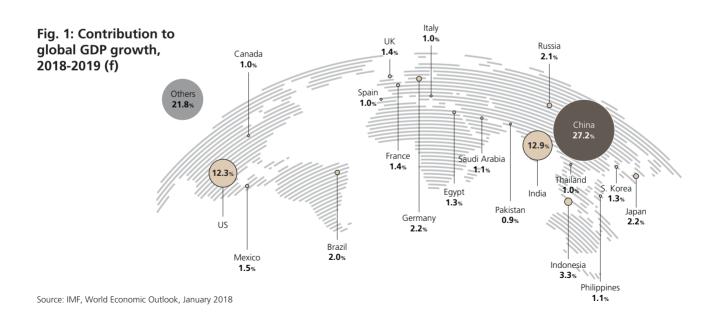
The future just happened

- Long-term forecasts predict China to take the lead as the world's largest economy in ten years;
- China is already the number one driver of global economic growth;
- Trade, debt, and reform issues might cloud the short-term outlook but they are manageable;
- Longer term drivers like financial reform, data-driven innovation, growing consumer demand, industrial upgrading, and trade reorientation will sustain China's growth and present significant investment opportunities.

Economists might disagree on a lot, but they all agree China will overtake the US as the world's largest economy. Estimates range between 2026¹, 2029², and 2030³ but the emphasis now is on 'when' rather than 'whether' it happens.

That is fine for futurists but focusing on China's longterm leading position misses what's happening now and, clearly, the future just happened. China led the world economy in 2018, and is forecast to do so in 2019, adding 27.2% of total global growth during the period, exceeding the 12.9% from India and the 12.3% from the United States, according to the IMF.

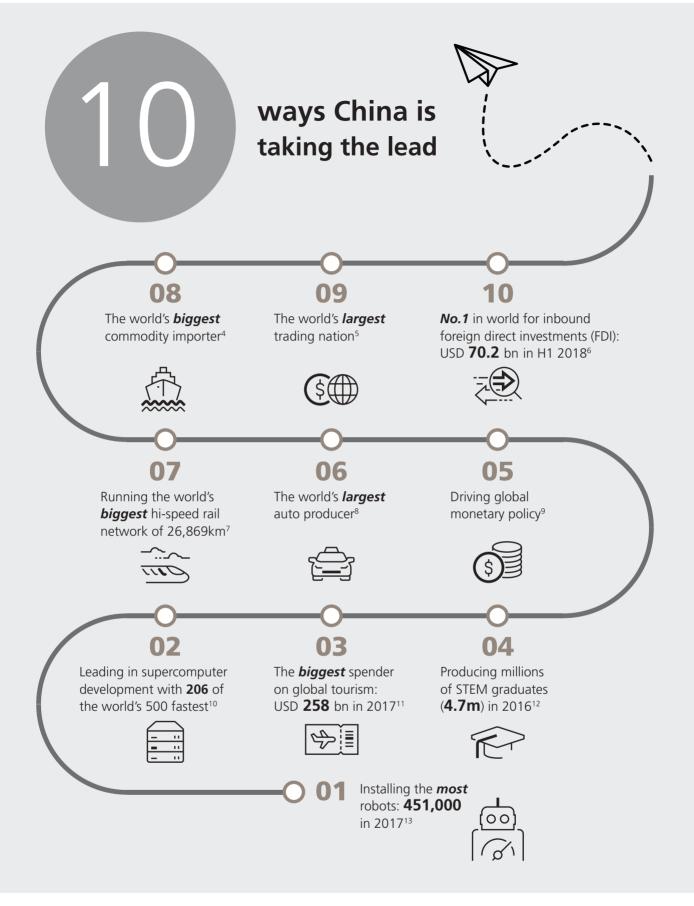
This may come as a surprise, particularly after recent rapid growth in the US, but looking across a range of sectors, it is clear that China is the most influential market globally.



1 EIU: China's Global Ambition, November 20, 2017 (2019)

2 Center for Economic and Business Research: World Economic League Table

3 HSBC: The World in 2030 Highlights



Bloomberg, January 2018 4

- Guardian, May 2018 UNCTAD, October 2018 5
- EESI, November 2017
- 6 7 8 9 International Organisation of Motor Vehicle Manufacturers, March 2018 UBS Asset Management, August 2018
- 10 New York Times, June 2018
- WTO, April 2018 11
- 12 Forbes, February 2017
- International Federation of Robotics, September 2017 13

Near-term concerns

But as we move into 2019, we are focused on China's near-term growth prospects, and we forecast 6.1% growth for China in both 2019 and 2020¹⁴ – slower than previous years but still 25%+ of expected global economic growth during the period.

Two themes dominate the outlook: namely, headwinds from the US-China trade dispute, and government support for the economy in the form of targeted monetary and fiscal policies.

Crucially, our outlook considers that near-term challenges, like trade, debt, and reforms, are manageable, and are being actively managed. Our views on these issues break down as follows:

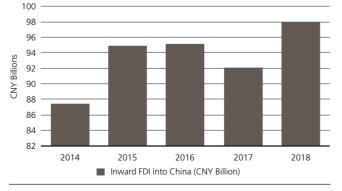
Trade tensions: short-term headwind, long-term catalyst

The US-China trade dispute weighs on growth prospects but a compromise looks likely at the time of writing. China is opening sectors, like autos and financials, to overseas investors and we expect heightened pressure in the US to cause a roll back on the hard line taken during the past year.

In the case of continued pressure, however, the key question is whether trade tensions will impact China's ability to sustain its growth rate over the longer term. In this sense, trade tensions are a short-term headwind, but a long-term catalyst for China.

They are a catalyst because they will accelerate the ongoing trend through which Chinese companies diversify and reorient their export markets away from the United States. This process, supported by new government efforts to forge new free trade agreements around the globe, will position China's export machine in markets like Asia, Africa, and the Middle East which are expected to grow rapidly in the coming years.

Fig. 2: Inward FDI into China YTD (CNY billions), 2014-2018



Source: Bloomberg, November 1, 2018

14 UBS Investment Bank, November 2018

15 Bloomberg, November 15, 2018

Additionally, trade tensions will accelerate the shift in China's economy toward consumer demand. This transition has been ongoing for years and is a key government strategy. Policy is supportive, but urbanization, rising incomes, premiumization, and the shift to organized retail are four fundamentals driving this process.

Finally, the US challenge to China over trade will actually force further reforms in China. There has been some opening in recent months and further steps can be expected in the future.

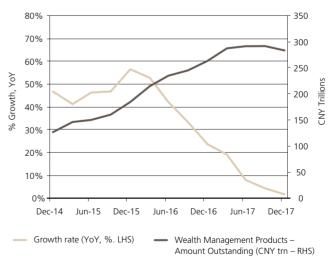
It is important to remember that, despite a raft of trade measures through 2018, foreign direct investment in China actually increased y-o-y; clearly, corporate decision-makers are looking beyond trade tensions and positioning for continued growth.

Debt: manageable, not malign

China's debt-to-GDP ratio grew to 261% in 2017¹⁵, raising fears of liabilities in the financial sector, burdens on Chinese companies, and obstacles to long-term growth.

But a crucial part of this narrative came next, because government measures brought growth of the debt pile to a standstill in 2018 amid a raft of new financial regulations and controls on credit that tightened liquidity in onshore markets.

Fig. 3: Wealth Management Products, December 2014 – December 2017



Source: Bloomberg, November 1, 2018

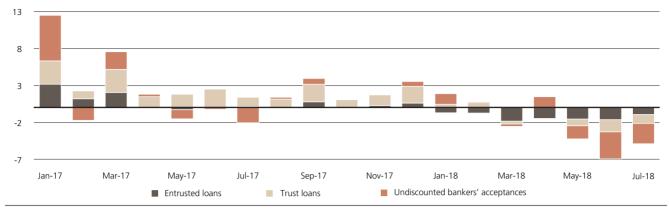


Fig. 4: Shadow banking flows (RMB trillions), January 2017 – July 2018

Source: Bloomberg, November 1, 2018

And this clampdown on credit reached as far as the shadow banking sector, a long source of concern about hidden debts in the financial system.

These measures show that the Chinese government is serious about controlling the debt pile and that steps taken have been substantial.

With the recent cases of monetary policy easing, it has been more a painkiller to the economy at a time of stress, not a steroid-like monetary stimulus that will accelerate another build-up in China's debt pile.

Longer-term, the debt build-up will be a management issue for the government, not a burden on the private sector.

Most of China's debt is concentrated in the state-owned enterprise sector¹⁶ and owed to the government, rather than international institutions. In contrast, companies in the private sector, particularly those that are in the consumer-led sectors that are powering the new economy, have comparatively low debt levels.

Reforms: ongoing, with much more to come China's ability to grow not only rests on managing trade relationships and debt, but delivering on a reform agenda – and there has been marked progress in the past year¹⁷:

- Liberalization: opening up RMB forex derivative markets and domestic bond markets to direct foreign institutional investors, easing of restrictions on overseas investment in autos and financial sectors, expansion of free-trade zones to 11.
- **Supply-side reform**: capacity cuts in steel, coal, coal-fired power plants, reduced corporate and personal taxes, revisions to rural land laws and the launch of a new carbon trading scheme.

- **SOE reform**: three rounds of mixed ownership reform pilots across 50 SOEs, supervision of state-owned assets further streamlined.
- Social welfare and environment: medical coverage expanded to more non-hukou locations, relaxation of hukou policies in selected tier 2 cities.

And we expect to see further changes in the future, including the opening up of telecoms, internet, healthcare, and education sectors to foreign businesses, tax breaks for advanced manufacturing sectors, tougher controls on SOEs, and expanded social welfare.

Taking the lead

In summary, besides taking the lead in the global economy, China is taking the lead in addressing the near-term challenges it faces.

But focusing too much on challenges risks missing out on the investment opportunities that China presents.

There is a series of thematic trends driving China's economy in the future, including the rebalancing of global capital toward Chinese markets, data-driven innovation, industrial upgrading, sustained growth in the consumer sector, and the reorienting of China's trade relationships.

So while there is lots of noise about China, most of it is negative, investors may want to take a long-term strategic view around the new trends and themes detailed in this report. This approach has brought numerous benefits to investors in the past and, as China continues to take the lead in the global economy, the future should be no different.

¹⁶ UBS Asset Management, November 2016

¹⁷ UBS Investment Bank, April 2018

There is a series of thematic trends driving China's economy in the future, including the rebalancing of global capital toward Chinese markets, data-driven innovation, industrial upgrading, sustained growth in the consumer sector, and the reorienting trade relationships.

Rebalancing 2.0: The coming shift in global asset allocation

- Reforms have opened up China's equity and fixed income markets;
- These reforms are sparking a rebalancing of global asset portfolios to reflect China's place in the world economy and its strong growth prospects;
- Investors will find attractive prospects on onshore equity and fixed income markets that offer excellent returns and low correlation with global markets;
- Inherent volatility in onshore markets makes an active investment approach vital to uncover value.

Though China is taking the lead in the global economy, investors remain underinvested in China's financial markets – but that is about to change.

China is at the center of a second rebalancing process that will transform China's financial sector, shift global asset allocation to China, and reflect China's weight in the global economy.

China is moving from the old state-directed financing model to a system with a more diversified range of credit channels that both allows foreign capital to play a greater role and relies more on market-based principles. Opening up to foreign capital is a fundamental part of this. China has made huge steps in recent years by making its equity and fixed income markets fully accessible to global investors following the opening of the Stock and Bond Connects.

The process of rebalancing global asset allocation to China has started, with the shift to onshore assets picking up on both equity and fixed income markets. By the end of September 2018, overseas investors' onshore holdings of equities and fixed income were up 25.2% and 58.0% y-o-y¹⁸, respectively. The index inclusion processes will accelerate this trend.

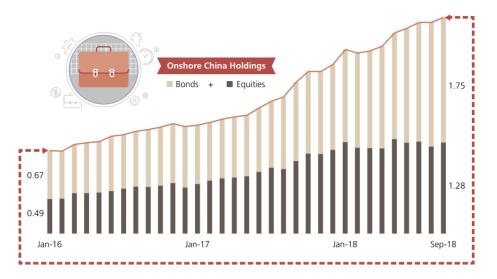


Fig. 5: Overseas investors' onshore China holdings (RMB trillions), January 2016 – September 2018

In just over 2 years, overseas investors' onshore China holdings have been increased by over

2.5x

Equities and fixed income benchmark providers have started bringing onshore assets into their global benchmarks to more fully reflect Chinese markets, and they are anticipated to bring in an estimated USD 300 billion¹⁹ of inflows over the next 10 years.

As these trends play out, investors will have to become aware of the many attractive opportunities in China's onshore markets, with equities and fixed income standing out.

The case for China equities

While 2018 has been as challenging year, data from previous periods show that key China equity benchmarks have performed well.

Our calculations show that average returns on the main Chinese equity benchmarks compare well with other global benchmarks, albeit with much higher volatility.

Fig. 6: Global equity benchmarks – return, volatility, October 1, 2005 – November 30, 2018 (USD)

	Return (%)	Volatility (%)
MSCI North America	7.7	14.1
MSCI Europe	3.6	18.6
MSCI Pacific	3.9	15.4
MSCI China ex A-Shares	10.1	25.9
MSCI China A-Shares	11.6	31.3
MSCI EM Asia ex-China	6.6	21.4
MSCI EM EMEA	1.7	24.1
MSCI EM LATAM	4.4	26.8
MSCI World	6.1	15.0

Source: UBS Asset Management, Bloomberg, as at December 1, 2018

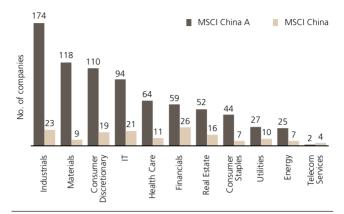
Source: People's Bank of China, November 1, 2018

Benefits beyond returns

Access to onshore markets gives investors a wider choice of companies in fast-growing 'new economy' sectors, like consumer discretionary, IT, healthcare, and insurance, thus offering a wider set of growth opportunities than currently available offshore, like in Hong Kong and US equity markets, where some Chinese companies are listed.

But beyond returns and access, onshore China equities offer valuable diversification benefits to investors, since Chinese equity markets have low correlation to global markets, because they are more focused on growth opportunities in China, where growth trends differ markedly.

Fig. 7: MSCI China A vs. MSCI China (No. of companies), November 2018



Source: UBS Asset Management, November 1, 2018

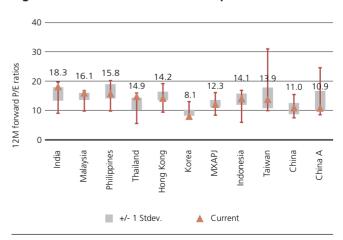
Fig. 8: Correlations between global equity indices, February 2002 – September 2018 (USD)

	1	2	3	4	5	6	7	8
MSCI North America	1.00	0.88	0.73	0.62	0.31	0.77	0.73	0.72
MSCI Europe	0.88	1.00	0.78	0.67	0.33	0.79	0.82	0.76
MSCI Pacific	0.73	0.78	1.00	0.69	0.32	0.78	0.80	0.70
MSCI China ex A-Shares	0.62	0.67	0.69	1.00	0.58	0.77	0.72	0.69
MSCI China A-Shares	0.31	0.33	0.32	0.58	1.00	0.40	0.33	0.36
MSCI EM Asia ex-China	0.77	0.79	0.78	0.77	0.40	1.00	0.81	0.77
MSCI EM EMEA	0.73	0.82	0.80	0.72	0.33	0.81	1.00	0.86
MSCI EM LATAM	0.72	0.76	0.70	0.69	0.36	0.77	0.86	1.00

Source: UBS Asset Management, Bloomberg, as at September 30, 2018

And by historical standards, China equity valuations on A-share markets look attractive. Trading at 10.9x P/E at the end of September 2018, valuations are low, particularly when considering fundamentals for 'new economy' sectors look attractive.

Fig. 9: 12M forward P/E ratios, September 2018



Source: UBS Asset Management, Bloomberg, as at September 30, 2018

Opportunity in volatility

But China equities come with volatility. Though a challenge, this actually represents opportunity for experienced active managers with detailed sector knowledge, rigorous research practices, and a nose for on-the-ground conditions.

China's equity volatility comes in part because the market is retail-driven. This is one aspect that we expect will reduce over time as more long-term, institutionallydriven capital enters the market, but still represents an opportunity for active managers with the knowledge and research capabilities to identify and take advantage of mispricing.

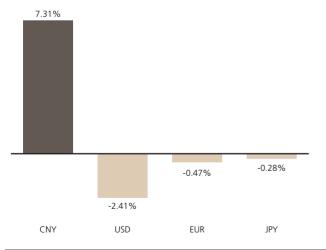
On-the-ground research makes a difference here. Drilling down into China's markets, visiting companies, surveying customers and suppliers, helps build a true picture of corporate quality, which is particularly valuable in China's retail investor-driven market.

China fixed income

While it has been a challenging year for China equities, it has been a standout year for local-currency China fixed income, which has delivered outstanding returns compared with other major markets so far into 2018.

And that is on top of China fixed income offering some of the best yields currently available on global markets, a trend that will continue given China's ongoing efforts to keep monetary policy tight and pursue a deleveraging agenda.

Fig. 10: Local currency bonds total return YTD, December 31, 2017 – November 13, 2018



Source: Bloomberg, November 13, 2018

Fig. 11: 10yr government bonds (nominal yields), January 1, 2013 – November 1, 2018



Source: Bloomberg, November 2018

China's bond market is in a rapid growth period, sparked by reform. Investors have typically put their capital into housing but the Chinese government has been opening up the bond market as an alternative investment channel, thus moving the emphasis away from bank-led financing to the economy.

This factor, combined with opening the bond market as a source of local government financing, and as an option for international investors, is putting the Chinese onshore bond market on track to overtake the Japanese market and emerge as the second-largest in the world by 2020²⁰.

Market reforms, like the opening of the Bond Connect and the China Interbank Bond Market, as well as regulatory changes, like imposing tougher standards on domestic credit ratings agencies and opening the market to overseas ratings agencies, mean index providers are steadily putting onshore bonds into their benchmarks.

These structural trends are compelling, but onshore fixed income offers a series of highly attractive benefits to investors – too strong for global investors to ignore. From a return perspective, onshore China bonds offer decent return and relatively low-risk compared to other global bond benchmarks.

Additionally, onshore fixed income offers diversification benefits compared to other global indices, giving investors protection against global market headwinds.

	Return (%)	Risk (%)	Risk Adjusted (%)
Barclays US AGG Hdg	3.9	3.1	1.2
Barclays Global ex-USD Agg Hdg	4.0	2.5	1.6
JPM EMBI Global Divf Hdg	6.7	8.2	0.8
JPM GBI-EM Hdg	3.7	4.3	0.9
JPM GBI-EM Unh	4.1	12.8	0.3
Barclays China Agg Hdg	3.8	2.9	1.3
Barclays China Agg Unh	5.1	3.3	1.5
JPM China Credit	5.8	9.0	0.6

Fig. 12: Global bond statistics, October 2005 – September 2018 (USD)

Source: UBS Asset Management, Bloomberg, as at September 30, 2018

Fig. 13: Correlations between global fixed income indices, February 2002 – September 2018 (USD)

	1	2	3	4	5	6	7	8
Barclays US AGG Hdg	1.00	0.77	0.58	0.58	0.34	0.13	0.14	0.46
Barclays Global ex-USD Agg Hdg	0.77	1.00	0.34	0.49	0.18	0.11	0.13	0.26
JPM EMBI Global Divf Hdg	0.58	0.34	1.00	0.68	0.73	0.09	0.10	0.84
JPM GBI-EM Hdg	0.58	0.49	0.68	1.00	0.74	0.14	0.23	0.50
JPM GBI-EM Unh	0.34	0.18	0.73	0.74	1.00	0.03	0.21	0.59
Barclays China Agg Hdg	0.13	0.11	0.09	0.14	0.03	1.00	0.56	0.04
Barclays China Agg Unh	0.14	0.13	0.10	0.23	0.21	0.56	1.00	0.06
JPM China Credit	0.46	0.26	0.84	0.50	0.59	0.04	0.06	1.00

Source: UBS Asset Management, Bloomberg, as at September 30, 2018

Conclusion

Put together, China's efforts to open up its stock and fixed income markets amount to a concerted effort to reform its financial sector. These reforms will improve efficiency and credit allocation by bringing in foreign banking expertise, make the market more investible by increasing the influence of longer-term institutional capital, and opening up new funding channels for domestic businesses.

As these processes play out, there will be attractive opportunities for equity and fixed income investors, where standalone investments in the two asset classes offer excellent prospects from a return and diversification perspective. But China remains a challenge for investors, because rules can be opaque and markets volatile. Given this reality, taking an active approach with a well-resourced local team and an on-the-ground network can help investors navigate markets and position accordingly.

New fuel for a new economy

- China produces the most data globally from its vast internet user base;
- Data access gives Chinese companies an advantage when delivering innovative products and services;
- Insurance, healthcare, and retail are three sectors where data-driven innovations are most prevalent;
- Further growth in user bases and the adoption of 5G technology will reinforce China's advantage and sustain growth in 'new economy' sectors.

China produces between nine to 10 zettabytes of data annually, accounts for between 20% and 25% of all data produced globally²¹ and has the largest pool of online user data of any country globally.

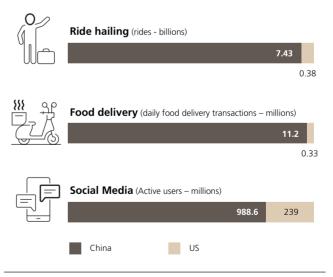
That means internet users supply a steady, sizeable stream of data to Chinese companies, particularly those in new economy sectors, like IT, e-commerce, financial services, and retail, that speeds the development of new products and services.

China's data superiority rests on three key growing fundamentals:

- **771.9 million internet users**, or about 15% of total internet users globally²². Though large this still has room to grow because 55.8% of China's residents are online, compared with 95.6% in the US²³. When that rate grows to around 80%, it will bring an estimated extra 350 million users online.
- **1.47 billion smartphone subscribers**, or about 18% of total global subscribers²⁴. Smartphones offer real-time tracking of consumer behavior and give apps and operators a wealth of diverse and detailed data on user habits.

 USD 15 trillion in cashless payments, compared with less than USD 2 trillion²⁵ in the United States, Chinese consumers are putting a huge amount of business through cashless channels, delivering a wealth of data points to retailers about behavior, preferences, and spending patterns.

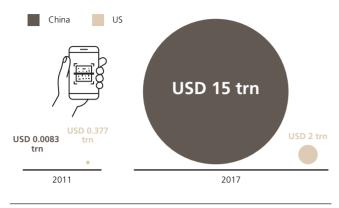
Fig. 14: Key operational metrics, US and China companies compared, 2017



Source: Bloomberg: China Great Tech Leap Forward, September 29, 2018

- 21 Goldman Sachs, September 4, 2018
- 22 China Internet Network Information Center, July 11, 2018
- 23 Internet World Stats, November 1, 2018
- 24 China Internet Network Information Center, July 11, 2018
- 25 KKR, August 2018

Fig. 15: Cashless payments (USD trillions) US vs. China, 2011 vs. 2017



Source: KKR, August 2018

But while having data is an opportunity, turning it into marketable products and services is a challenge. In this respect, Chinese companies are proving adept at turning data insights in cash, and a recent news story about a newly-launched chocolate bar can explain.

One leading Chinese internet platform used data from millions of daily transactions to map consumer tastes and analyze buying behavior and built it into a product specification for a foreign chocolate firm. The result – a spiced chocolate bar – became an instant hit in China, generating sales of USD 1.43 million²⁶.

This ability to gain deep insight into consumer preferences and develop finely targeted products is one that Chinese companies are increasingly applying in lots of different industries, with three particular sectors standing out:

- **Healthcare**: access to healthcare data enables medical researchers to assess patients health in detail and gauge the risks they face in contracting particular diseases or conditions, while opening the opportunity to deliver precision medical care to patients. This is a huge opportunity because it targets a growing market for healthcare in China, where patients are increasingly willing to spend more on higher quality treatments.
- **Insurance**: data-rich insurers are applying their analysis to create a whole range of new tools for customers. One such example is a car insurance scoring app developed by one of China's leading internet services companies that users personal information, like credit history and profession, together with real-time data readings, like on

spending habits and driving behavior, to more efficiently measure driver risk and deliver estimated savings of 6% to 10% on claim costs and non-claim costs²⁷.

 Ride-hailing: car ownership is growing fast in China but costs can be prohibitive, especially in China's largest cities where annual licenses in cities like Shanghai can cost as much as USD 14,022²⁸. App-based ride hailing has developed into a huge business in China, with one company reporting 7.43 billion rides per year²⁹.

A 5G-driven future

And while China's data prowess is formidable, improvements in telecoms technology look likely to boost it in the future, particularly in the roll-out of 5G technologies.

5G technology is the next generation in mobile technology – it means more advanced telecommunications networks that can handle much larger and more diverse range of data communications.

5G networks offer the foundation to connect an unlimited number of machines and will significantly improve not only the amount of devices that a network can handle, but can offer significantly faster communications speeds.

And China is taking the lead in installing the infrastructure and developing the hardware that will give it an advantage in 5G technology. By mid-2018, China had 1.9 million 5G enabled wireless transmitters installed, compared with 200,000 in the US³⁰, and had 14.1 installed transmitter sites per 10,000 people, compared with 4.7 in the US and 8.7 in Germany³¹.

New fuel will drive the new economy What this all means is that Chinese companies capable of harnessing, processing, and analyzing new dataflows, as well as developing new products to suit them, will have a huge advantage in developing the tech products of the future.

So with China's data superiority, and the prospect of growing it in the future as China's online user base expands and companies innovate, is one of the key reasons why it will see good growth prospects for 'new economy' companies.

'New economy' sectors currently mining China's rich seam of data and developing innovative products include healthcare, IT, insurance, and consumer discretionary spaces.

31 Deloitte, October 2018

²⁶ Bloomberg, October 28, 2018

²⁷ BCG, February 2, 2018

²⁸ Economist, April 19, 2018

²⁹ Bloomberg, September 29, 2018

³⁰ Fierce Wireless, August 7, 2018

China consumer demand: A four horse carriage

- Consumer demand drives China's economy;
- Fundamentals and structural changes are supporting growth and have a long way to run;
- Innovative 'new retail' formats have the potential to propel further growth in the formal consumer sector.

China's USD 4.9 trillion retail market³² took the lead as the world's largest in 2016 and it is now at the heart of the growth strategies for global consumer products companies like Apple, Burberry, and Volkswagen.

China's consumer is at the heart of the economy, contributing 53.6% of GDP in 2017³³, marking a dramatic rebalancing from 2009 and 2010 when exports and fixed asset investment dominated growth.

But there is still room for growth. At 53.6% of GDP, private consumption as a share of GDP in China still lags behind the 86.9% in the US, 84.2% in the UK³⁴, and 77.6% in France³⁴.

Policy support is lining up with recent tax cuts for lowincome earners, tax breaks on education spending, relaxed rules on rural-urban migration, and roll-out of social services around the country.

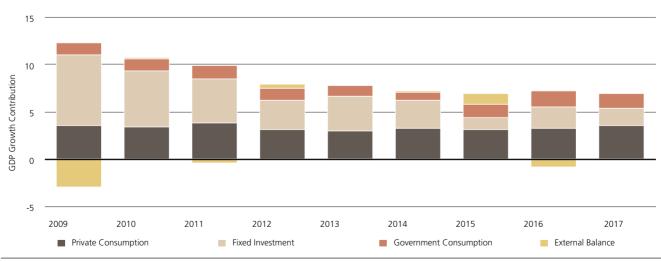


Fig. 16: China GDP growth by source, 2009-2017

Source: Bloomberg, CEIC, National Bureau of Statistics, November 11, 2018

32 Emarketer, February 2017

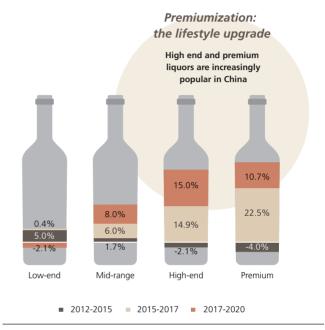
33 Bloomberg, November 12, 2018

34 World Bank Databank, November 13, 2018

Fundamentally, there are three ongoing drivers to propel consumer demand in the coming years:

- Urbanization: an additional 242.5 million people are expected to migrate to China's cities between 2015 and 2030³⁵, bringing millions of people into formal employment and bolstering what is already the world's largest retail market.
- Income growth: there has been a steady increase in disposable incomes during recent years, with 8.4% y-o-y³⁶ recorded in H1, as workers transitioned to higher paying jobs in services sectors and labor markets tightened.
- Lifestyle upgrades: China's consumers are increasingly trading up for higher-quality, premium brands and services. There are a number of drivers for this, including increased incomes and desire for social status, and its driving demand in a wide range of sectors, including autos, home appliances, foods, high-end liquor, and clothing.

Fig. 17: Sales of liquor by sales segment, 2012-2015, 2015-2017 (est.), and 2017-2020 (est.)

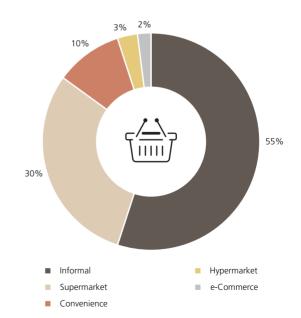


Source: Bloomberg, September 2017

While the three above demand-side factors are fundamental to the long-term outlook, there is an important structural change playing out on the supplyside that offers growth opportunities in the future.

Transition from unorganized to organized retail Supermarkets, hypermarkets, 2018³⁷ and e-commerce outlets all make up part of the fast-growing organized retail sector, and this sector has a lot further to grow since approximately 55% of China's grocery retail sector consists of traditional mom-and-pop stores and oldstyle, informal wet markets.

Fig. 18: China grocery retail: channel distribution, 2016



Source: Bain & Company, How Brands Can Get Ahead of China's Tectonic Shifts in Grocery Retail, September 20, 2017

- 35 UN Urbanization Prospects, December 2017
- 36 Economist Intelligence Unit, October 2018
- 37 Bain & Company, September 20, 2017

How China makes this shift toward organized retail in the coming years is a key part of the consumer story and the recent introduction of 'New Retail' formats is a trend that offers strong growth potential for companies leading the charge.

New retail basically means bringing the online retail management expertise and practices that propel China's fast-growing e-commerce sector into the offline retail world.

That means applying the latest technology to improve in-store experiences, consumer choice, supply chain management, and delivery efficiency. Examples of 'new retail' approaches include:

- **Opening unmanned stores**: where consumers visit, check out products, order via online systems, pay via mobile payment or facial recognition, and either get their products delivered directly to their homes, or have them rapidly delivered in-store.
- **Upgrading old capacity**: renovating mom-andpop stores, supplying them with online ordering infrastructure, and adapting them to serve as delivery centers. These service upgrades give retailers updates on what products are selling well, special offers on new products, and closer, more efficient supply chain management.
- Online tracking from beginning to end: all aspects of the purchasing cycle are recorded online, giving retailers detailed information on consumer preferences and buying trends, which can then be used to refine product offerings and improve supply chain and inventory management.
- **Rapid last-mile delivery**: home delivery within 30 minutes of ordering marks a huge leap forward in order fulfilment even from two to three years ago, and drone deliveries offer new delivery options that can make last-mile fulfilment even more rapid.

Benefits

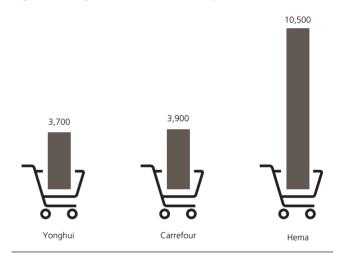
These aspects have clear benefits for consumers in terms of rapid delivery, cheaper prices, and convenience, but for companies the benefits are:

• **Reaching into untapped markets**: new ways of tapping into unpenetrated, offline retail sectors, like groceries and fresh produce, make it likely that retailers can seek growth by monetizing retail channels and pockets of growth that are currently part of unorganized retail markets.

• Much more detailed data on consumer behaviour: bringing consumer demand and ordering online creates a highly valuable flow of customer data that allows firms to understand demand more closely, and adapt product offerings to the market, and more efficiently manage inventory.

And initial data that compares order numbers at one leading new retail format store, Alibaba's Hema, show a marked advantage compared to two established supermarket chains in China, indicating a strong response from consumers to new formats.

Fig. 19: Daily retail transactions per store



Source: Alizila, New Retail Surges in China, may be roadmap for US retailers, June 1, 2018

The transition to organized retail being driven by new retail formats that give consumers better experiences and promotes stronger competition is one aspect of China's ongoing consumer story that has plenty of room to run in the coming years.

This transition, coupled with the strong underpinning outlook for fundamental demand drivers, will present excellent opportunities for investors in the companies that manage the infrastructure, i.e. IT platforms, and deliver the products, i.e. companies in consumer sectors, as China's consumer story continues.

Further up the value chain

- China continues to move up the value chain;
- China's huge domestic market, established manufacturing base, and large pools of skilled labor make a ecosystem ripe for innovation;
- China is taking the lead in new industries like electric cars, robotics and drones;
- Trade tensions may arrest some export sales, but it will not stop China from innovating.

Upgrading: a long-term trend

With all the coverage of Made in China 2025, you would think the process of upgrading China's manufacturing base had only just begun.

But China has been moving up the value chain for years, raising its share of global medium-to high-tech exports from 11% in 2005 to 20.3% in 2016³⁸, and dominating sectors like solar energy (photovoltaic) cells, LCD and LED products, and air conditioners.

The hand of the government is undoubtedly prominent in this process: on the one hand, providing state subsidies and directed credit for upgrading firms while, on the other, withdrawing support for low-end manufacturers via tighter environmental regulations, higher minimum wages, and stricter control of export licenses.

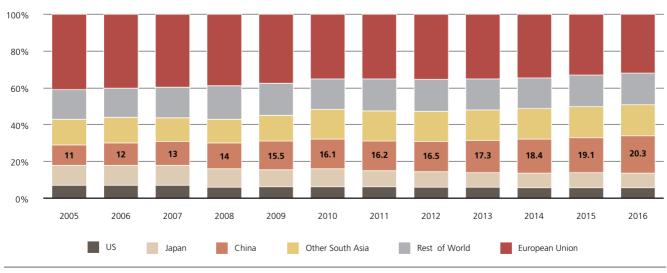


Fig. 20: Share of global medium-to high-tech exports (%), 2005-2016

Source: Bloomberg, CEIC, National Bureau of Statistics, November 11, 2018

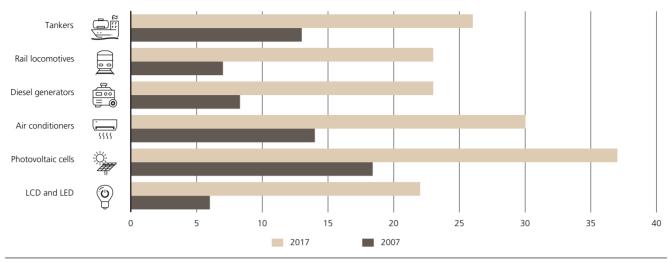


Fig. 21: China's share of global exports (%), 2007 vs 2017

Source: Financial Times: China's relentless export machine moves up the value chain, September 23, 2018

But government support is only one part of the story, because private companies are the ones driving the industrial upgrading trend. In part that is because they are embedded in an environment uniquely suited to innovation, for three main reasons:

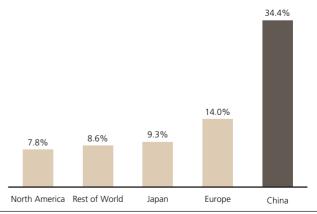
- A huge manufacturing ecosystem: Huge manufacturing hubs, including those in Guangdong, Fujian, and Zhejiang provinces, offer product developers the industrial capacity to develop ideas and bring them to market quickly, and at cheaper prices than in other international hubs.
- A growing labor force of qualified workers: China had 4.7 million graduates in science, technology, engineering, and mathematics (STEM) subjects at the end of 2016³⁹, offering a workforce of people with the skills to develop and execute hi-tech products and services.
- A large domestic market: China's 1.3 billion population speaking a single dominant language constitutes a vast home market where new products have the potential to deliver huge revenues.

R&D on the increase

And with this environment as a backdrop, Chinese companies are rapidly increasing R&D spending to develop future innovations, with the private sector in the lead – financing 83.2% of total R&D, compared to 16.8% from government sources, according to the OECD⁴⁰.

In 2018, Chinese companies boosted R&D spending by 34% y-o-y in 2018, the fastest y-o-y increase seen globally.

Fig. 22: Estimated growth in R&D spending (YoY, %) 2018



Source: PwC: What the top innovators get right, November 2018

39 Forbes, February 2017

40 Organisation for Economic Cooperation and Development, December 2018

And these investments mean China is taking the lead in many advanced manufacturing sectors, and three in particular stand out:

Electric vehicles

Elon Musk might dominate newsflow around electric vehicles (EV), but China is leading the world as both a production hub and a sales market.

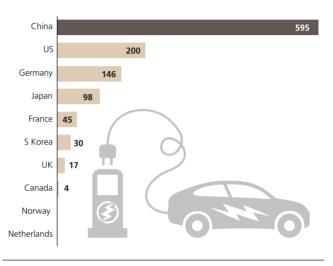
China's move into the EV industry began in 2009 with a multi-city policy experiment that supplied tax breaks to researchers and car makers, subsidies to EV buyers, and investment in critical infrastructure, like charging stations and production technology⁴¹.

Via this multi-year experiment, automakers in China developed the knowhow, capacity, and market infrastructure to support the roll-out of EV development. And that is one of the main reasons why Tesla, Volkswagen, BMW, and Ford have all ramped up China investments.

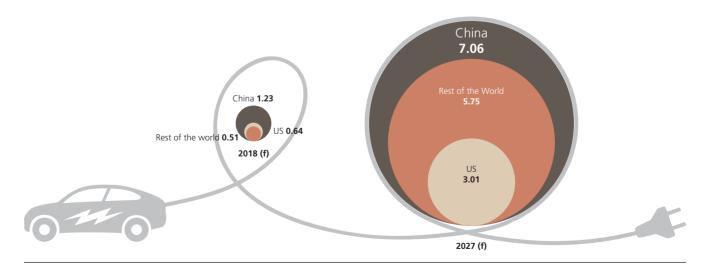
Importantly, the potential market for EVs in China is a major attractor. Rapid urbanization and government subsidy support are driving investments, but EV companies also see China as an important laboratory. The sheer size of the market offers huge potential data flows that can support the development of new technologies.

Fig. 24: Global electric car sales (millions), 2018 (f)-2027 (f)

Fig. 23: Electric cars: global production ('000s, 2017)



Source: ICCT Power Play white paper, May 2018



Source: Cairn Energy Research Advisors, September 1, 2018

41 Cairn Energy Research Advisors, September 1, 2018

Robotics

2016 marked a turning point for China's robotics sector. In that year, total installed robots reached 340,000, overtaking the total installed in the US, and setting China up as the largest market for robots in the world.

China's declining workforces, rising wages, and fierce competition for profits have pushed manufacturers to rapidly automate their operations.

But there's still much room for growth because China only has 36 units per 10,000 workers, well behind the global average of 66, and 478 units per 10,000 workers in Korea, and 314 units in Japan⁴².

And China is seeing a massive increase of investment in robotics manufacturing capacity, with investments from not only domestic producers, but also major international manufacturers like ABB, Yaskawa, and Kawasaki, who are investing heavily in China. China represents a double dividend for robotics manufacturers.

Firstly, it is a huge sales market that is growing rapidly and with big future growth prospects and, secondly, the market – with the world's biggest amount of installed robots – is a huge potential source of data on operations that robot manufacturers can use to refine, develop, and improve their products. That is why Siemens has built its HQ for robot development in China.

Putting these factors together, the prospects for China's development into a leader in robotics are looking very strong indeed, and that's why industry bodies expect the supply of robotics systems from China to rise from 115,000 in 2017 to 210,000 by 2020, enough to take 40% of the global market⁴³.

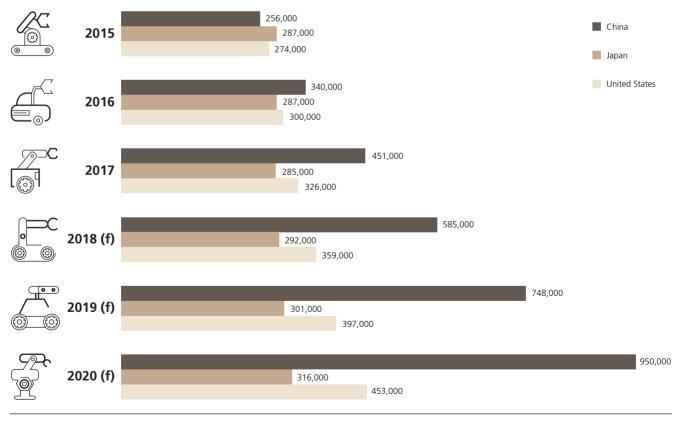


Fig. 25: Installed robots: China, US, and Japan compared, 2015-2020 (f)

Source: International Federation of Robotics, September 2017

42 Asian Robotics Review, October 2018

43 International Federation of Robotics, September 2017

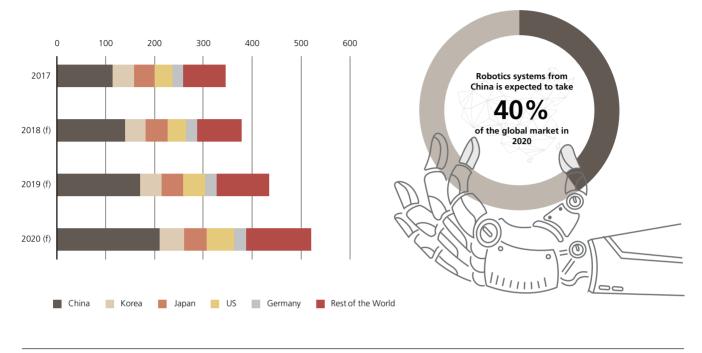


Fig. 26: World supply of industrial robots, 2017-2020 (f)

Source: International Federation of Robotics, September 2017

Drones

Looking ahead, there are many industries where China will take the lead in the future, and the drone industry is one shining example of a high-tech industry that China dominates now.

DJI, a Shenzhen-based consumer drone manufacturer, has moved rapidly since its establishment in 2006 to grab an estimated 70%+ share of the global market at the end of 2017^{44} .

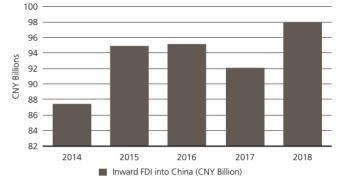
Based in the heart of Shenzhen, China's innovation and manufacturing heartland, the company has rapidly brought innovative products to market and created a range of products including palm-sized models and drone swarms. In part, DJI's growth and that of the industry itself in China reflects the three key factors mentioned earlier – a well-integrated industrial base, a ready supply of qualified technicians, and a large domestic market.

Crucially, government support is a key catalyst, with China moving faster to allow drone testing sites and permit the use of drones for urban deliveries and civilian uses.

That is a key difference when compared internationally, and an important underlying factor why China is expected to continue dominating the global drone market in years to come. **Trade tariffs won't stop innovation** Trade tensions do cloud the near-term outlook for China's manufacturing sector, but looking long-term we remain confident that China's industrial sector will still be able to not only grow but continue innovating and moving up the value chain, for four key reasons:

- The US isn't China's only export market: other emerging markets, like those in Asia, the Middle East, Africa, as well as Japan and the European Union remain an important source of future growth.
- The domestic market remains a huge prize: tariff headwinds will not dim the attraction of China's fastgrowing domestic market, which represents a rich, proximate market with the potential for big revenues if you can get the right product into it.
- Innovation doesn't stop because of trade tariffs: China has an innovation advantage from its established manufacturing base, large market and qualified workforce, but it is also aggressively adapting its visa programs to attract more highly qualified workers, just at the time when the US is putting up restrictions.
- Overseas companies still remain keen on China: regardless of trade tensions, overseas manufacturers are still expanding in China to access both domestic and regional markets. This influx of foreign capital, together with industry knowhow, means China is still well positioned to move up the value chain.

Fig. 27: Inward FDI into China YTD (CNY billions), 2014-2018



Source: Bloomberg, November 1, 2018

The outlook for Chinese innovation

So while trade uncertainties muddy the short-term outlook, we are confident in the longer-term outlook for China to continue moving up the value chain and deliver innovations that will sustain growth over the next 10-15 years.

China has the right ingredients – a large domestic market, high-skilled workers, and its well-established industrial base – as well as necessary government support to develop new higher-value industries.

Reorienting trade

- Trade barriers dominate the newscycle going into 2019 but underlying changes in emerging markets point to a more open trade flows in the future;
- China is pushing a free trade agenda to open new overseas markets in Asia, Africa and the Middle East to trade and investment;
- Chinese companies are moving their operations overseas in concert with the roll-out of the Belt & Road strategy;
- Their investments are concentrated in areas where the middle class is set to expand by 2.9 billion people by 2030.

While trade tensions dominate the newscycle, an important shift is happening in China's trade model that shows China's future may not lay in sending its goods to established, developed markets but by servicing the economies of the future.

Stepping up a free-trade agenda

That is because China has stepped up its trade agenda and signed free trade deals to give its companies access to overseas markets. China has concluded 17 global free-trade agreements (FTAs), negotiated another 14, and targeted another nine deals⁴⁵. Most notably, the Regional Comprehensive Economic Partnership is in the final stages. This deal establishes a free-trade bloc of 16 Asian countries, including China, India, Singapore, Indonesia, and Vietnam, at a time when the IMF projects the region will grow 6%+ annually in 2019 and 2020⁴⁶.

Ramping up overseas investment

And Chinese companies are positioning, investing USD 109.5 billion in 195 overseas greenfield projects during the past ten years⁴⁷. At the same time, China's Belt and Road initiative has ramped up and put an estimated USD 382.8 billion into new ports, rail links and road infrastructure at the end of 2017⁴⁸.

- 46 IMF: World Economic Outlook, October 2018
- 47 American Enterprise Institute, November 13, 2018

48 Asia Times, April 2018

⁴⁵ China Ministry of Finance and Commerce: China's Free Trade Agreements, November 13, 2018

Belt and Road ramps up



• Greenfield investments by Chinese companies

Positioning for future global growth And Chinese companies' overseas investments are highly strategic and targeted in global markets that are expected to see the largest growth in population and middle class over the next 12 years.

Fig. 29: Recent greenfield investments and projected growth in middle class and populations by region

	Total new greenfield investment projects, 2008-2017	Middle class growth, 2015-2030 (Millions)	Demographic growth, 2015-2030 (Millions)
Asia-Pacific	252	2,703	425.3
Sub-Saharan Africa	64	75	449.1
North America	62	-16	39.4
South America	32	132	136.8
Europe	27	16	-1.4
Middle East and North Africa	16	129	135

Source: American Enterprise Institute, November 2018 & Financial Times, April 2015

Long-term prospects look strong

Opening up new markets, establishing overseas capacity and linking with hard infrastructure, will reorient China's trade model for the 21st Century, and that is an important consideration at a time when trade concerns dominate newsflow and adds further weight to our conviction that finding the right companies leading these trends will give investors long-term strategic positioning as China's growth story continues.



27

UBS Asset Management, your first call for China

As China takes the lead in the world economy, UBS Asset Management is taking steps in China with our growing onshore presence and expanding product offerings.

Ranked as the leading foreign asset manager operating onshore in China, we are recognized as the market leader for not just our onshore, outbound, and inbound capabilities, but also because we are 'exceptionally wellrun.'

That is because UBS has been building an onshore presence for the past 30 years, opening representative offices in 1989, establishing our UBS Securities JV in 2005, receiving a private fund management license for asset management business in 2017, and taking majority ownership of UBS Securities in 2018.

All this effort means we have an outstanding team of experienced investment managers for traditional and alternative assets. Our dedicated China team benefits from the support of our wide-ranging team of global specialists who have access to a global network of proprietary research databases.

The depth and breadth of our capabilities allow us to offer global and domestic investors a broad range of traditional China strategies and alternative solutions including real estate, private equity and hedge fund solutions.

Investors can access China's onshore and offshore market through our wide spectrum of equity, fixed income and multi-asset class strategies with varying risk and return attributes to fit their specific needs and goals.

For offshore investors

UBS Asset Management has been offering equity, fixed income and multi-asset solutions since 1997



■ Onshore equity ■ Offshore equity ■ Onshore bonds ■ Offshore bonds ■ Onshore alternatives

Source: UBS Asset Management

Strategy	Description		
China Equity Private Fund Series 1	A-share fund focused on inves		
CSI 300 Financials	Passive index investment Clos		

For onshore investors

A-share fund focused on investment opportunities in China's new economy.	\checkmark	
Passive index investment. Closely tracking the CSI 300 Financials and Property index.	1	
Invests mainly in the target ETF fund.	1	
Focuses on effectively tracking the CSI 300 Index.	1	
Focuses on having higher investment income than the benchmark.		1
Provides investors with low volatility and stable returns.		1
Based on the effective control of risk and steady long-term increase in value of the fund's assets.		1
Focuses on the non-domestic credit bonds in mid and high grade.		1
Based on the effective control of risk; steady long-term increase in value of the fund's assets and maintaining liquidity.		1
Invests in high quality companies from health care and related industries.	1	1
Optimizes the allocation of different assets and portfolio selection in order to achieve a steady long-term increase in value of the fund's assets.	1	1
Pursues low risk and stable income. Focuses on bonds and invest steadily.	\$	✓
Through the rational allocation of assets such as stocks and bonds, balance income and risk for a steady long-term increase in value of the fund's assets.	1	1
Balanced investment strategy and seize the investment opportunities of booming industries.	\$	1
Based on the effective control of risk and organic combination of various investment strategies. The objective is to increase steadily the value of the fund's asset in the long term.	s	\checkmark
Invests mainly in companies with core competitive advantage, good corporate governance structure and sustainable profitability.	1	1
Invests mainly in high quality companies that are innovative and share the excess return of business growth.	\$	<i>√</i>
Aims to achieve steady long-term increase in value of the fund's assets by investing in companies that have good prospects and rapid growth opportunities.	1	1
	Passive index investment. Closely tracking the CSI 300 Financials and Property index. Invests mainly in the target ETF fund. Focuses on effectively tracking the CSI 300 Index. Focuses on having higher investment income than the benchmark. Focuses on having higher investment income than the benchmark. Provides investors with low volatility and stable returns. Based on the effective control of risk and steady long-term increase in value of the fund's assets. Focuses on the non-domestic credit bonds in mid and high grade. Based on the effective control of risk; steady long-term increase in value of the fund's assets and maintaining liquidity. Invests in high quality companies from health care and related industries. Optimizes the allocation of different assets and portfolio selection in order to achieve a steady long-term increase in value of the fund's assets. Pursues low risk and stable income. Focuses on bonds and invest steadily. Through the rational allocation of assets such as stocks and bonds, balance income and risk for a steady long-term increase in value of the fund's assets. Balanced investment strategy and seize the investment opportunities of booming industries. Based on the effective control of risk and organic combination of various investment strategies. The objective is to increase steadily the value of the fund's asset in the long term. Invests mainly in companies with core competitive advantage, good corporate governance structure and sustainable profitability. Invests mainly in high quality companies that are innovative and share the excess return of business growth. Aims to achieve steady long-term increase in value of the fund's assets by investing in companies that have good prospects and rapid growth	Passive index investment. Closely tracking the CSI 300 Financials and Property index. Invests mainly in the target ETF fund. Focuses on effectively tracking the CSI 300 Index. Focuses on having higher investment income than the benchmark. Focuses on having higher investment income than the benchmark. Focuses on the offective control of risk and steady long-term increase in value of the fund's assets. Focuses on the non-domestic credit bonds in mid and high grade. Based on the effective control of risk; steady long-term increase in value of the fund's assets and maintaining liquidity. Invests in high quality companies from health care and related industries. Pursues low risk and stable income. Focuses on bonds and invest steadily. Pursues low risk and stable income. Focuses on bonds and invest steadily. Through the rational allocation of assets such as stocks and bonds, balance income and risk for a steady long-term increase in value of the fund's asset. Pursues low risk and stable income. Focuses on bonds and invest steadily. Through the rational allocation of assets such as stocks and bonds, balance income and risk for a steady long-term increase in value of the fund's assets. Balanced investment strategy and seize the investment opportunities of booming industries. Based on the effective control of risk and organic combination of various investment strategies. The objective is to increase steadily the value of the fund's asset in the long term. Invests mainly in companies with core competitive advantage, good corporate governance structure and sustainable profitability. Invests mainly in high quality companies that are innovative and share the excess return of business growth. Aims to achieve steady long-term increase in value of the fund's assets by investing in companies that have good prospects and rapid growth

Source: UBS Asset Management, UBS SDIC

Bonds

Equity

Glossary

'A' shares: Shares in mainland China-based companies that trade on Chinese stock exchanges.

Belt & Road: A China-led strategy that includes a 'belt' – a land-based infrastructure network connecting China with Southeast Asia, the Middle East, Central Asia, Russia, and Europe, and a 'road' – a sea-based infrastructure network connecting China with Southeast Asia, Oceania, North Africa, and Europe.

Bond Connect: A mutual market access scheme allowing mainland China and overseas investors to trade in each other's bond markets via brokers in China and Hong Kong. Launched in July 2017, the system currently allows for northbound (Hong Kong to China) trading, southbound trading will be brought in at a later date.

'H' shares: Shares of companies incorporated in mainland China that are traded on the Hong Kong Stock Exchange.

Made in China 2025: An initiative to upgrade China's industrial sector that is similar in form to Germany's "Industry 4.0" plan introduced in 2013. The plan stresses innovation-driven industrial development and the importance of quality over quantity.

Shanghai-Hong Kong Stock Connect: An investment channel linking the Shanghai Stock Exchange and the Hong Kong Stock Exchange. Investors in each market are able to trade shares on the other market using local brokers and clearing houses. Launched in November 2014.

Shenzhen-Hong Kong Stock Connect: Similar to the Shanghai-Hong Kong Stock Connect but linking Hong Kong with Shenzhen. Launched in December 2016.

SOE: State-owned enterprises.

STEM: Acronym for Science, Technology, Engineering, and Mathematics.

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