Photo credit: CNN Money

Policy Drivers Affecting China Crossborder Aviation Investments in Korea and Beyond

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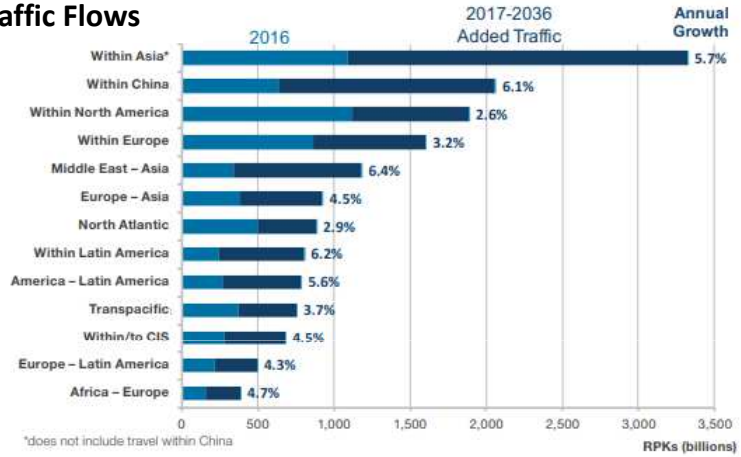
Airline Economics Korea Conference

March 20, 2018

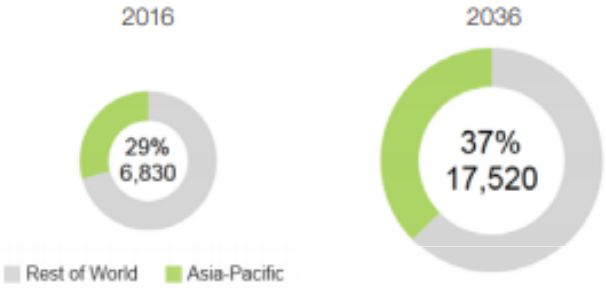
Growth led by Emerging Markets

Traffic Flows



- Frequency of travel rises steeply with increasing disposable income
- Emerging low cost airlines are key enablers. Seat capacity of low cost airliners in the Asia-Pacific region grows at the rate of 22% per year compared to a 10% average among Asian airlines.

Share of World Fleet



- Traffic in mature markets has been overtaken by Asia-Pacific economics
- Asia-Pacific will extend its position as the largest traffic region
- Growth driven by economic fundamentals, long-term demographics and market liberalization

Rapid growth in emerging regions is driving strong demand for aircraft

The Rise of Lessors in China

Status in 2007	
Chinese Lessors in top 20 globally	**0**
Aircraft managed by Chinese lessors	**30**
Backlog owned by Chinese lessors	**108**

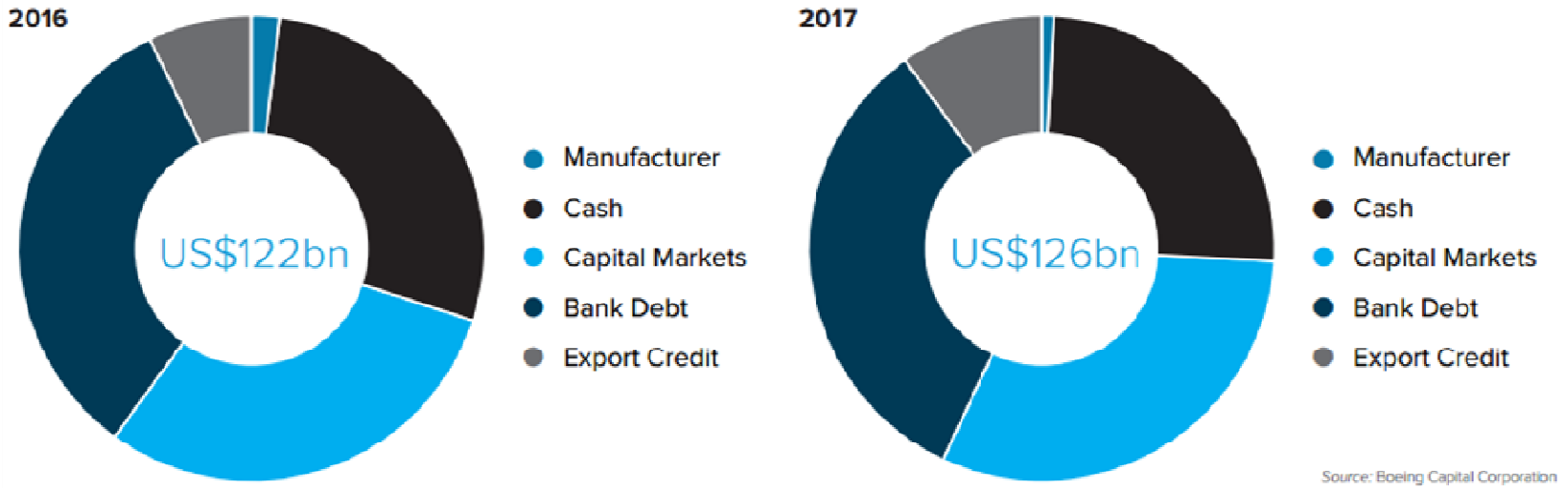
Status in 2017	
Chinese Lessors in top 20 globally	**6**
Aircraft managed by Chinese lessors	**1,592**
Backlog owned by Chinese lessors	**1,190**

Source: IBA's iQ

Ranking	Top 20 lessors by aircraft number
1	AerCap
2	GECAS
3	Air Lease Corporation
4	SMBC Aviation Capital
5	BOC Aviation
6	Avolon
7	BBAM
8	Aviation Capital Group
9	ICBC Leasing Co
10	AWAS
11	Macquarie AirFinance
12	CDB Aviation Lease Finance
13	Aircastle Limited
14	ALAFCO
15	Boeing Capital Corp
16	China Aircraft Leasing Limited
17	ORIX Aviation
18	Standard Chartered Aviation
19	Jackson Square Aviation
20	BoCom Leasing

Source: IBA's iQ

Global Industry Funding Breakdown



- Sources of aircraft funding have evolved with the support of the aircraft manufacturer
- Increasing demand from consumers (Airlines)
- Use of operating lease by capital sources (i.e. commercial banks and leasing companies) by captive and non-captive banks or manufactures

Aviation Financing Map

Capital Markets

Continued innovation

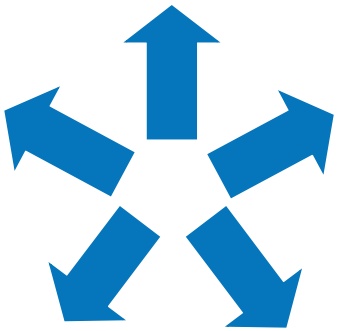
1st – Shanghai Listed ABS

Commercial Banks

Asian and Middle East has seen a large increase in activity

EACs

Expected to increase



Chinese Banks

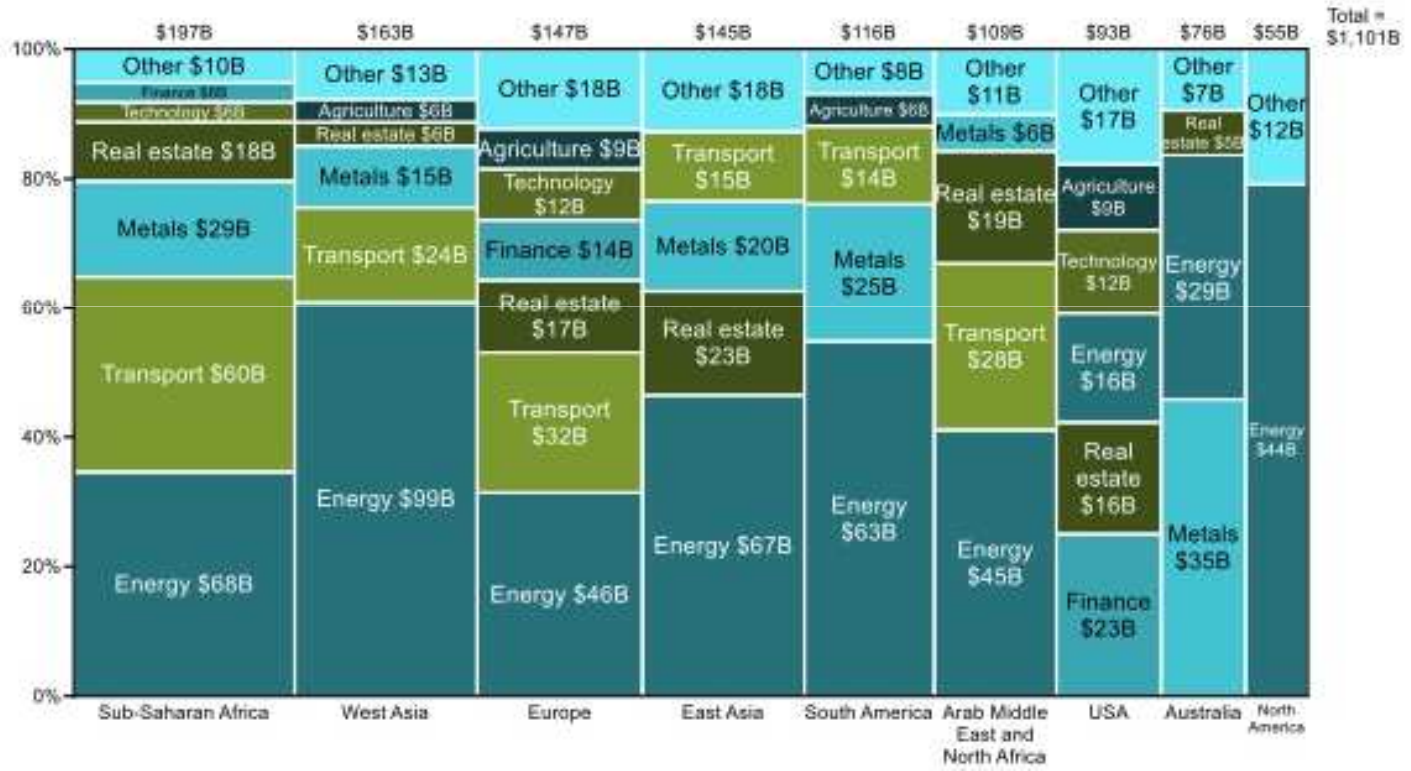
Many banks that are large investors in financial leasing with aviation

Chinese Insurance Companies

Created financial leasing companies, some with a focus on aviation

China Investments by Region and Sector

- Energy investments dominate, especially in developing countries
- Data from 2004-2015



Source: American Enterprise Institute

Changing Trends in M&A

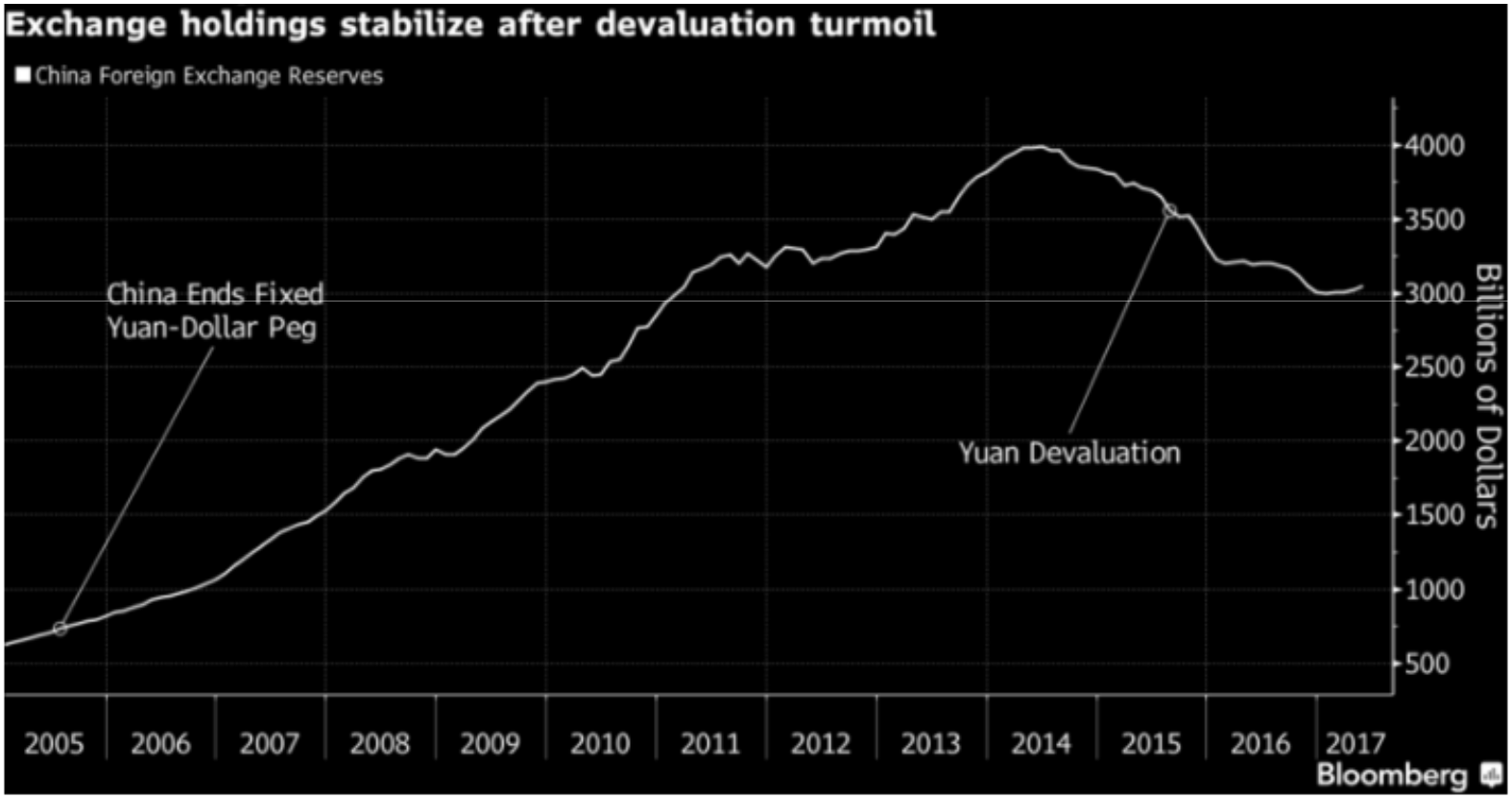
Source: ThomsonReuters, ChinaVenture, and PwC analysis

* Includes/excludes ChemChina's acquisition of Syngenta at US$43 billion.

Changing Trends in M&A

- Data from the third quarter of 2017 shows that the number and value of Chinese company M&A deals has decreased.
- Representative of decrease in the share of overall investment in U.S. and Europe
  - 77% for calendar year 2016 compared to 50% for latest figures
  - Compared to the 300% increase in value of transactions making up the $214.9 billion figure for 2016

Preserving Reserves



One Belt One Road (OBOR)

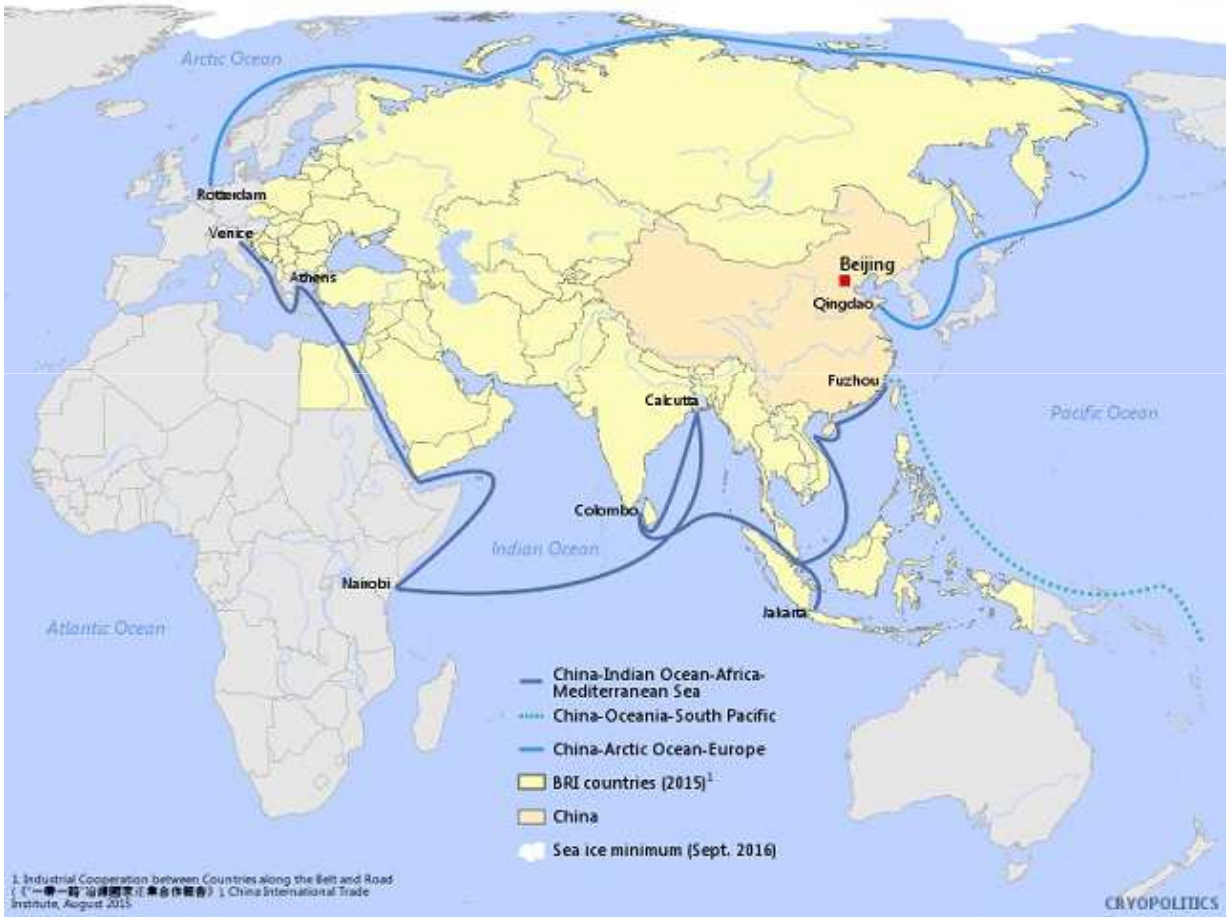
- Create a Silk Road 2.0 by linking countries along the old Silk Road by land and sea through investment in infrastructure and increased trade
- Initiative by President Xi Jinping first announced in 2013, took off in 2015
- Founding and backing of the Asian Infrastructure Investment Bank in 2013 and the Silk Road Fund in 2014
- Driving crossborder and outbound investment in countries involved
- Increased investment in aviation related industries including airports, airlines, tourism activities and aircraft leasing

One Belt One Road

China's modern-day adaptation of the ancient Silk Road aims to revive the routes via a network of railways, ports, pipelines and highways

Artic One Belt, One Road

- Polar silk road
- Announced Jan 2018



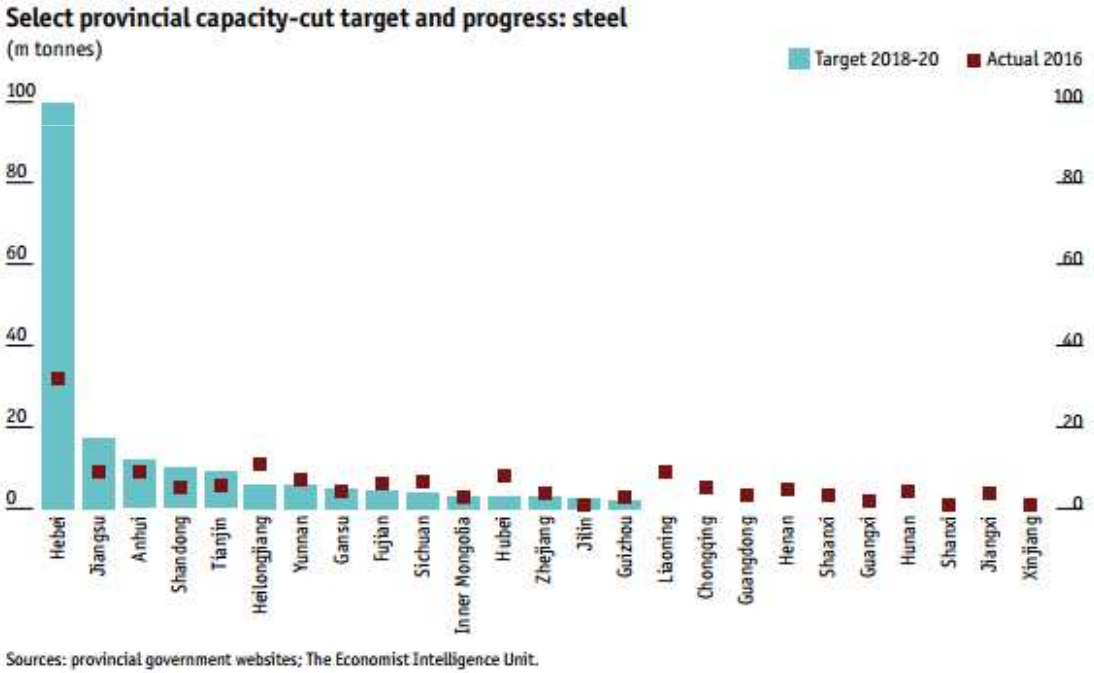
Supply-Side Structural Reforms (SSSR)

- Main economic policy framework beginning in 2015
- The goal is to reset and “guide the new normal” with a lower dependence on stimulus
- “Three cuts, one reduction, one strengthening” :

1. **Cutting** (industrial) **overcapacity**
2. **Destocking** (property inventory)
3. (Corporate) **deleveraging**
4. **Lowering corporate costs**
5. **Improving** “weak links” (Made in China 2025)

Cutting Industrial Overcapacity

- Resulted in an overall increase in the profitability of companies
- Early success may not continue as successive over-capacity cuts become increasingly more difficult to make



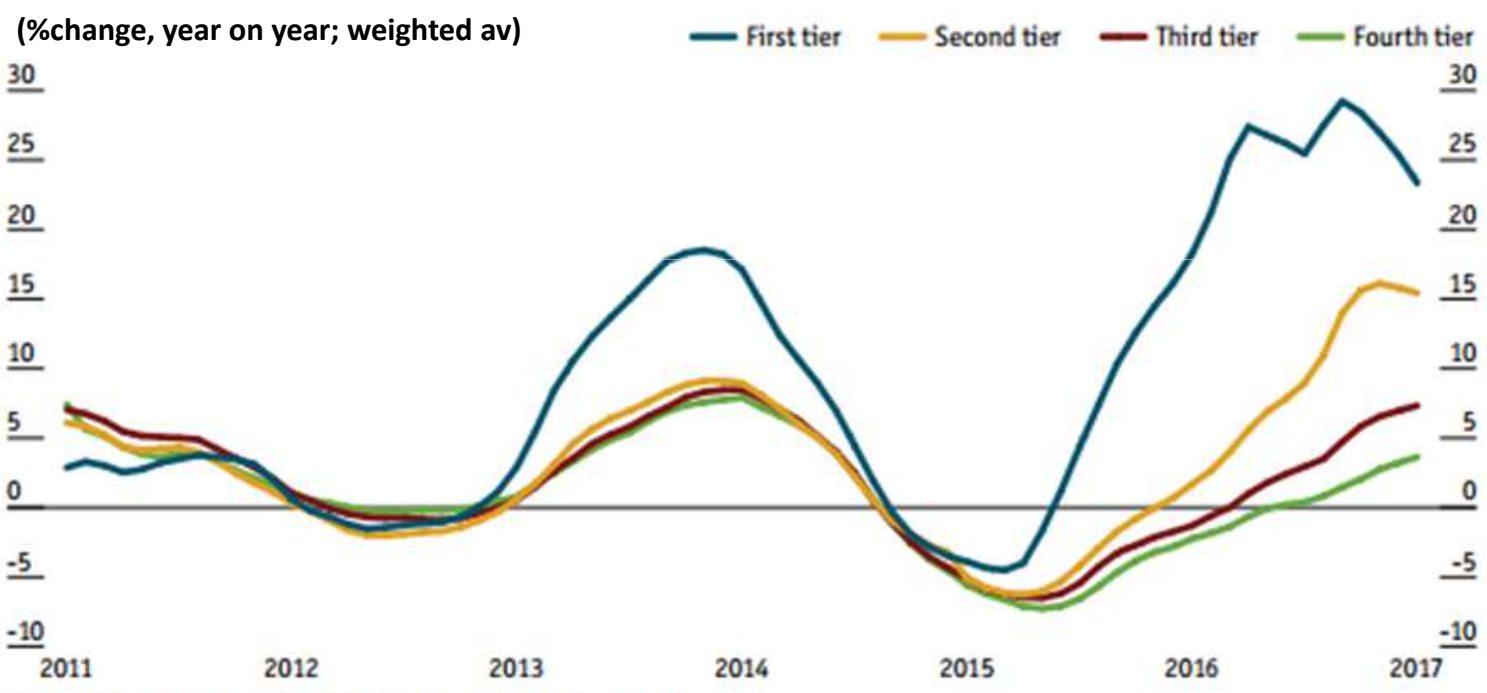
Destocking Property Inventory

- Overall Aim: To clear the large stock of unsold housing
- Slow down the growth of Tier 1&2 major cities (shown price increases) and create more demand for smaller cities – mostly Tier 3 & 4
- The property industry and investment is still one of the major drivers of the economy
- Investment in physical property is still one of the few ways for domestic households
- New rules on eligibility to buy, mortgage financings, have slowed some Tier 1 & 2 markets
- These trends go along with the major trends of urbanization and hukou reform (tied to social benefits, housing, etc)

Destocking Property Inventory

New-house prices by tier

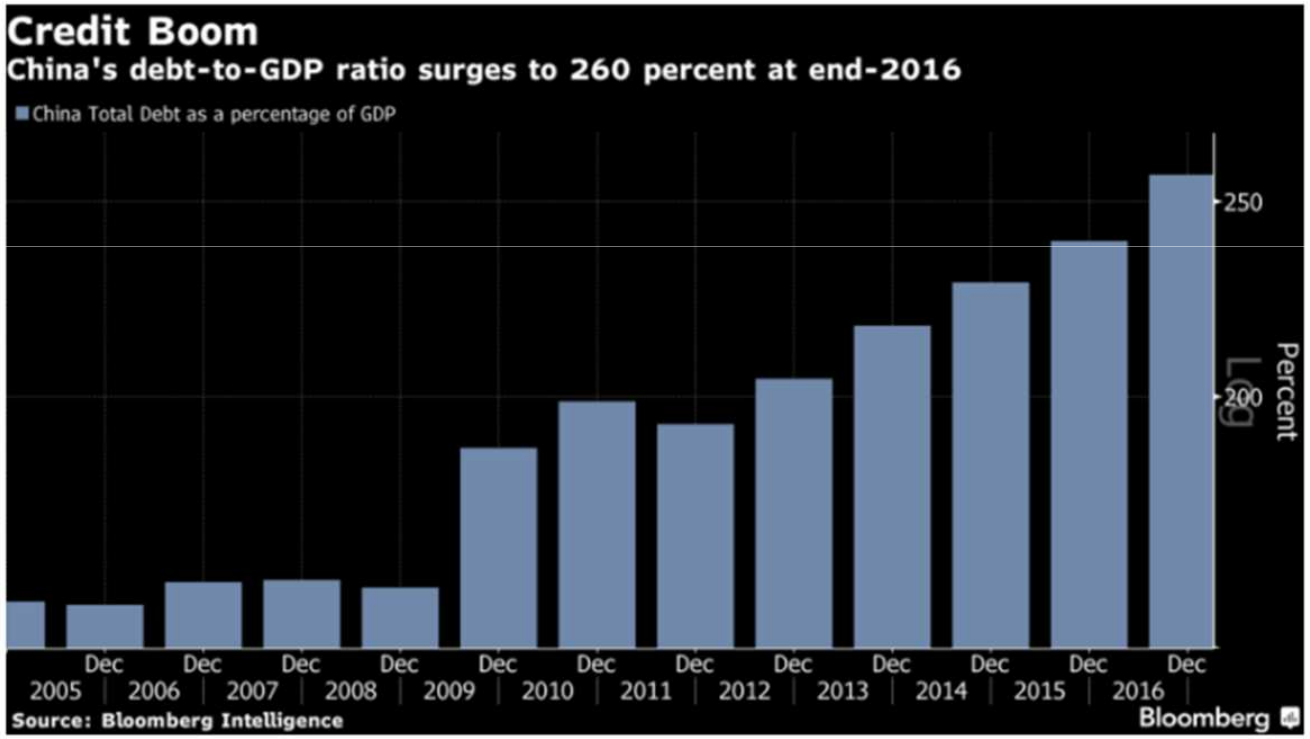
(%change, year on year; weighted av)



Source: National Bureau of Statistics; The Economist Intelligence Unit

Deleveraging

- Economic growth became increasingly dependent on credit after the 2008-2009 financial crisis



Deleveraging

- **Corporate debt, particularly from SOEs is the main focus of reforms**
  - Corporate debt accounted for 65% of total debt as of September 2016
  - Local data claims the liabilities of SOEs represent ~70% of the total corporate debt

- **Potential options:**
  1. Debt-for-equity swaps
  2. Consolidation of the hundreds of state enterprises into a smaller group of national champions
  3. Forcing bankruptcy onto insolvent "zombie" companies
  4. Partial privatization, with stake sales used to pare back debt

Deleveraging

- **Local governments have shut down projects such as subways in western China**

- **Policy has not slowed growth of aviation related infrastructure**
  - China plans to build 74 new airports by 2020
  - Plans to build136 airports by 2025
  - Largest currently under construction to handle over 100 and 90 million passengers annually in Beijing and Chengdu, respectively

Lowering Corporate Costs

- Akin to Regannomics for China
- Focused more on reducing fees and bureaucracy rather than major tax cuts
- Trying to stimulate the economy through encouragement of “mass entrepreneurship” by Premier LI Keqiang
- Test regions of policies such as the free trade zones such as the Tianjin Dongjiang Free Trade Port zone (“DFTP”) and Shanghai FTZ and the new Henan Zhengzhou Airport Economic Zone which are the homes of the most active jurisdictions for aircraft leasing in China

19th Party Congress

- The aforementioned trends where present in the meeting of the 19th Party Congress:

1. Excessive corporate debt
2. Industrial Overcapacity
3. Property Bubble: Houses are for living
4. Environmental Pollution

Getty Images

Lowering Foreign Investment Restrictions

- Unified “Negatives” list combining previous restricted and forbidden lists
- Allow foreign companies to own Chinese banks and investment management firms
- All enterprises in China to be "treated equally in rights, opportunities and regulations”
  Yi Gang, Vice President of the People's Bank of China
- Number of items in the negative list for foreign investment in the four free trade zones (Shanghai, Tianjin, Fujian, Guangdong) reduced from 190 in 2013 to 95 in 2017

Opening Up Financial Sector

- Cap on investment in Chinese banks removed
- Foreign investors will be allowed to own 51% in securities firms, investment managers and life insurance providers
- Restrictive ownership rules in China's sector have been a big bone of contention for foreign firms as foreign banks were only allowed minority shareholdings, they had limited influence over big decisions
- Increased competition in financial sector to prevent inefficient allocation of capital

Cutting Frivolous Overseas Investment

- Demand - Increased desire for offshore assets due to exchange rates and perceived higher regional investment growth and returns
- New edicts
  - Lower convertibility and liquidity of RMB
  - Investments should be within the competencies of the business and core policy of government to be supported
  - Support of RMB exchange rate and foreign reserves
  - Still support for core activities
- CBRC review of credit exposures for “systematic risk”
- Review of credit risk exposures on companies with high profiled overseas investments including named Anbang Insurance Group Co., Fosun International Ltd., Dalian Wanda Group Co. and HNA Group

China's Top Five Outbound Investors in 2016 by Total Deal Value

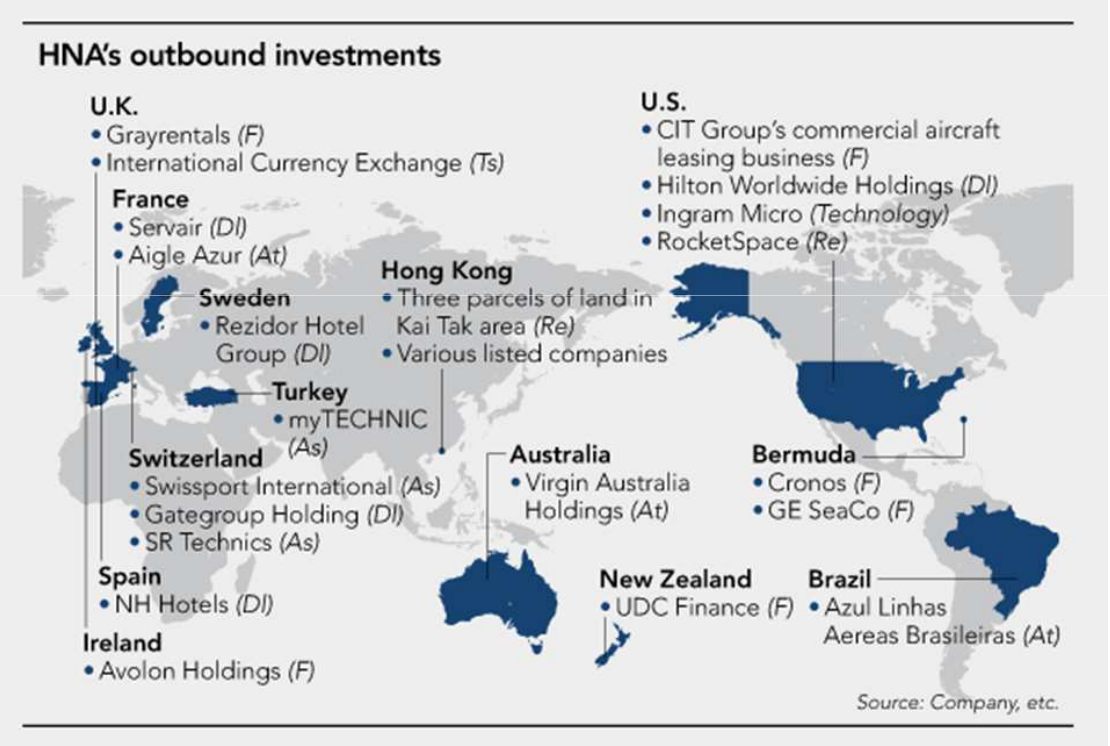
Rank	Acquiror Patent	Deal Value (US$ Billions)	Number of Deals	Share (in percent)
1	China National Chemical Corp. (ChemChina)	49.35	7	21.8
2	HNA Group	26.85	21	11.9
3	State Grid Corp of China	9.11	2	4.0
4	Tencent Holdings	8.89	8	3.9
5	Dalian wanda Group	7.69	8	3.4

Source: Dealogic

Figures for HNA Group include deals struck by Bohai Capital Holding, Tianjin Tianhai Investment, in which HNA has controlling stake, does not include HNA's acquisition of two parcels of land in Hong Kong, other nonoperating assets

HNA Group

- Between early 2015 and 2017, HNA had announced over 80 deals totaling more than $40 billion
- Investment in real estate, airports and aviation related companies, hotels, logistics, banks, tech distributor, computer, network and software distributor, and international currency exchange
- Adam Tan, CEO of HNA Group “We will not invest in anything the government does not support”



Recent Crossborder Investment by China by HNA Group

Deals

- Nov 2017 – Automotive Holdings Group Ltd (refrigerator logistics) AUS$280bn – 100% (Announced)
- Apr 2017 – Glencore (oil products storage/logistics) $775m – 51% (Closed 12/29/17)
- Feb 2017 – Deutsche Bank (Bank) undisclosed – initial 3%, grew to ~10% pared to 8.8% (Feb 2018)
- Jan 2017– SkyBridge Capital (Investment firm) undisclosed (Announced)
- Oct 2016 – Hilton Worldwide Holdings Inc (Hotels) $6.5bn – 25% (Closed 3/17)
- Oct 2016 – CIT Group Inc.'s (Aircraft leasing) $10bn – 100% (Closed 4/4/17)
- Jul 2016 – SR Technics Switzerland (Maintenance/service) undisclosed – 80%
- Jun 2016 – Hahn Airport in western Germany (Airport) ~$16m– 82.5% – (Closed 2/26/17)
- May 2016 – Virgin Australia (Airline) $114m – 13% increased to 19%
- May 2016 – Air France's Servair (airline catering) $530m total valuation – 49.99% (Closed 12/16)
- May 2016 – Singapore's CWT (logistics) ~$1bn – ~30%(Closed 6/17)
- Apr 2016 – UK International Currency Exchange (airport FX exchange) undisclosed
- Apr 2016 – Carlson Hotels (Hotels) undisclosed (Closed 12/16)
- Apr 2016 – Gategroup (Airline catering) $1.5bn – 100% (Closed 12/22/16)
- Feb 2016 – Ingram Micro (Tech distributor) $6bn – 100% (Closed 12/6/16)
- Nov 2015 – Azul Brazil Airline (Airline) $450m – 23.7% (Closed 8/16)
- Sep 2015 – Avolon (Aircraft leasing) $6.4bn – 100% (Closed 1/16)
- Jul 2015 – Swissport (Ground / cargo handling) $17.5bn – 100% (Closed 2/2017)

Fosun

- Industries including pharmaceuticals, soccer clubs, financial service related companies, resort clubs, film studios
- Guo Guangchang, executive director and chairman of Fosun International, said "Fosun's investments are in line with the regulations."

Source: Bloomberg

Recent Crossborder Investment by China by Fosun

Deals

- Feb 2018 – Lanvin (French luxury fashion house) ~$122m – undisclosed (Closed 2/22/2018)
- Aug 2017 – Arbor (U.S drug maker) undisclosed (Bid)
- Jul 2016 – Gland Pharma (Indian pharmaceutical company) <$1.09bn – 74% (Closed 10/4/17)
- Jul 2016 – Torre Sucupira $140m – 100% (Closed 7/27/16)
  Jul 2016 – Rio Bravo Investimentos (Brazilian fund manager) undisclosed – 100%
- Jul 2016 – Wolverhampton Wonderers (British football club) £45m – 100% (Closed 7/21/16)
- Nov 2015 – Hoshino Resorts Tomamu (Japanese ski resort) ¥18bn – 100%
- Sep 2015 – Ahava (Israli dead sea minerals cosmetic company) $77m – 100% (Closed 9/29/15)
- Jul 2015 – Hauck & Aufhäuser (German private bank)– 99.91% (Closed 9/9/16)
- May 2015–Ambrx acquired by Consortium with 3 other companies – undisclosed
- May 2015–Ironshore Inc. $1.8bn – remaining 80% (Closed 11/23/15) *Sold in 2016
- May 2015– 126 Madison Ave (New York real-estate) undisclosed
- Apr 2015–Cirque du soliel (Canadian entertainment company) undisclosed – 20% (Approved 6/1/15)
- Mar 2015 – Thomas Cook (British travel agency) £92m – 5%
- Jan 2015 – 73 Miller Street (Sydney real estate) acquired by partnership – undisclosed
  *Sold to Partner in 2017
- Jan 2015 – Club Mediterrannee (French resort club) acquired by Consortium undisclosed

Wanda

- Industries including film related assets, leisure, retail, entertainment
- Retaliatory measures will include banning banks from providing Wanda with financial support linked to these projects and barring the company from selling those assets to any local companies, the people said. 7/17
- Restricted investments include U.S. Legendary Entertainment, U.S. AMC Entertainment, U.S. Carmike Cinemas, European cinema chain Odeon & UCI Cinemas Group, Nordic Cinema Group and UK yacht maker Sunseeker International

Wanda

Sell Offs

- Nov 2017– Packaged deal of $US1.2 billion One Beverly Hills in Los Angeles, $US1 billion One Nine Elms in London, $US900 million Vista Tower in Chicago, $US1 billion One Circular Quay in Sydney and the $US900 million Jewel Resort in Gold Coast for $5bn to undisclosed
- Jul 2017 – Sold portfolio of 13 tourism-related projects to Sunac China for 43.8bn RMB
- Jul 2017 – Sold Portfolio of 77 hotel assets to R&F Properties for 19.9bn RMB

Source: Financial Times

Wanda Deals (not real estate)

Subsidiary	Business	Date	Purchase price (US$)
AMC Theatres	8,200 cinema screens globally	2012	**2.6 billion**
Sunseeker Yachts	Builder of luxury yachts	2013	**411 million**
Edificio Espana	Madrid landmark	2014	**359 million (sold 2016)**
Infront Sports & Media	Swiss sports marketing company	2015	**1.2 billion**
Atletico Madrid	Football club	2015	**52 million (20%)**
Hoyts Cinema	Cinemas in Australia, New Zealand	2015	**366 million**
World Triathlon Group	Iron Man races, merchandising	2015	**650 million**
Legendary Entertainment	Hollywood movie production studio	2016	**3.5 billion**
Wuhan Central	3.4 million sq m of gross floor area		
Wanda Plaza & Mall	More than 200 plazas and malls across China with 33.87 million sq m		
Wanda Film Holding	Chinese movie studio		**58% stake**
Wanda Hotel Development	Chinese hotel developer		**65% stae**

Source: Wanda Group website and public information SCMP

Anbang

- Industries include hotels, insurance, bank, hotel and real estate companies
- Fueled by insurance premiums including “risky” wealth management products
- “Ordered” by government to sell Waldorf Astoria and other oversees assets
- Chairman detained

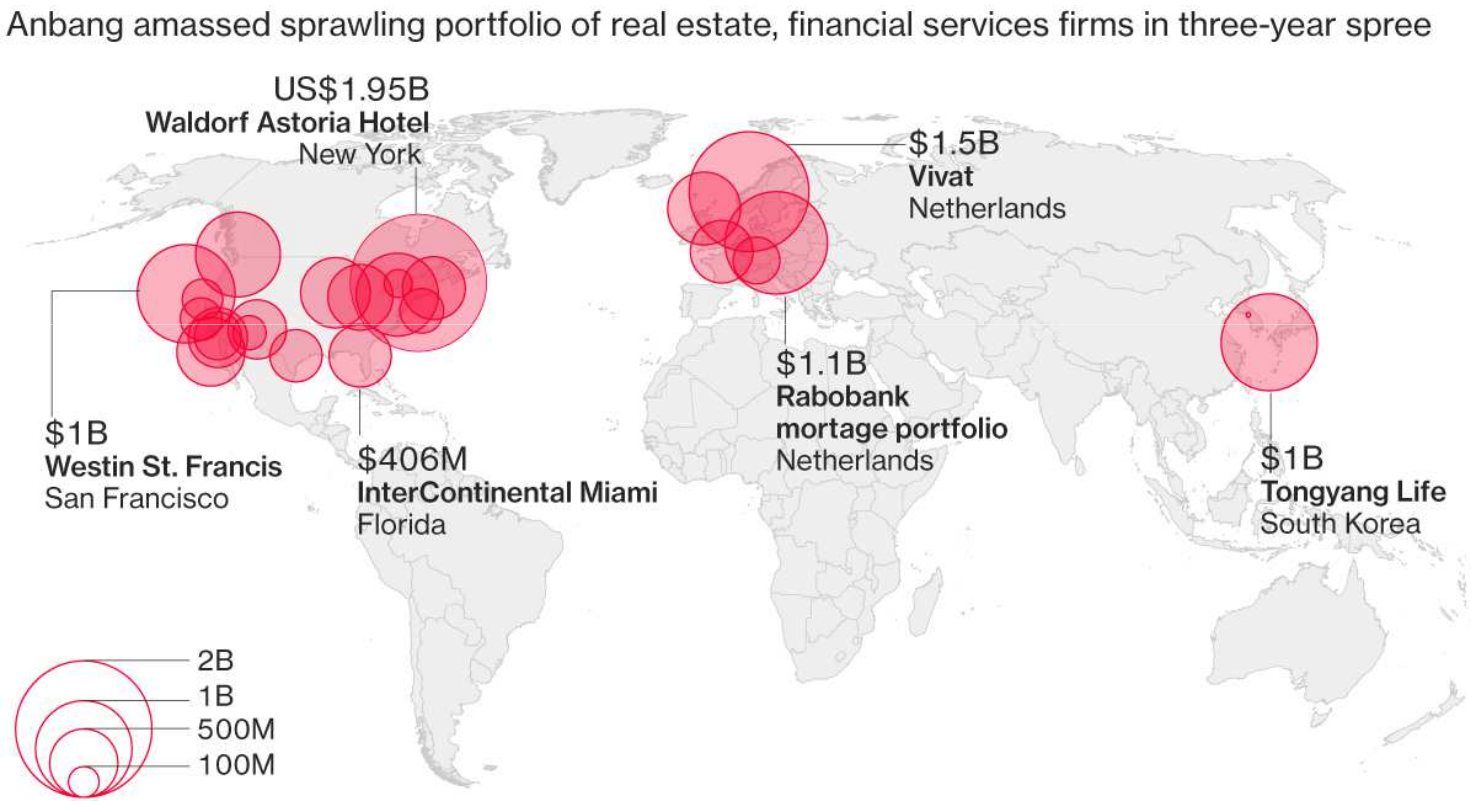
Government Takeover of Anbang

- The China Insurance Regulatory Commission (CIRC) stated Chairman of Anbang was charged with economic crimes, and the company broke the law.

- The takeover is supposed to allow too-big-to-fail companies from collapsing and threatening stability

Photo Source: SCMP

Global Takeover Binge 2015-2017

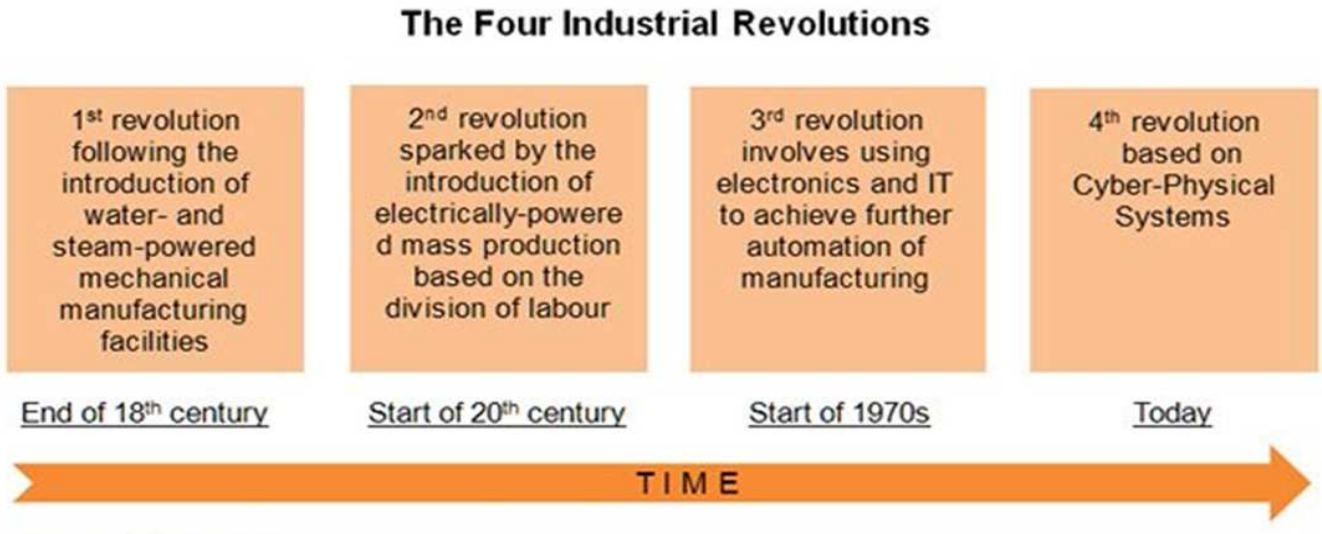


Notes: Deal values converted to U.S. dollars at current rates. Some figures come from people with knowledge of the matter cited in Bloomberg News reporting.

Source: Bloomberg, company filings, Real Capital Analytics estimates

Made in China 2025

- "Move Chinese industries up to the medium-high end of the global value chain, and foster a number of world-class advanced manufacturing clusters" - President Xi Jinping
- Similar to German Industry 4.0 initiative



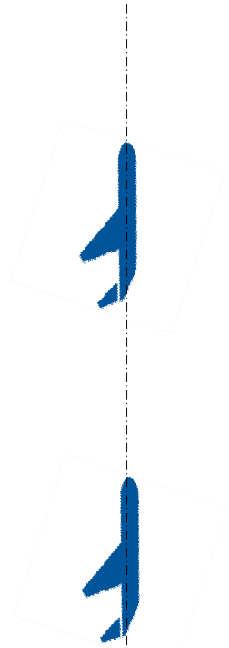
Source: Industrie 4.0

Made in China 2025 Strategic Sectors

Made in China 2025

- National showcase project as much as a commercial project
- Strong interest in establishing the independence and self-sufficiency
- For aviation, focused on new bio-fuels, clean and new technologies for airlines, aircraft and airports
- Development of COMAC's C919 and ARJ21 and new the C929 widebody aircraft are an example of these efforts
- Also showcased is the development of engine technology and leasing
  - Most notable engine - WS-15 turbofan jet engine designed for China's J-20 stealth fighter
  - Commercial engine development – AVIC Commercial Aircraft Engines (spun out of AVIC) completes 1st CJ-1000 turbofan engine for use on C919 - Jan. 2018 and future engine development for CR929 program (CJ-2000) and ARJ-21 (CJ-500)
  - Presently China is in talks with Germany about selling its jet engine technology, which includes blades that can withstand heat several degrees above the melting point of metallic alloys

Timeline on the COMAC919's Development



- 2017.11.10: First C919 aircraft flew to Yanliang, Xi'an, for flight tests
- 2017.05.05: First C919 aircraft completed its maiden flight
- 2016.12.25: First C919 was delivered to test flight centre
- 2016.11.20: C919 launch customer announced as China Eastern Airlines
- 2015.11.02: The first C919 completed its final assembly in Pudong, Shanghai
- 2014.09.19: The first C919 initiated its structural assembly in Pudong, shanghai
- 2013.12.31: System verification of the C919 project was official launched
- 2012.07.31: "C919 Project Specific Certification Plan" was signed in Shanghai
- 2011.04.18: C919 aircraft has entered a formal airworthiness review stage
- 2010.12.24: CAAC officially accepted the C919 aircraft certificate application
- 2010.11.15: A display model of the C919 was demonstrated at the Zhuhai Airshow for the first time, and COMAC obtained 100 orders at the show
- 2009.12.21: COMAC and CFM International signed a letter of intent to use the CFM LEAP engine for the C919
- 2009.01.06: COMAC unveiled the code of its first 150-seat single-aisle passenger aircraft as C919
- 2008.05.11: Commercial Aircraft Corp of China COMAC was established in Pudong Shanghai

Current Status C919

- Successful maiden flight May 2017
- Helped advance aviation industry in China, a symbol of the changes in manufacturing
- Undergoing certification by CAAC, EASA, FAA

- Orders: 818 total orders, including 464* firm order and 354* options (as of 28/02/2018)
- Agricultural Bank of China (ABC) Financial Leasing Co., China Nuclear E&C Group, Huabao Leasing and AVIC International Leasing among those who have already placed orders

C919 Order & Options

Customer	Firm Orders	Options (LOI)	Orders	Date
China Huarong Financial Leasing	30	0	30	26/02/2018
ICBC Leasing	55*	0	55	05/12/2017
China Nuclear Construction Financial Leasing	20	20	40	19/09/2017
China AVIC International Leasing	15	15	30	19/09/2017
China Huabao Leasing	15	15	30	19/09/2017
China Everbright Group Financial Leasing Co	30	0	30	13/06/2017
China CITIC Group Financial Leasing	18	18	36	01/11/2016
SPDB Financial Leasing	5	15	20	01/11/2016
Thai City Airways	0	10	10	16/09/2015
China Ping An Insurance Leasing, Shanghai	0	50	50	17/06/2015
Puren Group	0	7	7	17/06/2015
China Hua Xia Bank Financial Leasing	0	20	20	30/01/2015
China Merchants Bank Leasing	0	30	30	12/11/2014
China Industrial Bank Co. Financial Leasing	0	20	20	29/10/2013
China Hebei Airlines	0	20	20	13/11/2012
China Joy Air	0	20	20	13/11/2012
CCB Financial Leasing	26	24	50	19/09/2012
ABC Financial Leasing	65	10	75	02/07/2012
CDB Leasing	10	0	10	29/06/2012
BOC Aviation	20	0	20	14/02/2012
CALC	20	0	20	09/12/2011
BOCOMM Leasing	30	0	30	23/11/2011
Sichuan Airlines	20	0	20	21/10/2011
ICBC Leasing	45*	0	45	19/10/2011
China Eastern Airlines	5	15	20	15/11/2010
GECAS	10	10	20	15/11/2010
China Southern Airlines	5	15	20	15/11/2010
Hainan Airlines	15	5	20	15/11/2010
Air China	5	15	20	15/11/2010
Sum	**464**	**354**	**818**	

Source: IBA's iQ

Chinese Homegrown Jet C919

Range: 5,555 km
Passenger seating: 168
Length: 39 m

- Flight control
- Wheels and brakes
- Auxiliary power units
- Navigation

Honeywell Aerospace
(United States)

Engines
CFM International
(GE, *United States*/
Safran, *France*)

Orders: 570
Mostly domestic airlines

Source: COMAC/China Daily/AFP Photo
© AFP

CR929-600

- China-Russia Commercial Aircraft International Corporation (CRAIC) created as a joint partnership in 2016
- Due to the larger economy and population, China took much of the control whereas the management and final assembly will take place in Shanghai
- Spring 2017 - Chinese and Russian widebody aircraft program officially starts

CR929-600

- 280 passengers in a three-class cabin with a range of 6,500nm
- Major competitors: Boeing 787-9 and Airbus A330-900
- Similar technologies employed; lower maximum range, slightly wider cabin
- The CRAIC issued its first vendor RFP to GE and Rolls Royce end of December 2017 for the aircraft's engine propulsion system

Thank you! Questions?
Contact me –

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