

Proceeding

**The International Forum on the US and China—
What They Can Learn from Each Other**

November 12-15, 2018

Fort Wayne, Indiana and Los Angeles, California

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Editors' Note

Proceeding of

The International Forum on the US and China—What They Can Learn from Each Other November 12-15, 2018, Fort Wayne, Indiana and Los Angeles, California

It is our greatest pleasure and honor to organize this successful conference: The International Forum on the US and China—What They Can Learn from Each Other. This conference was sponsored/organized by Purdue University Fort Wayne, Indiana, Hebei Academy of Social Sciences, China, University of the West, Los Angeles, East China Jiaotong University, China, Chung Yuan University, Taiwan, and the Association for Chinese Management Educators (ACME), USA. The goal of this international conference is to provide a forum for scholars from the US, China and other places to exchange information and ideas on how the US and China can improve its relationship and particularly how each can learn from one another's perspectives.

The conference was held on Monday, November 12, 2018 at Purdue University Fort Wayne, Indiana; and on Thursday, November 15, 2018 participants moved to the University of the West, Los Angeles. There were paper presentations, keynote speeches and group discussions on relevant topics as well as field trips for cultural exchange.

We would like to thank all of these co-organizers and our universities for their strong support to this conference. We also would like to thank all paper presenters and discussants, and other participants for their active participation and support.

Published here is the Proceeding of the conference. Most papers presented at the conference are included in this Proceeding; but a few are excluded due to the authors' request. Most articles in the Proceeding are comprehensive and with whole papers, but a few only include detailed outlines.

Donna Holland, Ph. D.

Bill Y. Chen, Ph. D.

Co-Chairs of the Conference Program

Purdue University Fort Wayne, Indiana

University of the West, Los Angeles

Center for Social Research and University of the West Present

Int'l Forum on US – China Relations: What They Can Learn from Each Other

Monday, November 12, 2018,
Room 114, Walb Student Union, PFW

Open to the public

Opening, 9:00 a.m. - 4:00 p.m.

Session I Paper Presentations,
9:00 a.m. - 11:00 a.m.

Discussant: 11:00 a.m. - 11:30 a.m.

Session II Paper Presentations,
1:30 p.m. – 3:30 p.m.

Discussant: 3:30 p.m. – 4:00 p.m.

CONFERENCE CO-CHAIRS AND ORGANIZERS

Donna Holland, Director, Center for Social Research, Purdue Fort Wayne
Bill Chen, Professor, University of the West

Int'l Forum on US – China Relations: What They Can Learn from Each Other

Session I Economics, Finance & Innovations, 9:00-11:00 a.m.

Speaker	Title
Sherrie Steiner, PFW	The Influence of Individualism on Paths to Gender Equality in the Workforce
Song Dongsheng, Hebei Academy of Social Science	Economic and Trade Cooperation under the Belt and Road Initiative: Observations from the Perspective of Industrial Parks
Che Tongxia, Hebei Academy of Social Science	A Study on the Differences between the Development of Venture Capital Investment in China and the U.S.
Yu Zhang and Thomas Lechner, Eastern Michigan University	Protection of Small Investors and Firm Value: Evidence from the Split Share Structure Reform in China
Li Xingong, Henan University	Government R & D Funding, Financial Credit and High-tech Enterprises in Different Stages of Innovations
Jeffrey Jones, Discussant, 11:00 a.m. – 11:30 p.m.	
Lunch Break, 11:30 a.m. – 1:30 p.m.	
Session II Government, Ethics, Education & Technology, 1:30 p.m. - 4:00 p.m.	
Chen Lu, Hebei Academy of Social Science	Impact of the China-U.S. Trade Frictions on the Economy and Science and Technology of China
Ma Xiping, Hebei Academy of Social Science	A Comparative Study on the Financial Consumer Protection in China and the U.S
Du Benwei, Dongbei University of Finance and Economics	To Achieve Common Development through Drawing on the Comparative Advantages of China and the United States in Higher Education
Huimiao Zheng and Huei Lee, Eastern Michigan University	The Technology and Analytics in Human Resources Management: A Trend in US
Dongwei Li, East China Jiaotong University	The Relationship between Stakeholders' Power and Environment Information Disclosure Development in China
Donna Holland, Discussant, 4:00 p.m. – 4:30 p.m.	

Cultural Exchange Activities

November 12 - evening		
4:30 – 6:00 p.m.	Open –free time	Optional activities from 4:30-5 pm Campus tour Library tour Meet with campus faculty
6:00 p.m.	Dinner- on your own	Wu’s Chinese Restaurant- Optional
November 13		
8:00 a.m. 9:00 a.m.	Breakfast	Hotel
9:30 a.m. – 10:30 a.m.	Foellinger-Freimann Botanical Conservatory	1100 South Calhoun Street Fort Wayne, IN 46802 (260) 427-6440
11:00 a.m. – 11:20 a.m.	Fort Wayne Indiana Mayor	Citizen’s Square
11:30 a.m.	Travel to Fort Wayne International Airport	
11:30 – 1:30 p.m.	Glenbrook Mall	
1:30 – 2:00 p.m.	Lunch Takayoka	
2:00 -3:00	tbd	
3:00 p.m.	Travel to Fort Wayne International Airport	

Int'l Forum on the US and China-What They Can Learn from Each Other

Thursday, November 15, 2018, Ken Locke Hall, UWest

Opening, 8:45-9:00am; Paper Presentations, 9:00am-12:15pm;

Keynote Speeches, 1:30-4:00pm; Group Discussions, 4:30-6:00pm; Banquet, 6:00-8:00pm

Paper Presentations

Session I Economics, Finance & Innovations, Ken Locke Hall; 9:00-10:40am

Speaker(s)	Title
Yuenyun(Bill) Chen, UWest	The Business Cycle and Economic Crisis-Will China Experience Them?
Song Dongsheng, Hebei ASS	Economic and Trade Cooperation under the Belt and Road Initiative: Observations from the Perspective of Industrial Parks
Che Tongxia, Hebei ASS	A Study on the Differences between the Development of Venture Capital Investment in China and the U.S.
Ren Kangyu, Beijing FLS U	The Adjustment of US's Foreign Economic Policies----What Can We Do and Learn?
Li Xingong, Henan University	Government R & D Funding, Financial Credit and High-tech Enterprises in Different Stages of Innovations
Li Dongwei, East China JT U	Research on the impact of stakeholder power difference on environmental information disclosure evolution
	Tea Break, 10:40-10:45am
Session II Government, Ethics, Education & Technology, Ken Locke Hall; 10:45am-12:15pm	
Chen Lu, HebeiASS	Impact of the China-U.S. Trade Frictions on the Economy and Science and Technology of China
Ma Xinping, Hebei ASS	A Comparative Study on the Financial Consumer Protection in China and the U.S
Du Benwei, Dongbei U of FE	To achieve common development through drawing on the comparative advantages of China and the United States in higher education
Meskerem Tadesse, UWest	The “Browning” of Ethics in America
Chi Sheh, UWest	Global Race in the AI industry

Int'l Forum on the US and China-What They Can Learn from Each Other

Thursday, November 15, 2018, Ken Locke Hall, UWest

Opening, 8:45-9:00am; Paper Presentations, 9:00am-12:15pm;

Keynote Speeches, 1:30-4:00pm; Group Discussions, 4:30-6:00pm; Banquet, 6:00-8:00pm

Keynote Speeches

Small Businesses & Government Supports in the US

Namoch Sokhom, Director, Corporate Finance, PACE

1:30-2:30pm

Mr. Sokhom is the Director of the Division of Corporate Finance at The Pacific Asian Consortium in Employment (PACE), which was founded in 1976 to address the employment and job training needs of the Asian Pacific Islander communities. He has more than 20 years of combined, diverse experience in the financial sector including working at private corporations in accounting and project financing; as an economist with the International Monetary Fund implementing a \$120 million loan for a structural adjustment project with the National Bank of Cambodia (NBC) and as U.S. Accounting Principle instructor of a USAIDs project in Cambodia in the 1990s.

While at PACE, Namoch has played an important role in fundraising for major microenterprise development projects including Business Source Center of Los Angeles, SBA Women's Business Center, SBA Program for Investment in Micro-entrepreneurs (PRIME), and Office of Refugee Resettlement Microenterprise Development, SBA Microloan Intermediary, U.S. Treasury Community Development Financial Institution (CDFI).

Namoch is very active in the community reinvestment and micro-enterprise development fields and serves as a board member for the national Association of Enterprise Opportunity (AEO), California Association for Microenterprise Opportunity (CAMEO) and the California Reinvestment Coalition (CRC).

Namoch holds a BA degree in Economics and Mathematics from St Olaf College, Minnesota, and an MBA degree from Thunderbird School of Global Management, Arizona.

Global Leadership

Dr. Lianlian Lin, Professor, Cal Poly Pomona

3:00-4:00pm

Dr. Lianlian (Linda) Lin is the professor of Management in College of Business Administration, Cal Poly Pomona. She served as Interim Director of the International Education Program there and was Visiting Professor at Guanghua School of Management and HSBC Business School at Peking University, China.

Dr. Lin received her Ph.D. in Business Administration from University of Texas at Austin, LL.M. from University of Pennsylvania Law School, Master's Degree in International Finance at Fudan University, and Bachelor Degree in Economics at Liaoning University. She has done interdisciplinary research and cross-cultural studies with an international comparative approach. Her articles appear in such journals as Yale Journal of International Law, University of Pennsylvania Journal of International Economic Law, Business and Society, and Journal of Asian American Studies.

Dr. Lin has been invited to give numerous seminars and speeches about leadership, management, and talent development in the U.S. and China to Chinese executives, entrepreneurs, government officials, college presidents and professionals in various fields, and to the Los Angeles-Shenzhen CEO Economic Forum and the China-US Business Summit Forum in Los Angeles.

Dr. Lin has been very active in academic and local communities. She has served as President of several professional and community organizations. She received the Albert Nelson Marquis Lifetime Achievement Award. Her profile has been included in a number of well-known Who's Who books in the U.S. and in the world.

Proceeding

Impact of the China-U.S. Trade Frictions on the Economy and Science and Technology of China

Chen Lu

Economy Institute, Hebei Academy of Social Sciences, China

The escalating trade frictions between China and the U.S. are gradually evolving into a trade war. An absolute majority of the countries in the world are very much concerned about the developments of the trade frictions between the two countries, fearing that the ever-escalating trade frictions will reduce the world economy into a new wave of doldrums and therefore bear on the recovery and growth of their national economies. In the next section, I am going to talk about my personal views on the impact of the growing China-U.S. trade frictions on the economy and science and technology of China.

I. From the perspective of industrial investment, the China-U.S. trade frictions will force China to undergo changes in its inbound foreign investment structure.

According to data of the Chinese Ministry of Commerce, the outbound foreign investment of China has always been increasing fast since 2012, with the annual capital outflow growing by more than \$20 billion over previous years. Nevertheless, the inbound foreign investment has always been more than the outbound foreign investment, hence always in a state of net capital inflow, until 2016, when such trend was reversed. In the year of 2016, the non-financial outward foreign investment of China totaled at \$170.1 billion, seeing a 44.1% growth over the previous year, but the inward foreign investment totaled at \$126.0 billion, leading to the occurrence of the first ever, dramatic net capital outflow in the history of China. However, into 2017, the non-financial outward foreign investment of China stood at \$120.0 billion, down 29.4% year on year, while the inward foreign investment stood at a record high of \$144.0 billion¹ (or \$131.0 billion according to statistics of the Ministry of Commerce), with the net capital inflow reaching \$24.0 billion, making China again a developing country that attracted the largest amount of foreign capital and the second largest country next only to the U.S. in terms of the net capital inflow. Then, why did the outbound foreign investment of China saw a sharp U-turn in 2017 in the backdrop of a steady growth since 2012? There were three reasons: firstly, there was the prevalence of investment protectionism. In the year of 2017, some cross-border acquisition and merger efforts of China were rejected by host countries on the ground that they involved sensitive industries or sectors. Secondly, there was the objection of nationalist forces in host countries. The investment of some Chinese companies even in real estate, land, clubs and hotels were restricted or vetoed by host country governments. Thirdly, China took the initiative to restrict the practice of converting domestic currency into U.S. dollars and then investing them in the real estate and traditional services industries overseas.

In a bid to analyze changes in the flow of industrial capital in China against the background of escalating trade frictions, we can classify the investment solicited from abroad and the industrial capital of our own into three categories: the first category is the investment

¹ The data are derived from a report issued by the UNCTAD on January 22, 2018.

in labor-intensive enterprises in other countries than China itself, including the investment in light industry products and some heavy and chemical industry products, e.g. tailored-made, high-end, branded apparels, furniture and toys for foreign customers; the second category is the investment in enterprises that strive to seize the Chinese market, including the investment in everyday consumer products and some hi-tech products that aim to meet the needs of Chinese consumers, e.g. McDonald's and automobiles of China-foreign joint ventures; the third category is the investment in enterprises that aim to do both, e.g. investment in consumer electronics products like iPhones and metal products, etc.

Since 2012, the three above-mentioned categories of manufacturing enterprises investing in China have been accelerating their transfer of production capacity to the Southeast Asia, India, Africa or developed countries due to the surging labor cost and tax burden in China and to the tax relief and interest hike in the U.S.. For this very reason, the outward foreign investment of China have been growing increasingly fast since 2012, which is adverse to the manufacturing industry of China, indeed. After the occurrence of the China-U.S. trade spat, however, the situation is to undergo changes. The first category of manufacturing enterprises will be forced to speed up their relocation in other countries/regions than China. In fact, compared with foreign-invested labor-intensive manufacturing plants which withdraw from China in a gradual manner, Chinese enterprises manufacturing and exporting low-tech products flee the Chinese market all the more quickly. This is a general, inevitable trend; it is not conditioned on the outbreak of the China-U.S. trade war, rather, it is accelerated by the latter. The second and part of the third categories of manufacturing enterprises will be forced to suspend their relocation to other countries/regions, with some of them even stepping up efforts to deploy hi-tech products capacities in China. After the outbreak of the trade war, as China imposes additional tariffs on the U.S. products, hi-tech businesses (e.g. such high-end brands as Tesla, BMW and Benz) supplying the Chinese market but manufacturing products in the U.S. will be forced to leave their homeland and relocate in China, an ideal destination where the risk of retaliatory tariffs is the least to them. In this way, some industrial investment which may have otherwise planned to flee the Chinese market and some hi-tech industrial investment which has not yet located capacity in China may flow back into China because of the trade war between China and the U.S.. In addition, the strong countermeasures taken by China against the U.S. may let the western transnational companies see the determination of China, making them take into account the political and economic uncertainties between their own countries and China. In an effort to retain the big Chinese market, they are highly likely to locate their factories supplying the Chinese market right in China. This therefore hedges against the negative consequences of the first category of manufacturing enterprises fleeing the Chinese market quickly and converts the structure of foreign investment in China from an "export-oriented" one to one "oriented towards the domestic demand of China" and dominated by investment in hi-tech industries.

II. From the perspective of scientific and technological innovation, the China-U.S. trade frictions will force the sci-tech innovation strategy of China to orient towards "import substitution", rather than meeting "the demand of export".

Drawing on the experience of Japan and South Korea, China has been intending to cut corners in its scientific and technological development. A look back at the strategic pathway of China's sci-tech development over the past four decades of reform and opening-up, however, will reveal that it has been making a detour indeed, in my opinion. In the initial stage of China's reform and opening-up drive, China has one after another implemented the strategy of "introduction, digestion, absorption and innovation", the strategy of Japan and South Korea, and the "market-for-technology" strategy, but to no avail in both cases. There are three reasons: firstly, as allies of the U.S., both Japan and South Korea could introduce or transfer the civilian hi-technologies necessary for their economic takeoff without any restrictions, so it is relatively easy for them to model on, digest and re-innovate the hi-technologies from the U.S. and Europe. To the contrary, China is confronted with an almost comprehensive blockade in its efforts to introduce the civilian hi-technologies necessary for its economic growth and is allowed to usher in only technologies which are several generations backward. Introducing, digesting, absorbing and innovating on such a low level of technological foundation is in fact of little significance to scientific and technological development. Secondly, the economic takeoff of Japan and South Korea coincided with the global expansion of transnational companies, when different transnational companies in the same industry have not yet entered into a pattern of growth in which they "form a united front against newcomers and strive for virtuous competition". So both Japan and South Korea successfully fueled their economic takeoff through scientific and technological progress. In contrast, China embraces an economic takeoff in the era of economic globalization. In an attempt to seize and retain the Chinese market and squeeze on the growth of Chinese industries, the American, Japanese and European transnational companies unite to deploy a "mine field of patents" in China by "registering invention patents in China", thereby thoroughly suppressing the development of the young hi-tech industry in China. Therefore, the "market-for-technology" strategy is not successful in practice. As a result, China sees western transnational companies seize its market in many areas of products, but fails to obtain technologies. The technology spillovers expected by China happen at the process level, at most, and are not able to boost innovations of industrial technologies. After 2012, China shifted its sci-tech development strategy towards "independent innovation", which I think is completely right. However, there is a problem in implementing that strategy: with respect to a particular industry, if the corresponding market has been controlled by foreign companies and the key technologies are also in the hand of foreign companies, Chinese enterprises will be greatly demotivated to engage in independent innovation in that industry, because even if they succeed in developing products on the same technological level as their foreign counterparts, nobody wants to buy their products, for the market has already been seized by foreign products, and what's more, so long as foreign companies lower their prices to the same level as their Chinese competitors, they can make it extremely difficult for Chinese products to snatch a market share. Nobody wants to do things that "require efforts but generate no return", after all. In this context, Chinese companies may succeed only when their technologies are epoch-making, disruptive one, which may enable them to open up a completely new market, or when their products with the same performance have much lower prices than their foreign counterparts and the latter cannot afford so steep a price fall, which may enable them to edge in and gain some market share. But such situations are rare. For

these reasons, the success of independent innovation in China tends to be limited to market areas where foreign companies have not yet set foot on, such as high-speed trains and the third generation nuclear plants, etc.

However, the advent of the China-U.S. trade frictions brings a new turn to the scientific and technological innovation in China. Firstly, as the U.S. prohibits its companies from exporting their proprietary hi-tech products to China through administrative bans, it artificially creates a market gap in China, which is conducive to China and other countries filling that gap with independently developed products. Secondly, China's imposition of additional tariffs on the U.S. products is equal to barring some hi-tech products from the Chinese market, which constitutes an opportunity for enterprises of Chinese and other origins to re-carve up the Chinese market and is also conducive to the independent, innovative development of science and technology in China. Thirdly, the trade frictions between China-U.S. will have a far-reaching effect on the sci-tech transformation in China. They will gradually change the sci-tech innovation strategy of China from the export-oriented one to one striving for import substitution. The realization of import substitution, in particular, will improve the technological level of China in all areas and accelerate the realization of its goal of driving economic growth by way of "expanding domestic demand" and achieving economic and technological transformation and upgrading.

III. From the perspective of foreign trade, the China-U.S. trade frictions will force the gradual formation of a trading group with China at the core and an international settlement coalition using Renminbi as the settlement currency.

On the surface, the trade frictions are likely to deal a heavy blow on the foreign trade of China, thus affecting the development of China as an outward economy. But I think that the trade war will slightly affect the foreign trade of China only in the short term and is not able to sway the position and economic development of China as a large exporting power in the medium-to-long run. China's GDP in 2017 stood at ¥82 trillion, whereas its export to the U.S. was worth only ¥2.91 trillion in the same year. Even if the whole export market to the U.S. is lost, the effect to the Chinese economy is not going to be huge. From an overall point of view, before the U.S. imposes additional tariffs on Chinese exports, American buyers may procure in advance and build up a large reserve of goods in an effort to offset the inadequacy of supply due to take place because of the trade spat. In consequence, the U.S. trade deficit in relation to China may surge in the short run, with the Chinese export to the U.S. growing in a retaliatory manner in the short term. If the trade frictions between China and the U.S. proceed, the U.S. buyers will find it hard to land a supplier as good as China during quite a long time. After all, China is a supplier country with perfect industry chains, extremely convenient logistics infrastructure, stable politics and safe living conditions. Even if the U.S. succeeds in securing some less developed countries featuring equally low cost, relatively stable politics and safety, do these countries have the capability to invest in the logistics infrastructure and foster the supplier groups across the industry chains? I think only China is capable of doing so. The trade frictions between China and the U.S. will force China to accelerate investing in the infrastructure and relocate its labor-intensive industries across the Belt and Road Initiative countries and the African continent by way of labor export and

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bilateral agreement on foreign exchange settlement. In the process of such investing and industry transfer, China will make full use of the cheap labor resources in host countries to develop labor-intensive manufacturing or assembly bases. While assisting host countries in growing their economies, China will gradually change its export-oriented industrial structure, cultivate an international trading group with China at the core, boost the position of Renminbi in such trading group and ultimately render the group a global-wide international settlement coalition using Renminbi as the settlement currency.

The Business Cycle and Economic Crisis—When Will China Experience Them?

Yueyun(Bill) Chen,
University of the West, Los Angeles

Abstract

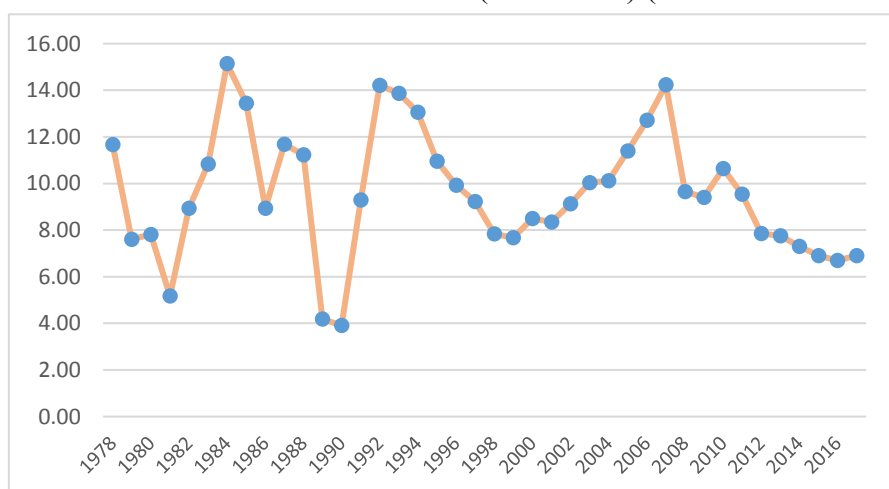
This paper focuses on China’s future economic development. Based on comprehensive analyses, it concludes that China may start experiencing the business cycle from the year around 2025-2027 and then experience the economic recession and even economic crisis thereafter. Then it discusses what China can learn from other countries’ similar experiences and what it should do to lessen potential negative effects.

Keywords: Business Cycle, Economic Recession, Economic Crisis, China’s Economy

I. Introduction

China has experienced rapid, unprecedented economic growth for almost four decades. Its average annual GDP growth rate in the past 40 years was about 9.5% and its average annual international trade growth rate was about 14.5%. But in the past several years, China’s economy has slowed down significantly. In the third quarter of 2018, its GDP growth was only 6.5%. Given the above facts, it is natural to ask whether China will experience a business cycle, and particularly whether it will have a recession in the near future as has happened many times in western economies.

Graph 1. China Annual GDP Growth Rate (1978-2017) (Data source-World Bank)



Knowing these answers will be important to China. China’s amazingly fast developments and achievements in the past decades have led many to believe that China is unique with its own model for economic development; this is called the Beijing Consensus (Ramo 2004) which relates China’s economic success to its innovations in the state sector, including state ownership of firms, close financial controls, and political controls in favor of economic growth. Whether such a model exists is arguable; especially whether China will be able to avoid a business cycle or worse yet an economic crisis, both critical topics are worthy to be explored.

Being successful in past economic developments does not mean that China is so different from the world. In fact, more people have increasingly realized that China has experienced similar barriers and challenges as many developed economies have, such as

serious population problems when industrialized, labor-shortage, low birth rates and aging problems when the economy is advanced, and trade tensions and trade wars when being a major exporter. China can learn from others and better prepare for handling these challenges if it realizes that it will be facing similar problems as many developed economies have.

Knowing these answers will also be relevant to the world since China is the second largest economy and in coming six or so years, China will surpass the US to be the largest economy all over the world. China has contributed more than 30% to the world's economic growth in the past several years. The slowing down of China's economy has negatively and significantly affected the world economy and a possible business cycle and especially a recession will dramatically influence the whole world.

This paper focuses on whether China will start experiencing a business cycle and even a possible economic crisis in the near future. Based on comprehensive analyses, it concludes that China needs to prepare to deal with these potential challenges. Then it discusses what China can learn from other countries' similar experiences and what it should do to lessen potential negative effects.

The rest of the paper is organized as follows: Section II discusses the business cycle and its explanations; Section III analyzes the economic recession and economic crisis; Section IV reviews relevant literatures on what will lead to the next economic recession and crisis; Section V gives comprehensive reviews on why China may start experiencing a business cycle and even an economic crisis in the near future; Section VI explores what China can learn from other countries and what it should do to lessen its negative effects from the business cycle and recession. Section VII concludes the paper.

II. The Business Cycle and its Explanations

The business cycle is the significant change (rise or fall) of economic growth over time. Each business cycle has four phases--expansion, peak, contraction, and trough. They do not occur at regular intervals. But they do have recognizable indicators. Expansion is the growing of the economy and it is between the trough and the peak. For the developed economies like the US, the GDP annual growth rate at about 2 to 3% will be called the expansion with unemployment rate at about 4.5 to 5% and the inflation at about 2%. During the expansion, the stock market is in a bull market. A well-managed economy can remain in the expansion phase for years. For example, the US has experienced almost 10 years of expansion after 2008 economic crisis. The peak is the second phase and the economy overheats. For western countries, that is when the GDP growth rate is more than 3% percent and inflation is larger than 2% or even more than 10%. During this stage, investors are in a state of "irrational exuberance," which creates asset bubbles. Then, the third phase--contraction occurs which starts at the peak and ends at the trough. During this period, economic growth weakens and GDP growth falls below 2%. When it turns negative, that is what economists call a recession. During this stage, there will be mass layoffs and the unemployment rate rises. Businesses wait to hire new workers until they are sure the recession is over. Stocks enter a bear market as investors sell. The trough is the fourth phase when the economy hits bottom and it is also the month when the economy transitions from the contraction phase to the expansion phase. The business cycle's four phases can be so severe that they are also called the boom and bust cycle.

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The National Bureau of Economic Research (NBER) determines the official starts and ends of business cycles in the US. The time from one economic peak to the next, or one recessive trough to the next, is considered a business cycle. From the year of 1945 to 2009, the NBER defined eleven cycles, with the average cycle lasting over 5 and half years.

Based on the above discussions, having a business cycle is natural to a mature economy because of dynamic changes of economic activities and so economic outcomes. During the expansion, an economy grows fast, then more employment and so income grows; as a result, there is a potential high inflation and the economy reaches its peak. Then, the interest rate rises and the cost of doing business will rise as well. As a result, its economy slows down and eventually goes to the recession. After it reaches its trough, the economy will recover gradually with increasing of spending by consumers, businesses and governments.

A developing economy may be different since its economic structure and other economic conditions are different as China has experienced in the past four decades. But eventually a previously fast growing economy like China will slow down because of its loss of competitive advantages such as low cost of labor and limited potential of further significant improvements in its economic structure and urbanizations as to be discussed later.

It should be noticed that a developing economy is not immune to the business cycle as US experienced its business cycle from 1857 second quarter to 1858 fourth quarter and 1929 third quarter to 1933 first quarter. The World Bank (2012) reported that in 1960 there were 101 mid-income economies but only 13 of them advanced to the high income-economies in 2008. The others were fallen into the so-called the middle-income trap. Many of them experienced business cycles and economic recessions.

Table 1. US NBER Statistics of US Business Cycles (1857-2009)

<u>BUSINESS CYCLE</u>			<u>DURATION IN MONTHS</u>			
<u>REFERENCE DATES</u>			Peak	Trough	Contraction Expansion	
<i>Quarterly dates are in parentheses</i>			<i>Peak to Trough</i>	<i>Previous trough to this peak</i>	<i>Trough from Previous Trough</i>	<i>Peak from Previous Peak</i>
June	1857(II)	December 1858 (IV)	18	30	48	--
October	1860(III)	June 1861 (III)	8	22	30	40
April	1865(I)	December 1867 (I)	32	46	78	54
June	1869(II)	December 1870 (IV)	18	18	36	50
October	1873(III)	March 1879 (I)	65	34	99	52
March	1882(I)	May 1885 (II)	38	36	74	101
March	1887(II)	April 1888 (I)	13	22	35	60
July	1890(III)	May 1891 (II)	10	27	37	40
January	1893(I)	June 1894 (II)	17	20	37	30
December	1895(IV)	June 1897 (II)	18	18	36	35
June	1899(III)	December 1900 (IV)	18	24	42	42

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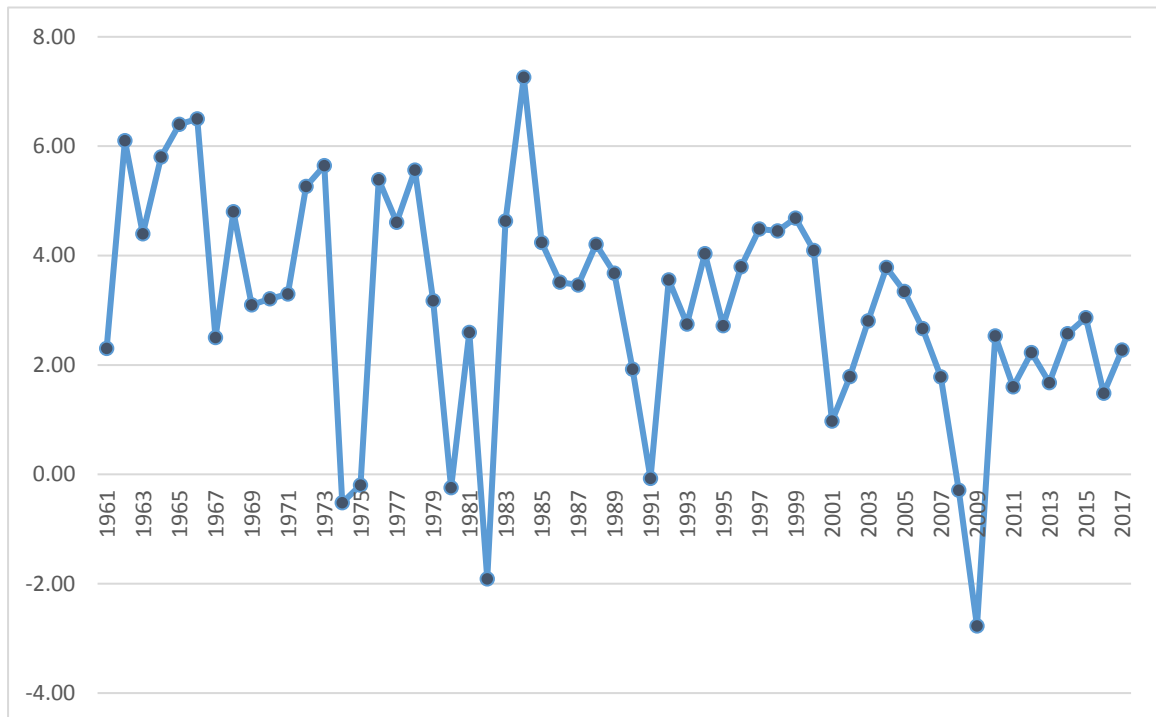
September 1902(IV)	August 1904 (III)	23	21	44	39
May 1907(II)	June 1908 (II)	13	33	46	56
January 1910(I)	January 1912 (IV)	24	19	43	32
January 1913(I)	December 1914 (IV)	23	12	35	36
August 1918(III)	March 1919 (I)	7	44	51	67
January 1920(I)	July 1921 (III)	18	10	28	17
May 1923(II)	July 1924 (III)	14	22	36	40
October 1926(III)	November 1927 (IV)	13	27	40	41
August 1929(III)	March 1933 (I)	43	21	64	34
May 1937(II)	June 1938 (II)	13	50	63	93
February 1945(I)	October 1945 (IV)	8	80	88	93
November 1948(IV)	October 1949 (IV)	11	37	48	45
July 1953(II)	May 1954 (II)	10	45	55	56
August 1957(III)	April 1958 (II)	8	39	47	49
April 1960(II)	February 1961 (I)	10	24	34	32
December 1969(IV)	November 1970 (IV)	11	106	117	116
November 1973(IV)	March 1975 (I)	16	36	52	47
January 1980(I)	July 1980 (III)	6	58	64	74
July 1981(III)	November 1982 (IV)	16	12	28	18
July 1990(III)	March 1991(I)	8	92	100	108
March 2001(I)	November 2001 (IV)	8	120	128	128
December 2007 (IV)	June 2009 (II)	18	73	91	81

Average,	all	cycles:				
1854-2009	(33	cycles)	17.5	38.7	56.2	56.4
1854-1919	(16	cycles)	21.6	26.6	48.2	48.9
1919-1945	(6	cycles)	18.2	35.0	53.2	53.0
1945-2009 (11 cycles)			11.1	58.4	69.5	68.5

There have been extensive studies on the business cycle. Two main schools are post or new Keynesian business-cycle models and neo-classical business-cycle models. Post-Keynesian models consider the effects of expectations and frictions on the economy and its growth; it focus on the demand-side shock and its effects. The neo-classical models emphasize the supply-side shocks and believe that demand shocks have little or no effect on real output and employment.

Graph 2. US Annual GDP Growth (1961-2017) (Data source-World Bank)

Proceeding



III. The Economic Recession and Crisis

An economic recession is a business cycle contraction which results in a general slowdown in economic activity. Some economists prefer to define the recession as a 1.5-2.0% points rise in unemployment within 12 months. In most western countries, the recession is now defined as a negative economic growth for two consecutive quarters.

Under ideal conditions, an economy should have the household sector as net savers and the business sector as net borrowers, with the government budget nearly balanced and net exports near zero. When these relationships are imbalanced, an economy can have a recession. The type and shape of recessions are distinctive. In the US, short and sharp contractions, called V-shaped recessions, occurred in 1954 and 1990–1991. These V-shaped recessions usually will be followed by rapid and sustained recovery. The US also experienced the prolonged slump, called U-shaped recession in 1974–1975, and W-shaped (or double-dip) recessions in 1949 and 1980–1982. Japan’s 1993–1994 recession was U-shaped and its eight-out-of-nine quarters of contraction in 1997–1999 are described as L-shaped. Korea, Hong Kong and South-east Asia experienced U-shaped recessions in 1997–1998, but Thailand’s eight consecutive quarters of decline are termed L-shaped. The length of the recession can be quite different. According to the NBER, the average recession lasted 22 months, and the average expansion 27 months.

Graph 3. Average Length and Share of Time Spent in Recessions in the World (1870-2007)

(Data source-World Bank) ■

Proceeding

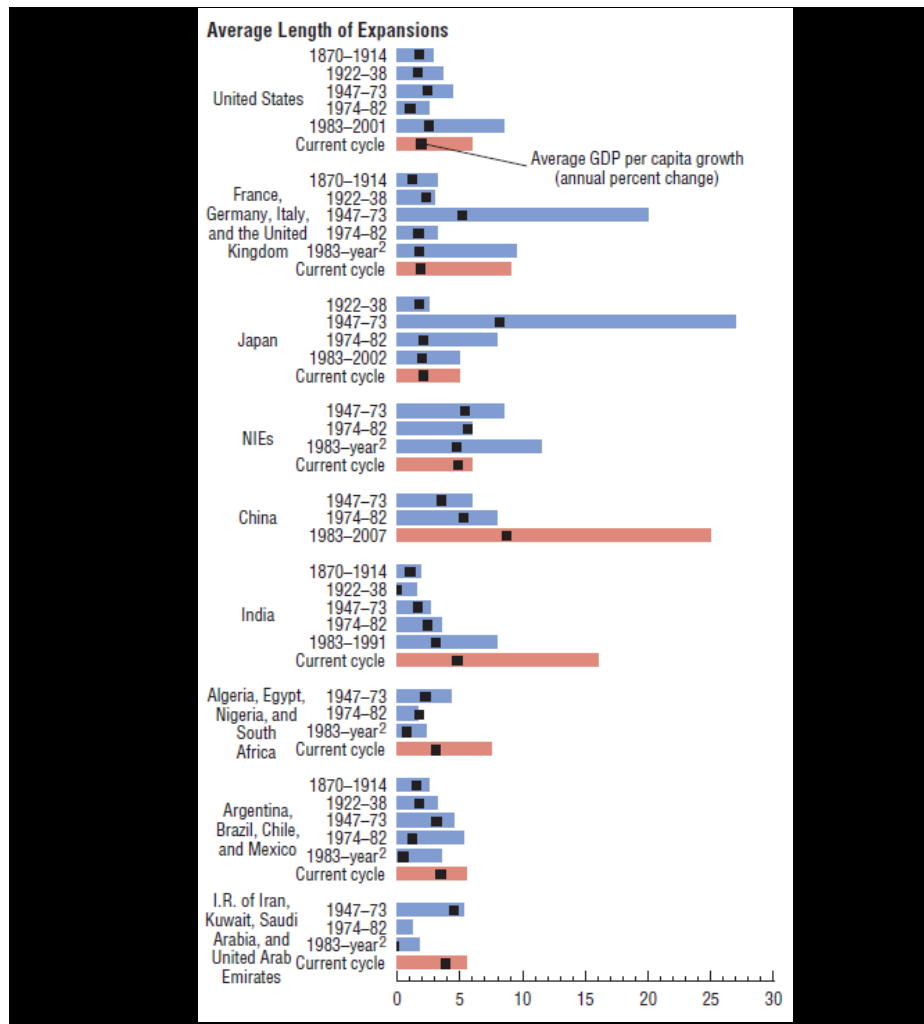


Table 2. US Economic Expansions after the Recessions (1954-2009)

Start	Finish	Duration (in months)	Average GDP growth rate (%)	Subsequent peak-to-trough decline (%)
May '54	Aug '57	39	3.8	-3.6
Apr '58	Apr '60	24	6.1	-1.3
Feb '61	Dec '69	106	5.0	-0.6
Nov '70	Nov '73	36	5.1	-3.1
Mar '75	Jan '80	58	4.3	-2.2
Jul '80	Jul '81	12	4.4	-2.6
Nov '82	Jul '90	92	4.2	-1.3
Mar '91	Mar '01	120	3.8	-0.3
Nov '01	Dec '07	73	2.7	-4.3
Jun '09	Jun '14	60	2.3	

Source: National Bureau of Economic Research; data as of July 2014.

Table 3. Germany Economic Expansions after Recessions (1967-2009)

Start	Finish	Duration (in	Average GDP	Subsequent
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Proceeding

		months)	growth rate (%)	peak-to-trough decline (%)
May '67	Aug '73	75	5.0	-2.4
Jul '75	Jan '80	54	3.8	-2.7
Oct '82	Jan '91	99	3.6	-1.6
Apr '94	Jan '01	81	1.9	-0.8
Aug '03	Apr '08	56	2.3	-6.8
Jan '09	Apr '14	63	2.1	

Source: Economic Cycle Research Institute; data as of July 2014.

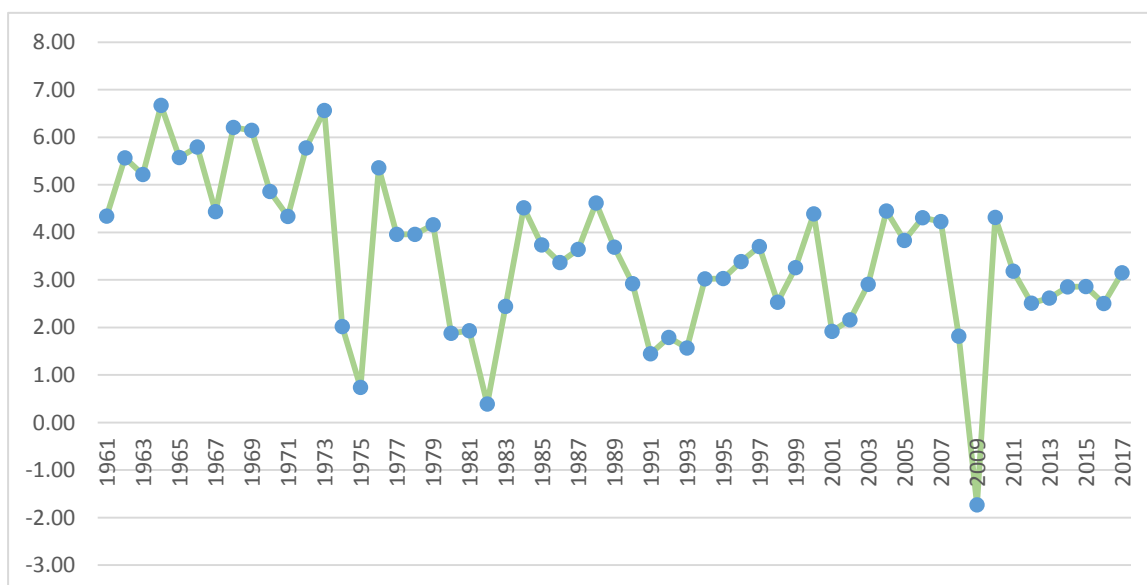
Table 4. UK Expansions after Recession (1952-2014)

Strat	Finish	Duration (in months)	Average GDP growth rate (%)	Subsequent peak-to-trough decline (%)
Aug '52	Sep '74	265	3.3	-2.9
Aug '75	Jun '79	46	3.7	-5.9
May '81	May '90	108	3.7	-2.4
Mar '92	May '08	194	3.3	-7.2
Jan '10	Aug '10	7	1.7	-0.6
Feb '12	Jun '14	28	2.2	

Data source: Economic Cycle Research Institute

The global recession is defined differently. Since the Great Recession 2000s, the International Monetary Fund (IMF) has described a “global recession” as a decline in real per-capita world gross domestic product (GDP), as supported by other macroeconomic indicators such as industrial production, trade, oil consumption and unemployment, for a period of at least two consecutive quarters. By this definition, the US Great Recession started in December 2007, while the US NBER defined it as the start from third quarter of 2007.

Graph 4. World GDP Annual Growth Rate (1961-2017) (Data source-World Bank)



Proceeding

Since a recession is part of the business cycle, it is natural or unavoidable that an economy will experience its recession. At the same time, as indicated before, the length of expansions can be distinctive. In other words, how soon the next recession will occur, that will depend on many factors.

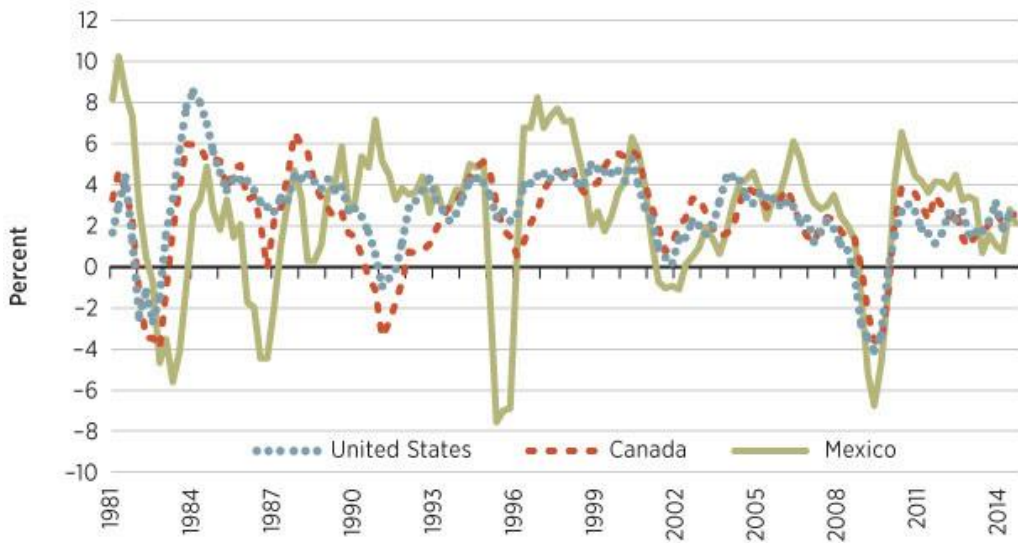
Recessions were caused by all different events throughout history. Generally, they occur due to a drop in spending, classified by economists as “an adverse demand shock”. A drop in spending can be triggered by a financial crisis, external trade shock, adverse supply shock, or bursting of an economic bubble. Many recessions in the world were caused by financial crises, such as 1990 South-East Asian Economic Crisis, and 2000s Great Recession in the US. The external trade shock may lead to the economic crisis such as 1970 Oil Embargo and consequently US economic recession. The current trade war could cause the US or even the world’s recession. An adverse supply shock such as oil supply disruption or the serious disruption of supply due to the war or a natural disaster may lead to the economic recession as well. In addition, the economic/financial bubble such as the real estate, stock or .com bubble may cause the economic recession.

An economic crisis must be the economic recession but the economic recession may not lead to the crisis. An economic crisis is the serious economic recession as happened in 1930s and 2000s. An economic crisis not only has more serious negative economic outcomes in terms of the GDP decrease, unemployment rate, and inflation, but also lasts longer time period. For example, the US Great Depression lasted for 4 years and South-East Asian Economic Crisis lasted for several years. A serious financial crisis will lead to the economic crisis as occurred in 1990s South-East Asia and 2000s Great Recession. But it is not necessary that any financial crisis will cause the economic crisis. The European Debt Crisis did not cause the economic crisis to most European countries.

Outcomes from economic crises can be extremely serious. During the infamous Great Depression, US GDP fell 27% and one in four working Americans was unemployed. Also, because of growing globalization, economies in the world are more integrated. As a result, recessions in different economies are more correlated (Lorenzo Ductora, & Danilo Leiva-Leonb 2016).

Graph 5. US, Canada and Mexico Business Cycle Correlations
(Data source-Federal Reserve Bank, St. Louis)

An Example of How Countries' Business Cycles Can Become Correlated



SOURCE: Organization for Economic Cooperation and Development.

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There have been numerous studies on the recessions and economic crises. Some focuses on regional and national recessions and economic crises; others aim at better understanding global ones. Some studies try to explore sources of the recessions and economic crises and the others want to find out any relationships of the recessions and crises among economies (Ductora & Leiva-Leonb 2016).

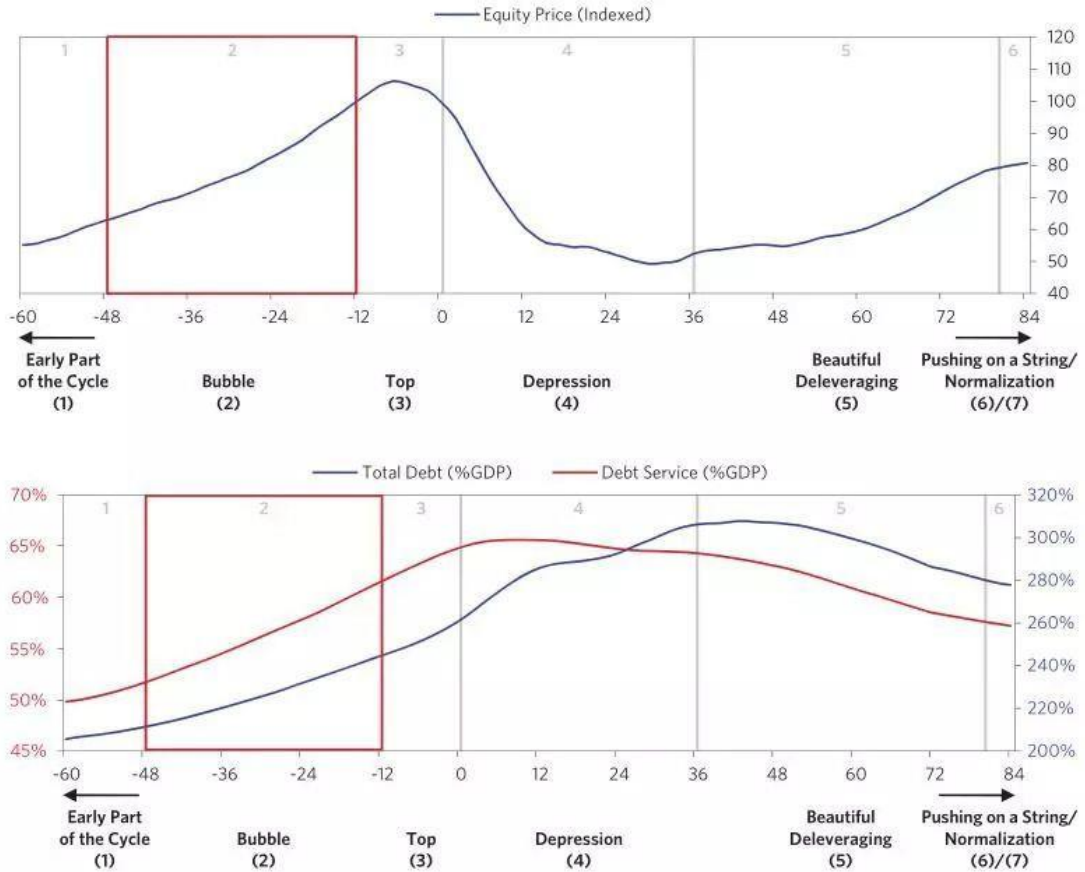
IV. What Will Lead to the Next Economic Recession and Crisis

It has been ten years since the 2008 economic recession and crisis. Many believe that it is overdue to have another economic recession and even an economic crisis. Then it is essential to know when the next global economic recession and economic crisis will occur. The more important question will be what will lead to the next one. In other words, which economic measurements or events will lead to the economic recession and crisis?

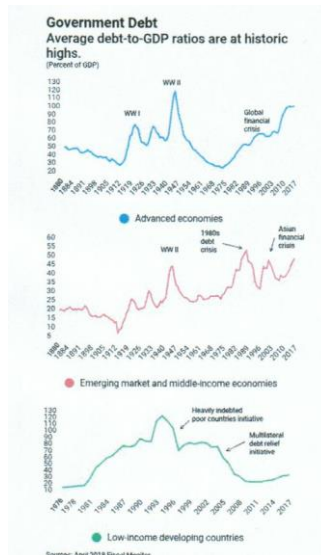
The debts in developed countries and the world can be a big source that may trigger an economic recession or crisis. According to the Merry Lynch (2018), the current debts are too big.

Graph 6. Equity Price & Debts during the Business Cycle (Data source- Merry Lynch)

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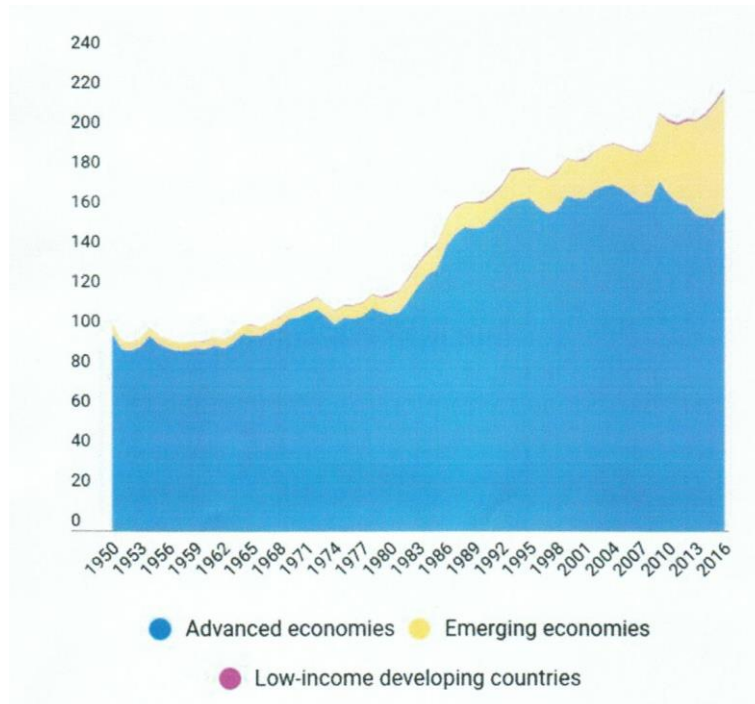


Graph 7. Government Debts to GDP (1880-2017)(Data source-IMF)

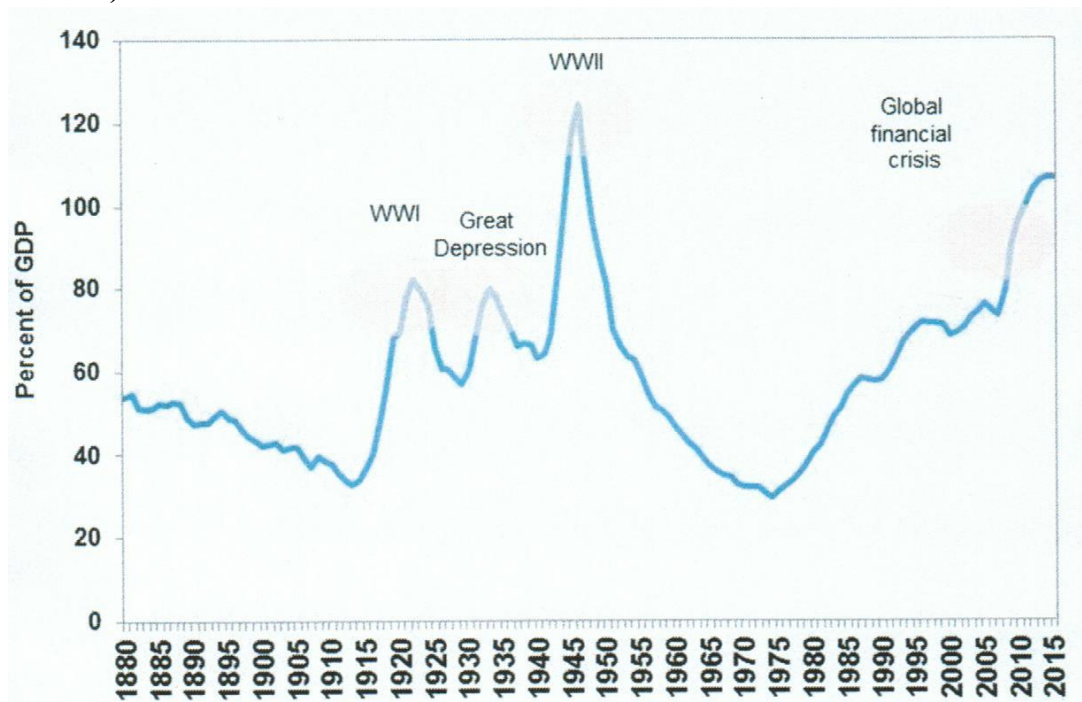


Graph 8. Global Debts of Different Economies (1950-2016) (Data source-IMF)

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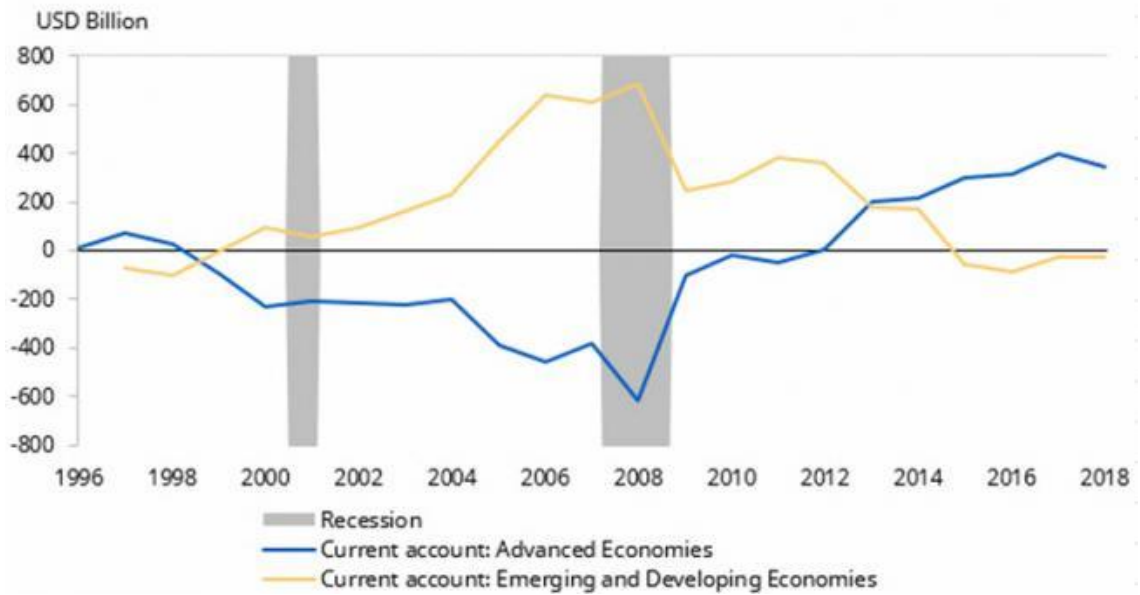


Graph 9. Advanced Economies Government Debts to GDP Ratio (1980-2015) (Data source-IMF)



According to Keith Wade (2018), the threat to the world economies is the imbalance of current accounts. The long term and serious international account unbalances of many economies could cause its currencies' depreciations and that will lead to the financial crisis as occurred in 1990s in Southeastern Asia.

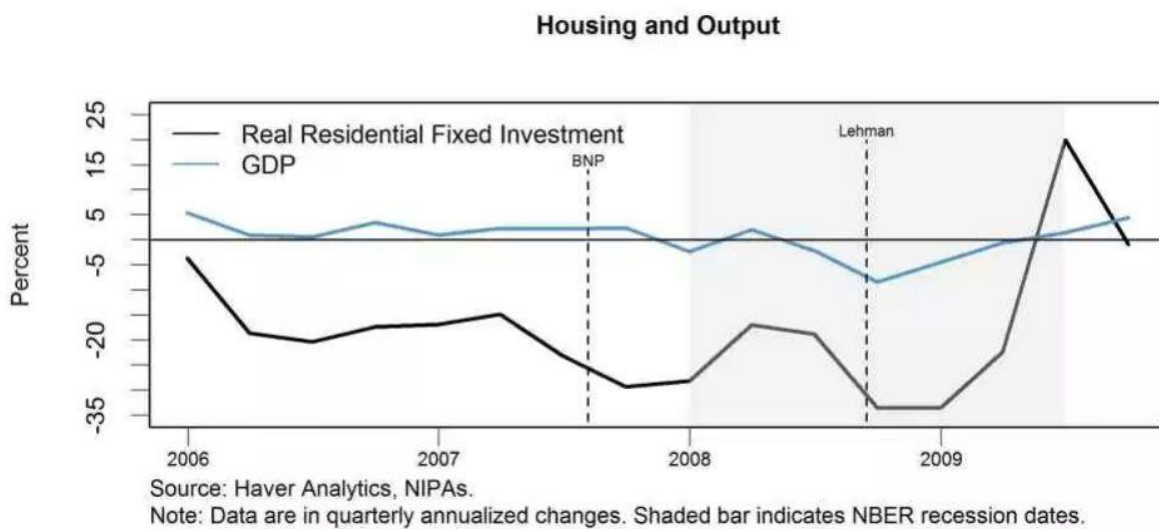
Graph 10. Global Current Account Balance and Recession (1996-2018) (Wade 2017)



The third possible source leading to the recession will be the government’s policy. Nouriel Roubin and Brunello Rosa (2018) analyzed governments’ stimulus policies in world’s major economies and concluded that the current central governments’ fiscal policies are not sustainable and by 2020, the conditions will be ripe for a financial crisis, followed by a global recession.

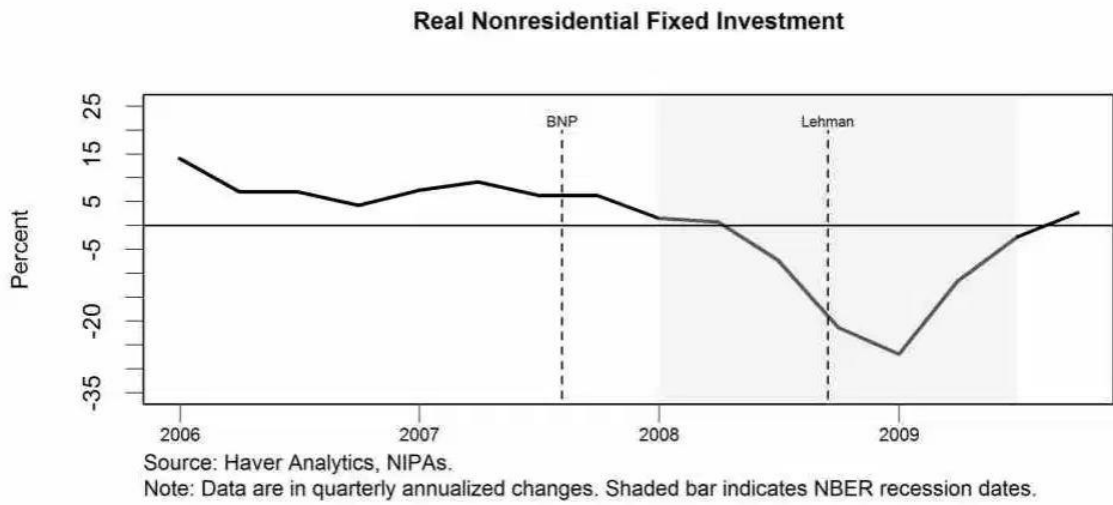
Former Federal Reserve Chairman Ben Bernanke believes that the severity of the Great Recession 2000s largely reflects the negative impact of financial panic on the supply of credit and concludes that the similar financial panic will lead to the next economic crisis.

Graph 11. Housing and Output (Bernanke 2018)

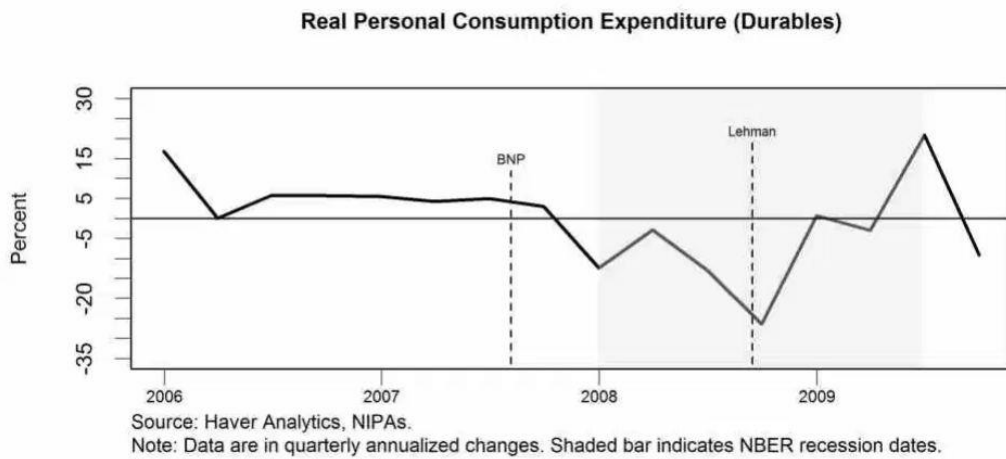


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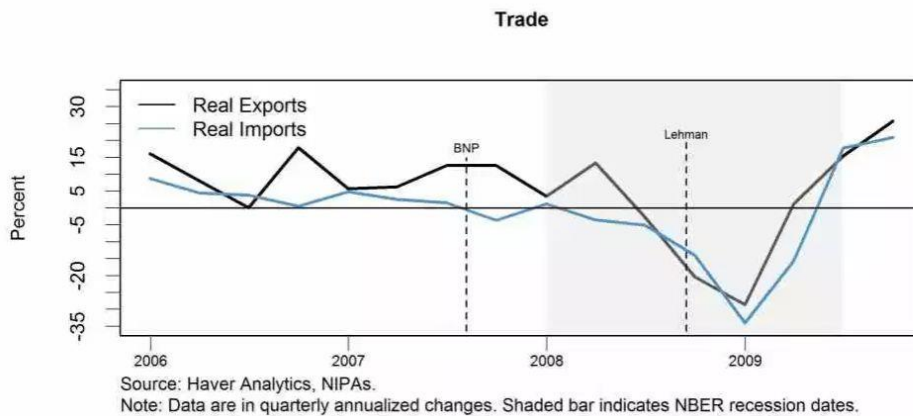
Graph 12. Real Nonresidential Fixed Investment during 2008 Great Recession (Bernanke 2018)



Graph 13. Real Personal Consumption Expenditure during 2008 Great Recession (Bernanke 2018)



Graph 14. Trade during 2008 Great Recession (Bernanke 2018)



The dramatic economic structure change and particularly large loss of jobs from technological improvement in the economy may also cause the economic crisis. Stiglitz and Bilmes(2012) studied the Great Depression and stated that dramatic decreases of jobs in agriculture from modernization led to the US economic crisis in 1930s. In other words, the economic structure change and particularly employment change in the economy can help improve an economy but on the other hand, it may lead to the economic crisis if many are driven out from one sector but cannot find out the jobs in other sectors. The US now has faced similar problems. Many manufacturers have outsourced and so many jobs have lost, but the new economy or sectors cannot absorb all these lost ones.

Advancements of new technology and especially emerging of disruptive technology are valuable to the economic and social developments. But that will also cause many job losses and income's redistributions. If an economy cannot solve relevant economic and social problems, that could lead to an economic or even social crisis as witnessed in many western countries.

The last not least, a trade war world-wide and especially a big decrease of the international trade because of the increasing trade barriers and protectionism will lead to the world's economic recession and crisis. The current US policy and practices in trade have alarmed the world whether a big storm of the recession is coming soon!

V. Will China Experience the Business Cycle and Economic Crisis?

Many factors have contributed to the China's rapid economic development in the past decades. Its opening policy to the world and economic reforms are the two most important factors. China can still benefit from further opening policy and comprehensive and deeper reforms, but it has been and will be facing many more challenges as many advanced economies have encountered. As a result, China's economy will not only slow down significantly as already experienced, but also experience the business cycle and eventually recession.

Chen, et al. (2017) studied whether China can avoid the middle-income trap and concluded that three main factors will decide its growth rate and so whether to advance to the high income economy--the productivity, economic structure and labor participation. This conclusion is consistent with many other studies on the economic growth and middle-income traps. Based on this model and considering of China's urbanization and other factors, it is reasonable to predict that China will experience a business cycle from the year of around 2025-2027.

5.1. Productivity

The productivity is essential to any economy's growth. Studies found that the US economy has not achieved its recovery fast enough in the past 10 years mainly because of slow productivity improvement. The similar studies of China's economic growth also concluded that China's productivity has not been improved much in the past years and as a result, its annual economic growth has been stalled. Whether China can maintain high enough economic growth in the future will depend on whether it can improve its productivity (Chen, et al. 2017).

An economy's productivity improvement comes from two sources. One is from each

sector itself, i. e. being more productive in agriculture, industrial and service sector per employee or capital. The other source is from the change of the economic structure, i.e. moving of labors from agriculture to industrial and to service. Generally, the industrial sector is the most productive, on average and the agriculture is the least. Studies found that from 2005 to 2014, the overall productivity in industrial sector in China was 12 times of that in agriculture and the service was 10 times of the agriculture.

China’s overall productivity improvement has been slowed down significantly recently. 8-10 years later, China will have very little potential in its economic structure change as discussed later and each sector’s enhancement in productivity will also be marginal; as a result, the benefits from the productivity to the economic growth will be very small as happening in most western economies.

5.2.The Economic structure

The economic structure is the indicator of the economic development level (Chen, et al. 2016 & 2017). Generally, an advanced economy has high percentage of its GDP and employment in service and very low percentage in agriculture. For example, the US agriculture GDP is only about 1% of its total GDP and service is over 80%. The change of the economic structure is the natural development of an economy and that will lead to the economic growth as China has experienced in the past 40 decades. However, when an economy is mature, the potential change of the economic structure will be very limited. That is the main reason why the US economic structure has not changed much although US Presidents Obama and Trump called for more manufacturers coming back home.

Table 5. World Economic Structure (Data source-World Bank)

	World	China	US	Japan	Germany	India	South Korea
% of GDP in Agriculture	6.40%	8.20%	0.90%	1%	0.60%	16.80%	2.20%
% of GDP in Industry	30%	39.50%	18.90%	29.70%	30.10%	28.90%	38.80%
% of GDP in Service	63%	52.20%	80.20%	69.30%	69.30%	46.60%	59.10%
% of labor force in Agriculture	26.48	17.51	1.66	3.49	1.28	42.74	4.89
% of Labor in Industry	22.44	26.62	18.89	25.58	27.26	23.79	24.79
% of labor in Service	51.08	55.87	79.45	70.93	71.46	33.48	70.32

Graph 15. GDP Distribution of Different Economies

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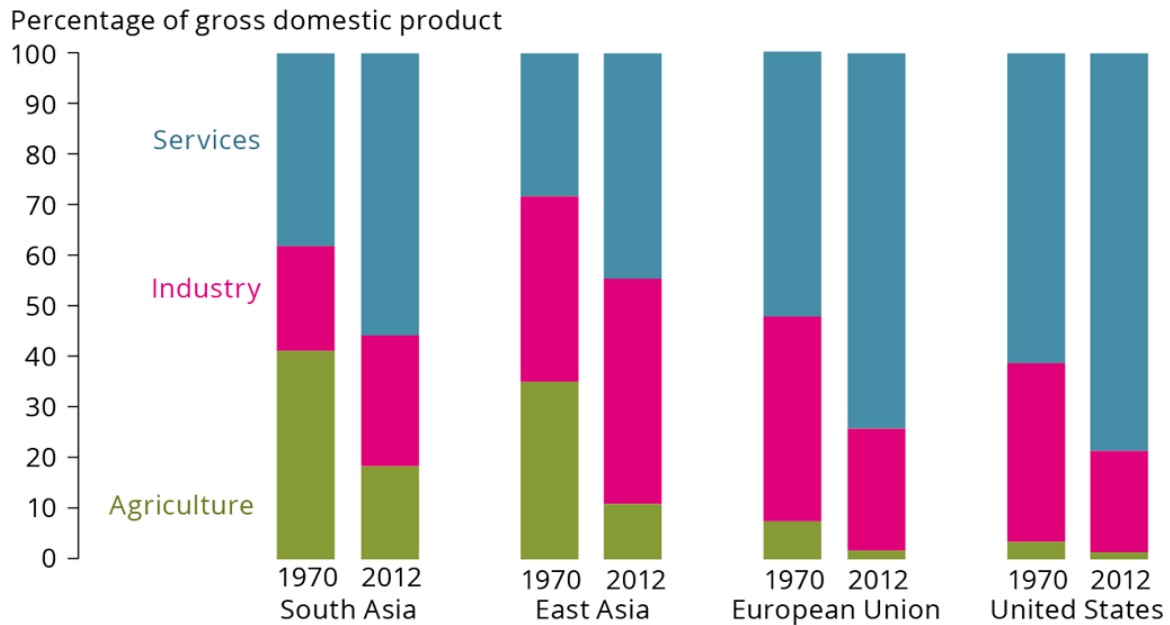


Table 6. GDP Distribution of China (2010-2017)

	2017	2016	2015	2014	2013	2012	2011	2010
Agriculture GDP	8.2	8.6	8.9	9.2	10	10.1	10	10.1
Industrial GDP	39.5	39.8	40.9	42.7	43.9	45.3	46.6	46.7
Service GDP	52.3	51.6	50.2	48.1	46.1	44.6	43.4	43.2

Table 7. China manufacturing industry

	2017	Expected/needed average rate (2019-2025/2027)	Targeted Rate by 2025-2027
Economic Structure-of Manufacturing	39.5%	-0.60%-- -0.80%	33-35%

Table 8. China's Future Economic Structure

	2017	Targeted Rate by 2025-2027
Agricultural	8.2%	4-6%
Industrial	39.5%	33-35%
Service	52.3%	60-65%

China's GDP in manufacturing was 39.5% of its total GDP in 2017. If annual GDP in this sector decreases by 0.6-0.8%, then by 2025-2027, its GDP in manufacturing will be about 33-35% of the total GDP. Given Japan and Germany's experience (each with about 30% GDP in

manufacturing), this should be the level that China should have for the manufacturing sector in the whole economy (China, et al. 2017). These analyses imply that the economic benefits from its economic structure change will reach its peak by the year around 2025-2027. Therefore, China’s economy will lose the relevant engine from the change of its economic structure after 2025-2027.

5.3. Labor participation ratio

As Chen et al (2017) modeled that that economic growth and especially GDP per capita relies on the labor force ratio or labor participation rate of an economy. Japan’s economy experienced lost-twenty years; one of the reasons is its over 25 % high aging ratio. According to the World Bank, China’s labor participation rate was 68.93% in 2017 but its maximum was 79.13% in 1990. In the past years, this relevant rate has been decreasing in China. This decreasing rate will negatively affect China’s future economic growth and may lead to its economic recession in the future as many developed economies experienced.

5.4. Urbanization rate

Besides the above three factors that will decide China’s future economic growth potential, the urbanization rate is also crucial. The percentage of people living in cities is an important indicator of the economic development level. The global urbanization rate has been increasing over decades because of the economic developments (Chen 2017) and particularly rising globalization. More people moving to urbans will also generate more demands and consumptions and that will help improve the economic growth. China’s urbanization has been increased dramatically over decades, from less than 20% in 1978 to 58.52% in 2017. If this rate is able to rise by 0.7-1.2% annually, by 2025/2027, China’s urbanization rate will reach to about 65-70%. Given Germany and several other developed countries’ experience in urbanization (at about 70%), it is reasonable to predict that China’s urbanization will slow down after this target level. Then, again the economic benefits from its urbanization will reach its peak by the year around 2025-2027 and China’s economy will lose the relevant engine from this source. Accordingly, in 2025-27, China’ agriculture GDP will be about 5%, and service will be about 60%.

Table 9. World Urbanization Rate (2017, World Bank)

Country	%
Brazil	86.31
China	57.96
France	80.18
Germany	77.26
India	33.60
Italy	70.14
Japan	91.54
Russia	74.29
Singapore	100.00
South Korea	81.50

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United Kingdom	83.14
United States	82.06
<i>World</i>	54.83

Table 10. China Urbanization Rate (1949-2017, Bureau of National Statistics, China)

	%
1949	10.64%
1960	19.75%
1970	17.38%
1978	17.92%
1990	26.41%
2000	36.22%
2010	49.95%
2015	56.10%
2016	57.35%
2017	58.52%

Table 11. China Urbanization-Current and Future

	2017	Expected/needed average rate (2019-2025/2027)	Targeted rate by 2025-2027
Urbanization rate	58.52%	0.7-1.2%	65-70%

5.5. After Becoming the High income-economy

As Chen et al. (2017) discussed, if China is able to raise its GDP per capita 4-5% annually, it will become a high income economy by 2025-2027. As many developed or high-income economies have experienced, China will face more severe challenges and problems after it becomes the high income economy. In conclusion, China's economic growth will significantly slow down after the year of 2025-2027 and it may start experiencing a business cycle; then it will encounter an economic recession. If China is not well prepared for such challenges and could not deal with the recession appropriately, China will experience its economic crisis.

5.6. Debts issues

As discussed in the previous section, huge debts may trigger the global recession and economic crisis. China is having the same problems. Currently China's overall or total debts to its GDP is about 257%, close to most western countries and much higher than most developing countries. But its main problem is that the debt ratio in China has been radically and continuously increasing and particularly the debts by local governments, corporations and even households. A potential debt crisis and so financial crisis could trigger a recession

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and even economic crisis to China.

Table 12. Government Debts to GDP

Governments Debts to GDP	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
G20	64.3	65.7	78.9	82.2	81.2	85.1	82.7	81.7	85.0	86.8
Developed	71.5	76.4	90.4	98.1	100.2	106.5	104.2	102.1	106.0	105.8
Emerging	37.6	31.0	42.2	40.2	36.0	38.1	38.4	39.3	42.2	46.4
China	29.3	27.1	34.5	33.7	33.5	34.4	37.2	40.2	43.3	46.4
US	60.7	71.6	81.6	91.2	99.8	102.5	99.1	101.1	99.7	100.6
Europe	66.9	72.0	82.4	86.5	87.7	98.2	99.6	106.0	103.8	103.0

Table 13. Corporate and Household Debts to GDP

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Non-financial corporation debts to GDP											
G20		78.7	87.1	83.6	79.6	83.7	85.8	84.4	91.0	91.5	93.3
Developed	89.8	87.8	93.6	90.1	85.4	88.0	87.3	82.1	86.3	85.5	87.4
Emerging		56.2	73.3	71.9	69.6	78.0	84.6	88.8	99.3	102.2	103.6
China	96.8	96.3	119.9	120.7	119.9	130.6	140.7	149.9	162.7	166.3	165.3
US	69.8	72.6	70.4	66.8	66.1	66.7	67.4	68.5	70.4	72.3	73.0
Europe	96.1	99.8	102.7	102.9	101.7	102.7	100.4	102.7	105.2	104.0	104.4
Household debts to GDP											
G20		60.1	66.5	63.0	57.7	58.3	57.8	55.1	57.4	58.2	59.1

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Developed	81.9	75.8	83.3	81.0	75.4	76.5	75.8	71.2	73.9	72.9	73.8
Emerging		19.5	25.6	26.6	25.3	28.1	29.8	30.0	32.3	35.7	37.1
China	18.8	17.9	23.5	27.2	27.7	29.7	33.1	35.7	38.8	44.4	45.5
US	97.9	95.5	95.8	90.7	86.2	83.2	81.5	80.1	79.0	79.3	78.7
Europe	59.2	60.4	64.0	63.6	62.9	62.5	61.4	60.3	59.1	58.6	58.5

Table 14. Overall Debts to GDP

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
G20	212.2	204.6	232.6	228.9	218.6	227.2	226.3	221.3	233.4	236.5
Developed	243.2	239.9	267.3	269.1	260.9	271.0	267.3	255.4	266.2	264.2
Emerging	120.5	106.9	141.3	139.0	131.1	144.7	153.0	158.4	174.0	184.5
China	144.9	141.3	177.8	181.6	181.1	194.7	211	225.8	244.9	257
US	228.4	239.6	247.8	248.7	252.1	252.5	247.9	249.7	249.1	252.1
Europe	222.2	232.2	249.0	253.0	252.4	263.5	261.4	269.0	268.1	265.7

It is important to point out that a possible recession and so a business cycle in China is based on the IMF definition, i.e. its real GDP per capita decreases in two consecutive quarters, not the US or other western countries' definition. Also, as discussed in the previous sections, a business cycle is a natural change of the economy. Many countries have experienced these kinds of cycles over years, but an economic crisis must be triggered by serious shocks or events. To some extent, an economic crisis can be avoided if one is able to take necessary precautions. Then, the question is whether China will start experiencing an economic crisis? If so, what may trigger its crisis? The simple answer is-Yes, China will eventually experience the economic crisis if it starts undergoing the business cycle. An economic crisis will occur if China does not well prepare for these challenges and cannot handle its recession well in the future.

VI. What China Can Learn from Other Countries

It has been 10 years since the 2008 financial and economic crisis. People have wondered how soon the next crisis will occur. Based on the business cycle theory, there will be another economic recession in the coming years in the US and other western countries although it is not sure whether such a recession will become an economic crisis. China can learn from western countries experiences.

One lesson is sources or economic activities leading to the crisis; then China can learn on how to check and control these activities and particularly take precautions to prevent spillovers of risk to the whole economy. As discussed before, the high debt and leverage level is the most serious risk to the companies and the whole economy. The China's current debt level of households, business and governments are very dangerous and create huge risk to its economy. Controlling a such level is crucial to avoid a financial and economic crisis.

The productivity is the most important to the company and economy's competitiveness and so its success. Compared with many other economies, the productivities in China in all sectors--agriculture, manufacturing and service are still very low. On the one hand, this means that China still has potential to improve its productivity considerably; on the other hand, this shows the China's weakness and more severe challenges in the future. The Total Factor Productivity (TFP) is the key to the advanced economy and crucial factor to keep stable economic growth.

Innovations are also critical. The most outstanding advantage of the US economy is its innovations. Apple's market value reached \$1 trillion due to its innovative technologies and products. The US economy is not only service-dominated but also needs to be more innovations-centered as Stiglitz and Bilmes stated (2012). China recently has paid increasing attention to the innovations. Its annual R & D investment has been increasing over years and was about 2.14% of its total GDP in 2017.

The further market-oriented reform will strengthen China's economy. China is far away from being a market economy. This kind of reform will reduce transaction costs and make companies and its whole economy more productive and competitive in the world. But as many western countries have experienced, the market mechanism is not perfect and free market system fails from time to time. One should not deny the critical roles of the market system in determinants of product/service prices and resources allocations. At the same time, one should not have any delusions that the free market system will solve all economic problems. In fact, it will be the free market system that will lead to the economic recession and crisis! In other words, China needs to balance its government's roles—more free market system and so less government's interference and at the same lessen negative and dangerous effects of the market system to the economy that may lead to the recession and economic crisis.

Strengthening its manufacturing industry and keeping it as a large sector as possible will be the key to China's future economic success (Chen et al. 2015). China should not follow the US's path with very low manufacturing GDP in the total economy. Instead, China should learn from Japan and Germany.

Also as Chen et al. (2017) pointed out that besides three main factors affecting China's path toward the high income economy and its economic growth, the exchange rate and inflation are relevant and important. A stable exchange rate with some appreciation in the long-term and well controlled inflation will be essential for China's long-term stable economic development.

VII. Conclusions

This paper studies whether China will experience the business cycle and economic crisis. It explains why many economies have had business cycles over years and what have led to

economic crises. Then, based on comprehensive analyses of the productivity, economic structure, labor participation and urbanization in China, it concludes that China will start experiencing the business cycle and even economic crisis after the year around 2025-2027. The paper also discusses what China can learn from western countries' similar experiences and what it should do to better prepare for future severe challenges.

One issue on whether China can avoid any future economic crisis is its large economic size. It is true that a large economy will be more resistant to external shocks and can recover faster and better from the recession than small economies. That is one of the reasons why the US economy did not suffer so much from the recent economic crisis and has recovered much better and faster than other western countries. However, as witnessed, a large economy cannot eliminate the risk of the economic recession or economic crisis and the consequences from that still can be extremely severe as occurred during the Great Depression. In other words, even China becomes the largest economy in the world in the future, it still will face the risk of the economic recession and crisis. In fact, China will have the higher chance to encounter the recession and economic crisis after it surpasses the US economy because it will have less flexibility to use the world economy/markets to lessen adverse impacts from its own business cycle.

Facing a business cycle or even an economic crisis is not the end of life. Like a person becomes stronger and healthier after a disease, China will continuously improve its economy and be more competitive in the world even though it is near the stage of facing more severe challenges.

China needs to recognize that its economy is not so different from the others and particularly it needs to and should learn from other countries' similar experiences; as a result, China will be better prepared to handle potential recession and even the economic crisis. It should better use its large economy and differentiations of economic development levels of regions, i.e. use the gradient economic theory to better take competitive advantages of different regions.

Also, even China's urbanization rate reaches its up-limit such as 70% in the year around 2025-27, it still needs to solve residential issues of many farmers in cities/towns. Currently about 270 million farmers are living/working in these cities/towns, so counted as the urbanized, but they donot have residential certificates so that they donot have benefits like other regular urbanites there have had, in terms of education, medical service and social security. Continuously solving these problems will not only be the social justice issues, but also generate its economic growth since these actions will bring more investments and consumptions.

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The Adjustment of US Foreign Economic Policies
-----What Can We Do and Learn? The Perspective from China

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Abstract

In recent years, Trump's administration has been quite active and aggressive in adjusting US's foreign economic policies. Mainly, we can see many changes in taxation, trade and investment fields. For example, the taxation was made to encourage overseas capital and profit to flow back; the trade policies are targeting on reducing trade deficit of US, and the investment policies might raise more investigation on the foreign investment in US. How to understand each of these adjustments and to expect the forthcoming impacts in each field? How will China be influenced? And what can we do and learn from these adjustments? We will go deep into these policies and try to answer above questions.

Key words: US; China; Foreign Economic Policies; Taxation; Trade; Investment

1. Major Adjustments of US Foreign Economic Policies

1.1 Taxation Reform

On November 2nd, 2017, House Speaker Paul Ryan, Chairman Kevin Brady of *Ways and Means Committee*, and other members of House leadership introduced the *Tax Cuts and Jobs Act*, a bold legislation to overhaul America's tax code for the first time in 31 years. With this act, both individual income and corporate income taxes will be reformed. The territorial system is integrated into taxation system. Among all the changes, we focus particularly on the provisions regarding corporate income tax that will impact foreign countries significantly.

A. Tax rate reduction.

The corporate income tax rate is cut from 35% to 20%. Previously, according to the Business Tax Reform in the *Tax Cuts and Jobs Act*, a corporation's regular income tax is progressive and the liability is generally determined by applying the following tax rate schedule to its taxable income. Under the new *Act*, the corporate tax rate would be a flat 20-percent beginning in 2018.

Table 1 Previous US Corporate Tax Rate Schedule

Taxable income	Tax rate
\$0-\$50,000	15%
\$50,001-\$75,000	25%

Proceeding

\$75,001-\$10,000,000	34%
Over \$10,000,000	35%

B. Taxation system reform for overseas income.

The transition from a global system of taxation to a territorial one will narrow down the scope of taxable income to domestic profits only. American multinational corporations therefore do not have to pay taxes to the US federal government for their taxed overseas revenues. According to the *Taxation of Foreign Income and Foreign Persons* in TCJ, under the previous law, US citizens, resident individuals, and domestic corporations are generally taxed on all kinds of income, whether earned in the United States or abroad. Foreign income earned by a foreign subsidiary of a US corporation generally is not subject to US tax until the income is distributed as a dividend to the US corporation. Under the provision, this system of taxing US corporations on the earnings of their foreign subsidiaries when these earnings are distributed would be replaced with a dividend-exemption system. Under the exemption system, 100 percent of the foreign-source portion of dividends paid by a foreign corporation to a US corporate shareholder that owns 10 percent or more of the foreign corporation would be exempt from US taxation.

C. Abolishing the deferred system.

According to *Sec. 4004. Treatment of deferred foreign income upon transition to participation exemption system of taxation* in TCJ, the US government abolished the deferred foreign income tax in order to lower corporate's cost.

D. Establishment of new taxes

There are some new kinds of tax introduced, including Global Intangible Low-tax Income Tax, Foreign-Derived Intangible Income Tax, the Base Erosion and Anti-abuse Tax.

Global Intangible Low-tax Income Tax. Its aim is to offset the large amount of tax loss caused by the replacement of global tax by the territorial tax system. Global intangible low-tax income is defined as the difference between the net income of a controlled overseas subsidiary and its regular tangible (asset) net income. Regular tangible income is defined as 10% of the tangible assets owned by a controlled overseas subsidiary. Under the new tax law, half of the world's low-tax intangible income is exempt, while the other half is taxed at the normal corporate income tax rate.

Foreign-Derived Intangible Income Tax: Low unconventional income derived from the sale of property and the provision of related services overseas. Different from the purpose of setting a Global Intangible Low-tax Income Tax, the purpose of setting a Foreign-Derived Intangible Income Tax is to reduce the tax burden on enterprises that own a large amount of intellectual property, sell products overseas and provide related services.

The Base Erosion and Anti-abuse Tax. The Base Erosion and Anti-abuse Tax, BEAT, is a new tax to prevent companies from eroding the tax base by making cross-border payments to related enterprises.

1.2 Trade Policies

The trade policies of Donald Trump, which were outlined in his campaign pledge, seem to put trade first, based on the current world's economic situation. After taking office, Trump started to take a series of actions on trade policies, such as declaring to withdraw from TPP on the first week of his presidency, renegotiating with some countries on free trade agreements, and conducting reforms on some products' tariff. In general, trade protectionism on foreign trade is rising in the US to reduce trade deficit. Particularly, many trade policies concerning tariffs have been introduced to contain China—the second largest economy in the world. The US appears to abandon old friends, and taking a more antagonistic stance toward China.

As follows are more details about the adjustments in US trade policies.

A. Withdrawal from TPP.

During his first week in office, President Trump signed an executive order to withdraw from the Trans-Pacific Partnership (TPP). The TPP, which has also included Canada, Mexico, Japan, Australia, New Zealand, Chile, Peru, Malaysia, Singapore, Vietnam and Brunei, would have slashed tariffs for American imports and exports with those countries. Negotiated under the former President Obama, TPP was the largest accomplishment of his presidency. The last administration believed that TPP would set a higher standard for international trade, and represent the future tendency.

Trump vowed before he has assumed office to withdraw from the TPP trade agreement as his first order of business in the White House. He called it a “potential disaster for our country”, probably because TPP permitted other member countries to enter the lucrative American market with their tariffs exempted, and said he preferred bilateral trade deals.

B. From NAFTA to USMCA.

The North American Free Trade Agreement is an agreement signed by Mexico, Canada and the United States, creating a trilateral trade bloc in North America. During his presidential campaign, Trump threatened to alter existing trade deals. Then after 13 months of negotiations, the NAFTA agreement between the US, Canada and Mexico morphed into the USMCA, the US Mexico Canada agreement. The renaming of the agreement considered a reflection of the US administration's desire to bring an end to the concept of a North America free trade zone and deliver a Trump vision - driven trade agreement between the three countries.

There were some adjustments to the original NAFTA terms, including:

Auto: The key terms are mainly to exempt Canada and Mexico from hard limit on their exports into the US, to raise the percentage of auto parts manufactured in North America from 62.5% to 75%, and to allow member countries of USMCA to sanction other member countries for labor violations in relation to goods produced and traded within the USMCA trade zone.

Dairy: Key changes of this term include easing the restrictions to Canadian supply managements, so that US farmers can export the amount of about 3.5% of Canada's dairy industry, and removing Class 7 milk, which had made Canadian suppliers less competitive.

Pharmaceuticals: The period of data protection for biological drugs was extended to 10 years.

Copyright/Intellectual Property Right: The terms of copyright are raised from 50 years beyond the life of the author to 70 years.

Poison Pill: There is a clause in article 32.10 of the agreement preventing Mexico and Canada from entering into any free trade arrangements with a non-market country, which is regarded as containing China by many analysts.

Unlike NAFTA, the USMCA expires in 2034. However, in 2024, the parties of USMCA will convene to decide whether to extend the agreement beyond 2034.

C. Trade Policies on Particular Commodities.

The Trump Administration placed special emphasis on the import and export of some products (or technologies), so they introduced some targeting measures to trade.

Steel and aluminum: On March 9, 2018, Trump officially signed the order to impose 25% and 10% tariffs on steel and aluminum imported respectively. This policy might exert influence to China, but the steel producing allies, including Canada, Mexico, Brazil, Germany as well as South Korea, and aluminum producers such as Canada, Russia, and the United Arab Emirates would be much more shocked. In response, the EU, Canada and other importers indicated that they would take steps to retaliate. On April 30, 2018, Trump announced that the steel and aluminum tariffs on American allies would be deferred. Then, one month later, the Administration implemented the tariffs on the European Union, Canada and Mexico. The EU, Canada and Mexico immediately announced they would retaliate. Mexico retaliated on June 5, 2018 with tariffs ranging between 15% and 25% on \$3 billion in American goods. Canada also retaliated on June 29, 2018 by imposing tariffs ranging from 10% to 25% on \$12.6 billion in American goods, effective on July 1.

Vehicles: On May 23, 2018, Trump signed a presidential memorandum calling on Secretary Wilbur Ross to prioritize a Department of Commerce investigation initiated last night into the effects of vehicle imports on US national security, just to study the feasibility of raising vehicle import tariffs to 25%. Ross soon responded that he would follow the instructions to launch a thoroughly impartial and transparent investigation into the impact of imported vehicles on domestic industry. Under Section 232 of the Trade Expansion Act, the President has broad power to adjust imports — including through the use of tariffs — if excessive foreign imports are found to be a threat to US national security.

Solar Panels: On January 22, 2018, the American government announced to take 4 years of safeguard measures to imported photovoltaic products. A global measure actually is the measure more specific to China. According to the data in the public filings of the USTR, China produced 60% of the world's photovoltaic cells and 71% of its photovoltaic modules in 2017.

Proceeding

It is the first trade measure that Trump has used his presidential powers since taking office, and the third involving photovoltaic products after two trade remedy investigations in 2011 and 2013.

According to the content of the measure, the United States will impose tariff quota management on imported battery products in the next four years. The first 2.5 gigawatts of imported batteries per year are exempted, and imports after that will be subject to special tariffs. The tax rate fell from 30% in the first year to 15% in the final year, 5% reduced each year. Tariff measures are applied to components for a period of four years, with the tax rate reduced 5% annually, from 30% in the first year to 15% in the last year.

D. Trade Disputes with China.

From the beginning of his presidency, President Trump showed his concerns about the trade situation with China, and identified China as the main object of his adjustment of foreign trade deficit. In August, 2017, President Trump has directed the US Trade Representative's Office (USTR) to launch a 301 investigation into China. In March, 2018, USTR released the findings. Accordingly, Trump launched a series of trade actions against China.

On June 15, in a statement on China-United States trade, the White House said it would impose 25% tariffs on 1,102 products totaling \$50 billion. The first set of Chinese tariffs, covering \$34 billion in imports, was formally imposed at 12:00 a.m. on July 6. A further assessment of the \$16 billion second set of tariffs will be conducted by USTR. Also, the statement referred to the 'Made in China 2025' plan.

Meanwhile, China's State Council Tariff Commission has decided to impose a 25% tariff on 659 imports of some \$50 billion from the United States, including 545 items such as agricultural products, automobile and aquatic products totaled \$34 billion. The implementation time of additional duties on 114 other items, such as chemical medical equipment and energy products will be announced separately.

On June 18, Trump instructs the USTR to identify \$200 billion Chinese goods. If China takes retaliatory measures and refuses to change unfair trade practices, an additional 10% tariff will be imposed. Then Trump announced a further escalation to \$500 billion, which basically covered all US exports to China. On June 27, Trump said he would limit Chinese investment in key US technologies.

Since July 6, the United States announced to impose 25% tariff on the first batch of 818 categories of Chinese goods, which worth \$34 billion. In response, China also slapped a 25% import tariff on American products of the same size on the same day. On July 6, a spokesman for the Commerce Department said the United States violated WTO rules and launched the largest trade war in economic history unprecedentedly.

The United States announced on August 8 that the remaining \$16 billion in tariffs on imported \$50 billion of goods from China would come into effect on August 23. The tariff commission of the State Council, China's cabinet, said it would impose tariffs on \$16 billion of goods from the United States, effective on August 23.

On August 1, Trump wants to increase tariffs on \$200bn of goods from 10% to 25%. Two days later, China responded by imposing tariffs of 5%, 10%, 20%, and 25% on US \$60 billion worth of goods. The China-United States trade war escalates again.

On September 12, the United States offered to open a new round of trade talks with China, saying the aim was to give China a chance to resolve a trade dispute before the United States imposes tariffs on imports from China. On September 13, the Ministry of Commerce responded that China welcomes this kind of negotiation, and it is not in the interests of either side to escalate trade conflicts.

On September 18, the U.S. government announced it would impose tariffs on about \$200 billion in imports from China, starting from September 24, at a 10% rate, and rise to 25% from January 1, 2019.

US trade policies with China are still in the process. New situations will come out from time to time.

1.3 Investment Policies

On August 13th this year, Donald Trump signed into law *The National Defense Authorization Act* (NDAA), an important part of which is the *Foreign Investment Risk Review Modernization Act of 2018* (FIRRMA). Unlike its predecessor *The Foreign Investment & National Security Act of 2007* (FISIA), FIRRMA grants CFIUS (the Committee on Foreign Investment in the United States) greater authority and convenience in reviewing foreign investment.

First of all, FIRRMA expands the definition of covered transactions to include nearly all kinds of foreign investment. It is explicitly stated that any investment of the following four categories will be subject to CFIUS review:

“(1) a purchase, lease, or concession by or to a foreign person of real estate located in proximity to sensitive government facilities; (2) “other investments” in certain US businesses that afford a foreign person access to material nonpublic technical information in the possession of the US business, membership on the board of directors, or other decision-making rights, other than through voting of shares; (3) any change in a foreign investor’s rights resulting in foreign control of a US business or an “other investment” in certain US businesses; and (4) any other transaction, transfer, agreement, or arrangement designed to circumvent CFIUS jurisdiction.”²

Instead of specifying industries that might be sensitive, FIRRMA focuses generally on foreign control of American business and access to “material nonpublic technical information”. Even notwithstanding the interpretation of key concepts, the act would probably still be applicable to any transnational investment transaction in America. Foreign investors to America might find institutional review a standing part of their business in addition to negotiations and due diligence.

FIRRMA also extends the review timeline and helps step up financial and human

³ US Department of Treasury. Summary of FIRRMA's Key Provisions. <https://www.treasury.gov/resource-center/international/Documents/Summary-of-FIRRMA.pdf>, accessed on Oct 28th, 2018

resources support for CFIUS. Previously, upon the initiation of reviewing, CFIUS would have to make a decision within 30 days unless further investigation (no more than 45 days) is needed. Under FIRRMA, CFIUS will have a 45-day review period and a 15-day period can be added to the investigation under extraordinary circumstances, allowing a review decision to travel for 105 days in the worst scenario. Moreover, FIRRMA allows special talent-recruiting policies for CFIUS and approves the agent to charge a review fee that is set at 10% of the transaction volume but no more than US\$ 300, 000.

Besides, FIRRMA renovates its reviewing mechanism to grant quick pass to transactions unrelated to national security. CFIUS will roll out a new “declaration” procedure that provides for abbreviated filing so that investors might be able to start the reviewing before closing a transaction. However, unlike the expansion of covered transactions which could be effective immediately, a number of provisions will be delayed to make time for formulating regulations and mobilizing resources to administer the provisions, including those related to the declaration procedure and reviewing fees. The delay is stipulated to be no more than 18 months since the enactment of FIRRMA.

2. How to Understand these Changes?

2.1 Taxation Reform

The original US tax system has been criticized at home for years: First, the tax system design is too complicated and the tax items are not clear. Second, the unreasonable setting leads to the failure of the basic functions of taxation and widens the gap between the rich and the poor. Thirdly, the large amount of profits detained overseas is not conducive to the domestic economic development. As a result, Trump is campaigning to make tax reform (tax cuts) an important policy direction, something the Republican Party has consistently advocated and thus US tax reform comes with the trump administration running.

There are many interpretation and estimation on the new taxation system. A popular prediction is that a typical middle-income family of four, earning \$59,000 (the median household income), will receive a \$1,182 tax cut. And this plan would significantly lower marginal tax rates and the cost of capital, which would lead to a 1.7 percent increase in GDP over the long term, 1.5 percent higher wages, and an additional 339,000 full-time equivalent jobs. Specifically, over the next decade, this Act would increase GDP by an average of 0.29 percent per year; GDP growth would be, on average, 2.13 percent, compared to 1.84 percent without it. In 2018, GDP growth is expected to be 0.44 percent over the baseline forecast.

Regarding to the reform in corporate tax, the most direct effect of the tax cut is to reduce the corporate tax burden and the cost of the enterprise as well, thus improving the relative competitiveness of American enterprises. Reform of overseas income system would largely lead to repatriation of funds and profits retained abroad, which could stimulate the US economy. And the Cancel deferred system will also stimulate the return of capital.

Based on these estimations and understanding of the tax reform, we can conclude the impacts on the United States itself and then the rest of the world.

Firstly, for the United States, above predictions reveal the possible positive effects: stimulating the economic growth and restoring the economic vitality. Tax reform brings the capital flow back into American capital market again, which can produce incentive effects on the American economy. Capital inflows do boost investment and increase the capital stock. The reduction of personal income tax and corporate income tax will increase the national disposable income which will naturally stimulate consumption; A reduction in the corporate tax burden, on the other hand, would make businesses more competitive, which is also an important reason for the Trump administration to ignite some many tariffs disputes. Create jobs and reduce unemployment. Due to the return of capital and the improvement of enterprise competitiveness, more jobs will be created and the unemployment rate will be decreased, solving a major problem in the macroeconomic development.

There could be some negative effects, however, from this reform. The federal government might have less revenue and bigger deficit, resulting from the reduction of the individual income tax rate and the corporate income tax rate. It is also possible to worsen the wealth gap and exacerbate social problems. The entire tax reform mechanism is likely to give the top 1% of earners nearly 50% of the tax cuts. In other words, the tax reform is likely to be just a game changer for the wealthy class. The Tax reform could increase trade friction with the other countries. Although this tax reform ACTS at home, as the United States is the world economic leader, and the dollar the main currency in circulation, the domestic system is bound to affect the world economic trend. For example, the repatriation of overseas capital caused by tax cut will lead to the decrease of capital in overseas host countries and the slowdown of economic development, finally the trade friction.

Besides the trade friction from this reform, as the largest economy, its tax changes are bound to have other impact on the world. First, the dollar's flowing into US market will affect global capital markets. As the world's main foreign exchange reserve currency, the US tax cuts at home provide a lower-cost operating environment for US businesses. Companies have to seek a lower-cost environment with the goal of maximizing profits, resulting in the repatriation of capital and profits from US companies overseas. The repatriation of dollars will affect the world's capital markets, and other countries must protect and avoid capital flight; Second, manufacturing companies are returning to the United States, which will influence the economies of developing countries. Before the tax reform, American multinationals kept many manufacturing operations out of the country to avoid higher taxes at home. Manufacturing industries moved back to the United States after lowering the tax rate, which was bad news for many emerging economies where manufacturing was the main growth opportunity for them; Third, there could raise global competition in tax cuts.

But, the impact of the us tax reform on the US and the world economy should not be exaggerated. After all, as the main part of the reform, the US corporate income tax accounts for a very low proportion of the US federal tax, only about 10%, accounting for around 2% of GDP³.

⁴ Please read Tax Policy Center, <http://www.taxpolicycenter.org/statistics/amount-revenue-source/> [2018-04-10]

2.2 Trade policies

A. Withdrawal from TPP

Different from his predecessors, President Trump seems to give top priority to trade. During his first week in office, Trump announced to withdraw US from TPP. This measure does more good than harm to US's economy. Although US cannot exert its influence to the Asia-Pacific area any more, and starts to alienate from its trade partners and allies. Most importantly, US government can no longer curb China's economic power in the Asia-Pacific region by TPP, the biggest benefit is that there will be no need to make trade concessions to other TPP members under the terms. Under the current situation, it is undoubtedly a significant move for its economy. Since the United States already has a trade deficit with most of the TPP members, the agreement only gives other members the opportunities to enter the US market exempted from tariffs, which is not good for the US economy itself.

Besides, the TPP was never ratified by Congress, so withdrawing from it will not have an immediate, real effect on US economic policies, but it could change the big picture and have signal effects, making a new and totally different US outlook on trade.

B. USMCA

The US government attached great importance to NAFTA, and the Trump Administration negotiated for reform for more than one year before finally signing the USMCA.

To understand the formation of USMCA, the following factors are of great importance:

With the coming of November, the battle between the two parties has entered a heated phase. During his campaign in 2016, Trump had promised to alter NAFTA, otherwise the US would quit completely. The move to sign the USMCA fulfilled one of its most important campaign promises, which helps Republicans maintain their congressional majority in the race.

USMCA continues a 24-year free-trade agreement, and removes the uncertainty that may arise from changes in the international environment. Though the Canadian Prime Minister Justin Trudeau was unhappy with Trump at a recent G7 summit. On October 1st, the day after the deal, Mr. Trudeau breathed a sigh of relief and said 'North America was more stable than yesterday'.

As Trump's first shot at reshaping the global trading system, USMCA aims to turn many past multilateral trade deals into bilateral ones. After setting the North America's backyard, it is time for Europe and Japan to negotiate. In addition to conventional technical terms, such as vehicles and agricultural products, the poison pill provision that prevents a trade deal with China could be replicated in negotiations with Europe and Japan. However, Europe's economy is much bigger than Canada's, and it remains to be seen whether the United States will follow suit.

This agreement could also release more pressure on China. Now for the troubles in trade talks with China, Trump's strategy is to reach an agreement with other countries at first step, and to put pressure on China. The USMCA could be used to prevent Mexico from entering

into free trade negotiations with China. The poison pill provision is in line with Trump's desire to isolate China in economy and prevent Chinese goods from flowing through Canada and Mexico into the US for duty-free concessions. This allows the US government to veto Canada and Mexico's free trade agreement with China, and if the US wants to do the same with Europe and Japan, China will be isolated in the global trading system. Therefore, the EU and Japan will be the focus of the two countries' struggle for some time.

Of course, only when the three parliaments approve could USCMA go into effect. There is little problem with Canada and Mexico, but US's mid-term elections have revived doubts about the deal's passage. However, Trump takes it seriously, arguing that USCMA would return North America to a strong manufacturing group and get back the supply chains outsourced by globalization. USMCA will become US's latest model for negotiating a free-trade agreement.

C. The trade policies for particular goods or technologies

Steel and aluminum: On Mar 9, 2018, Trump officially signed an executive order to impose 25% and 10% tariffs to steel and aluminum respectively. The tariffs are for all steel and aluminum imported to the United States, not limited to Chinese products, and the level of tariffs Mr. Trump voted for is the harshest of the Commerce Department's options. This one-size-fits-all policy gives a significant negative signal that the United States is likely to adopt more protectionist policies in the future, so other countries could strike back, which will raise the risk of global trade war.

Undoubtedly, the high tariffs US imposes on the imported steel and aluminum will benefit US's domestic products, but it also raises the costs of its allies, downstream companies and consumers of their own steel and aluminum products. Besides, such protectionist policies are also bad for the global economy and America's growth either. As the basic raw material, steel and aluminum are involved in a wide range of industries, especially in the transportation equipment (automobile, aviation, rail transit), machinery equipment and construction industry. The high tariff would hurt the economy and drive up inflation.

Vehicle: Trump asked the Commerce Department to open an investigation into the impact of imported vehicles on national security. The purpose of it is clear: to determine whether it is necessary to increase the US auto import tariff to 25%.

According to the production and sales data of the overall market, China was the world's largest automobile market in 2017, followed by the United States and Japan, which indicate the pressure on the US government. Apart from the sales gap, the US government also feels great responsibility to protect its home market. Japan has a good home market protection policy, and its products are spread all over the world. China's auto industry is growing and has far more potential than US's. Germany is the market leader in luxury cars, and the United States is the second export market for German car companies except China. All above makes the US government unsettling, because the auto industry has so far been one of the nation's core industries.

And what will be the impact of higher US tariffs on imported vehicles? For China's auto industry, the impact may not be as big as you thought. We do not export a lot of complete

vehicles to the United States. A tax increase in the United States is bound to determine the free trade order, and bring huge implications to the European Union, Japan, South Korea, Germany and other major auto powers.

Solar panels: The United States is the birthplace of the photovoltaic industry. However, in recent years, the United States has not only lost almost all of its photovoltaic manufacturing capacity, but also a number of local photovoltaic companies. Backed by the world's most developed venture capital system, some modest financial bubbles were created and then burst.

Today, Chinese companies have much lower manufacturing costs and far superior production, and its output has been much better than foreign companies. China still imports a lot of polysilicon every year, but its domestic supplies are quite high. However, US's exports of polysilicon to China have been suppressed to almost negligible levels. Given that China consumes more than 75% of the world's polysilicon, US's companies have lost their market share in China and are unlikely to find it elsewhere, the impact could be quite huge.

Therefore, to protect its local photovoltaic industry, the United States began to launch anti-dumping and countervailing investigations against China's photovoltaic industry. But as a result, the US maximum countervailing duty have done little to protect the US photovoltaic industry, whose share of the global market is still declining year by year.

D. Trade policies with China

From a perspective of trade balance, the impact of US exports to China is greater than that of China's exports to the US. In the first eight months of this year, 21 out of the 66 categories of goods exported to China by the United States registered negative year-on-year growth, and in August, 33 categories of exports to China were negatively increased year-on-year. Among the 67 categories of imported goods from China, 13 categories of goods have accumulated negative year-on-year growth, in which 18 categories have achieved negative year-on-year import growth in August. Obviously, US exports to China have been more affected. When the first tariffs were fully implemented, the US exports to China fell to 14.2% year-on-year in August, 22.2% points lower than the average growth rate of US exports in the same period. Imports from China rose 4.5% year-on-year, but were only 6.6% points lower than the average growth rate of US imports in the same period.

The impact on US exports is greater than China's, partly because the first tariff measures accounted for only about 10% of China's exports to the US in 2017, but more than 30% of US exports to China. On the other hand, in the context of industrial hollowing-out, the US cannot get rid of its dependence on China's supply chain in the short term. It is estimated that 59% of the first \$34 billion of Chinese imports were produced by foreign-invested enterprises, many of which were US-invested in China.

Some US's exports to China have fallen sharply, putting a lot of political pressure on the US's government. According to the statistics from the US side, there has been a lot of collapse of US commodity exports to China this year. the US agricultural product exported to China is obviously the most affected sector. US meat and meat exports, for example, have been growing 30-40% year-on-year since May; Dairy and egg exports continued to decline in

July and August, failing about 40% a month; Since May, the export of grain and its products have been decreasing by 85% to 98% every month, and the export to China has basically gone to zero. The export of oil seeds and fruit containing oil decreased year-on-year from June, and fell 94.5% in August. At the end of July, the US government is proposing \$12 billion in emergency aid for American farmers. In recent days, the US Secretary of Agriculture has publicly lamented that the over-reliance on the Chinese market for US agricultural trade could be a mistake.

The US government has repeatedly accused China of using tariff tools to crack down on republican votes in a trade war and meddling in the US mid-term elections, which is undoubtedly an attempt to discredit Beijing. But it also reflects the anxiety caused by trade conflicts among American politicians. Even if only a small number of businesses and industries are hurt in a trade war, their complaints and demands will put increasing political pressure on the government. On Sept. 12, the US offered an invitation to resume trade talks with China.

2.3 Investment policy changes

The primary purpose of FIRRMA is to block the transfer of advanced technology to foreign countries and to thus preserve an American dominance in technology. For years, America has been a leading global innovator with the most advanced technology for production. Though this is still the truth, industrial specialization and global supply chain in the awake of globalization has accelerated technological transfer and promoted manufacturing industry development in other countries, especially the emerging economies. As the technological gap between developed and developing countries narrows, both are aspiring for cutting-edge technology to upgrade industrial organization. This might compromise the country's technological dominance and as the Capitol and white house see it, technological transfer under globalization, or the "theft" of technology and industry by developing countries as Trump puts it, is to blame. Though technology tends to evolve in the long run, the eagle seems to believe that by blocking potential technological transfer, the trend would be slowed down to prolong the window for accumulating technological advantages that will enable the nation to lead the world for another century. When it comes to investment policies, such mentality is translated into mistrust and scrutiny against foreign investment in technology-intensive industries.

FIRRMA might also barrier foreign spying activities that compromise the country directly. Unlike the loss of technological advantages that impacts national security indirectly, foreign spying activities pose imminent threats. The inclusion of real estate transaction in CFIUS reviewing has been interpreted by some as a sentinel of worsening investment environment. However, the provision is narrowed down to affect only those property "located in proximity to sensitive government facilities". The underlying concern will not be a hard guess. The US is vigilant that physical proximity to government facilities will be abused by foreign agents to eavesdrop, collect material information and compromise American national security. Spying activities might well be the elephant in the room and despite the shade of grey such provision has painted in the background of business and international politics, it might not be totally out of reason.

It is noteworthy that the legislators also fear the possibility of discouraged foreign investment as a result of tightened reviewing. Be it the influence of Wall Street lobbyists or the Trump administration's consciousness of the role investment is playing in economic performance, FIRRMA does showcase the subtle balance between stricter reviewing and a sound investment environment. Irrespective of escalated reviewing scope and period, FIRRMA also stipulates a light-filing process that could potentially shorten the approval timeline. Especially with the expected efficiency from stepped-up funding and personnel, investment cases clear of national security issues might be granted a quick pass when the act is fully implemented.

3. How Will China be Influenced?

3.1 The influence of taxation cuts

Although the tax reform is mainly about the domestic income, there are provisions involving the rest of the world. As a close trade partner and a competitor in the world market, China is very likely to be affected in different ways.

Firstly, US tax reform might lead to global tax cuts which changes the competitive environment worldwide, putting pressure on China in the context of the global competition. The passage of trump's tax reform bill at the end of 2017 is expected to lower the macro tax burden by another 0.8% per year, then American enterprises will reduce their production costs due to this reduction of tax burden, and their products will become more competitive. However, the comprehensive tax burden of Chinese enterprises is relatively high, and China is an export-oriented economy. Therefore, the tax burden of Chinese enterprises directly affects the competitiveness of Chinese products in the international market. In addition, large tax cuts in the United States would widen the tax burden gap with other countries, other countries might be forced to adopt tax cuts in order to preserve competitiveness. In fact, developed countries such as Britain and France have already pushed for tax cut legislation.

Secondly, the impact could go to the American companies investing in China. About one in four American companies operating in China earn at least 25 per cent of their global income from the world's most populous nation, according to the 2017 China business climate survey report of 400 members by the American Chamber of Commerce in China and Bain & Co. Tax reform in the United States if lead to a lot of money out of China, is bound to affect a large number of US companies to invest in China.

Thirdly, the impact on China's Balance of Payments, RMB exchange rate and other aspects. The US tax reform leads to the repatriation of funds in China, which will directly affect China's Balance of Payments. The reduction of investment by US companies in China also indirectly affects the Balance of Payments and RMB exchange rate, reducing the source of China's foreign exchange reserves.

As the second largest economy in the world, China is undoubtedly one of the most concerned countries in the scope of the spillover effects of the tax reform.

3.2 The influence of trade policies

A. Withdrawal from TPP: Challenge and opportunity

US' withdrawal from TPP really disappointed its allies, and undermined its political reputation. However, this move might bring opportunity to China in developing regional cooperation. Currently, China is initiating a sixteen-nation's trade agreement called RCEP—Regional Comprehensive Economic Partnership. This trade agreement does not include US, nor does it include the environmental and labor protection of the TPP that Obama had pushed for. If China can fill the leadership vacuum left by the United States and take advantage of Trump's protectionist policies to develop stronger ties with traditional US allies, such as the Philippines and Malaysia, the US' withdrawal from the TPP would provide China with a good historical opportunity.

However, US's withdrawal from TPP increases the difficulties for China to expect US's foreign trade strategy in future, which is a challenge for China to be faced with.

B. USMCA: the potential *Poison* strategy

Although USMCA is a north American trade agreement, one of the key provisions which is called the poison pill by US's commerce secretary Wilbur Ross could have significant implications for China. It provides that 'Entry by any Party into a free trade agreement with a non-market country, shall allow the other Parties to terminate this Agreement on six-month notice and replace this Agreement with an agreement between them (bilateral agreement)'. Although the clause does not specify that it is aimed at China, it is widely seen as a Chinese-exclusion clause. The 'Poison Pill' was originally a tactic used in capital market takeovers. When faced with a hostile takeover, the shares are artificially diluted to prevent a takeover. The term is now used in the clauses of trade agreements between countries.

The classification of market country and non-market country does not have a universally accepted standard. If the United States does not want China or other countries to strike free trade deals with Mexico and Canada, it can invoke this clause by classifying it as a non-market economy, which would make China very passive in any future free trade negotiations. Moreover, the clause could have a chain reaction, because the United States wants to use the USMCA as a model for future US trade negotiations. So now it is used to bind Mexico and Canada, and in the future, it could extend its influence to other US trading partners, especially those who are negotiating agreements.

The exclusivity clause is explicitly added to USMCA, but does not exert huge influence to the current international economy. However, the division of market economy and non-market economy has emerged, and similar statements have been made in the declaration. It could be seen that the poison pill provision reveals another purpose of Trump's trade war. In addition to the previously claimed reshoring of jobs to address the trade deficit, there is decoupling from the world, withdrawing from the old circle of friends, and rebuilding the group according to the new standard.

On Oct 11, 2018, Gao Feng, a spokesman for the Ministry of Commerce, responded to the poison pill clause in the USMCA. He believes that the establishment of free trade zones

should uphold the principle of openness and inclusiveness, but not restrict the external relations of other members, nor should they be exclusive. On the issue of the so-called non-market economy countries, China has repeatedly stressed that there are no provisions on non-market economy countries in the WTO multilateral trade rules, which only exist in the domestic laws of individual member states. Each economy deserves the right to develop economic relations with the rest of the world, and attach importance to economic and trade relations with China in the light of need for mutually beneficial and win-win cooperation.

In fact, USCMA is nothing but Trump's strategy to preserve jobs and growth. The trade volume of NAFTA accounts for 40% to 50% of Canada's GDP, but only 5% of US's, so Canada has no bargaining power in the face of the US economy. Without the poison pill clause, USMCA is nothing but NAFTA 2.0.

C. Particular Commodities: Mixed influence

Steel and aluminum: this policy has a limited impact on China's steel and aluminum industry.

China accounts for about half of the world's total steel production and ranks firmly among the world's top exports. Despite a surge in total exports, China's steel exports to the United States have been declining for years. Among Chinese steel exporters, the US fell from second in 2006 to 18th in 2017.

China's declining steel exports to the US have been affected by frequent US trade surveys. Since the United States is the most anti-dumping and countervailing country against Chinese steel products, and at the same time, the United States launched a number of safeguards or protection investigations against Chinese steel production, to limit China's steel exports to the United States by tariffs in various forms. In terms of the overall size of China's steel exports, the amount of Chinese steel production capacity involved in the US tariff protection is not large, but China's steel exports to the US are likely to shrink further.

China exports about 10% of its annual aluminum production. In 2017, China's aluminum production exported to the US accounted for about 14% of China's total aluminum exports. As international prices have risen sharply, Chinese aluminum products, which have been hit by double tariffs, have become more competitive in the United States. This year, in January and February, China's exports of unwrought aluminum and aluminum products to the United States totaled 817,000 tons, with year-on-year growth of 26%. The Trump Administration has imposed tariffs on aluminum far less than steel. On Feb, 27, the US Department of Commerce has issued a final ruling on an anti-dumping and countervailing duty investigation into important aluminum foil imported from China, in which Chinese aluminum companies face a maximum countervailing duty rate of 186%. In contrast, the 10% new tariff is not a priority for China's aluminum industry.

Vehicle: The Ministry of Commerce said in an interview at a press conference that, China will open wider to promote consumption, substantially relax market access and cut import tariffs on some consumer goods for automobiles.

As is known to all, in terms of development, China's automobile industry is relatively

less developed compared with western countries. Besides, it is far behind the international advanced level at the beginning, and its products are relatively weak in international competitiveness. The high tariff is to avoid the impact of imported cars on the domestic automobile industry and attract multinational automobile companies to seek cooperative investment and set up factories in China. To a certain extent, it promotes the development of domestic automobile industry. Therefore, the protection of high tariff policy has created a relatively favorable environment for the development of China's domestic automobile industry. After nearly two decades of development, domestic independent brands have been able to resist the pressure of multinational brands.

In fact, cutting down tariffs on imported cars is nothing new. As a member of WTO, China bears the obligation of reducing tariff. From 70% to 80% before WTO entry to 25% today (average tax rate), it is still unknown how much will be cut. Undoubtedly, the tariff cut will make imported cars more competitive at home, but imported cars do not account for a large proportion of domestic car sales, so the short-term impact on the overall car market may be limited.

Solar panels: Chinese companies are leaders in the photovoltaic industry. According to the US trade representative's office, China's share of global solar cell production jumped from 7% in 2005 to 61% in 2012. At present, China dominates global supply chain capacity, accounting for nearly 70% of the total global capacity expansion in the first half of 2017. China produces 60% of the world's solar cells and 71% of its solar modules.

As a result of the maximum countervailing duty, China's photovoltaic exports to the United States have fallen sharply. In 2017, China's exports of solar panels to US plunged 41% year-on-year. At this point, global safeguards have seriously hurt the interests of enterprises, which worsens the photovoltaic industry of China. If we superimposed maximum countervailing duty and global safeguard rate, there will be a tax rate of about 50%. Under such a high rate, companies in mainland China cannot export to the United States. At present, there are two choices left for domestic photovoltaic industry---abandoning the US market or building plants in the US.

D. Trade disputes with China

Even in the trade war, China's exports to the United States have not been impacted, but maintained strong growth. In August, it grows at a rate of 13%, which is not only higher than the average level of exports to developed countries, such as Europe and Japan, but also higher than the rest of the world as a whole. Accordingly, there is an optimistic view that a trade war between China and the United States will have little impact on China's economy and exports.

In addition, Zhou Xiaochuan, former governor of the people's bank of China, mentioned during the Ambrosetti Forum in Italy that the negative impact of trade wars on China's economy is limited. China can fend off a trade war by tapping overseas markets outside the US. The trade war is mainly about undermining investor confidence in Chinese companies and the stock market. For example, the current sluggish domestic stock market performance is related to investor nervousness.

Proceeding

Indeed, the risk of a trade war is bound to affect investor confidence. So far this year, China's stock market has fallen sharply in the face of the internal and diplomatic troubles, with Shanghai composite index at one point falling below 2,700, down nearly 20 points so far this year. By contrast, the three major US stock have being quiet strong this year, climbing new high points continuously.

However, the impact of a trade war on China's economy goes far beyond that. In the short term, though, exports to the US were unaffected in July and August. However, it is observed that this is related to exporters' fear of the uncertainty brought by the trade war and the phenomenon of snatching exports in advance. According to the survey, American customers are very concerned about the tariff rise, saying that if the tariff increase could lead to higher costs, it would require a 50/50 loss to domestic exporters. At present, China's rush to export to the United States is precisely the stress response to avoid the tariff stick.

Meanwhile, the impact of a trade war on manufacturing should not be underestimated. In 2017, China's exports to the United States account for 19% of China's total exports. The export of goods to the United States is not only concentrated in the traditional labor-intensive industries, for example, the export of industries such as toys, furniture and textiles to the United States accounts for about one-third of total export of industry. At the same time, with the upgrading of China's manufacturing industry, the export of capital-intensive industries, such as electronic machinery, to the United States has also increased significantly, and the export volume has surpassed that of labor-intensive products.

In addition, exports to the United States have created many jobs for China. According to the global value chain and China's value-added accounting report released by Ministry of Commerce, customs, National Bureau of Statistics and foreign exchange administration, in 2012, for every \$1 million of goods exported to the United States, nearly 60 jobs can be created for China, and the \$500 billion of exports corresponds to 30 million jobs in China. Since the start of the trade war, the domestic employment situation is unavoidably unaffected.

At the same time, China also relies on the United States for key technology imports and financing. For example, China imports US high-tech products, such as chips, whose key technology is only held by the US. Once the US stops exporting such core technology to China, China's industrial supply chain might be impacted. Intel and AMD, for example, are very popular in PC's CPU usage. Most Chinese mobile phones also have GPS global positioning systems. Once the trade war begins, it will be difficult for China to find alternatives to such technologies. Previous US sanctions have left ZTE, which relies heavily on US chips, almost at a standstill. It is clear that China does not yet have the capacity to develop and produce its own chips and other core technologies. Once the trade war becomes a technology war, the negative impact on companies in these areas will be huge.

Furthermore, at present, China's economic downturn, weak consumption, investment decline and accelerated infrastructure investment is attached to great importance. However, it can be assumed that, once the expansion of external demand is impacted, the imbalance of the troika and the increased risk of export enterprises will inevitably affect the investment and consumption of upstream and downstream enterprises. Under the background of economic

downturn, the service efficiency of new infrastructure facilities will be greatly weakened, and this part of the impact is difficult to be calculated by the model.

To sum up, when dealing with a trade war, we should neither be frightened of it nor look down upon it. Though the explicit impact of a trade war can be calculated, the impact of trade war escalation on the investment prospects, entrepreneur confidence industrial chain and upstream and downstream industries is difficult to estimate. Therefore, it is still necessary to remain vigilant and respond positively.

3.3 The influence of investment policies

Though CFIUS declares that the policy is not country-specific, Chinese capital is obviously in the spotlight of US regulators. In response to the turbulence and doubts FIRRMA has incurred, the US Department of Treasury posts a list of frequently-asked questions with official explanation where it asserts that the new policy focuses exclusively on national security and does not single out any country.⁴ The reply could be reasonable and reassuring yet at the White House FIRRMA round-table on August 23rd, Senator Marco Rubio commented as follows:

*“This is the first time since 1991 that we have a near-peer competitor in the world. It was only America and everybody else. And now we are starting to wake up to a reality that we have a near-peer competitor. And this competitor is cheating, stealing, and undermining us, using virtually every tool at their disposal. And one of them is intellectual property theft.”*⁵

It is true that an individual opinion should not be interpreted as how the US political sector regards China and its development, yet Senator Rubio’s comments certainly represent one of the perspectives Washington could refer to when it comes to China-US relationship. There are at least a number of people from the Capitol Hill that see China as a threat of the American dominance since the Cold War and they presume that China’s power comes from stealing American intellectual property. China is one of the reasons why America has accelerated investment policy revision and Chinese capital might want to get accustomed to the intensified CFIUS gaze under FIRRMA.

In fact, CFIUS have never been lenient with Chinese investment. According to the *Annual Report to Congress for CY 2015* disclosed by CFIUS last September⁶, investors from China accounted for the largest share of covered transactions (19%, 74 cases) for the three years to 2015. However, by country of ultimate beneficial owner, the largest source country of new investment in 2015 was Ireland (\$176.5 billion, 42%).⁷ In terms of foreign direct investment position, China was not even within the largest eight countries in 2017 and since the eighth was Belgium, which accounts for 2.6%, the share of Chinese investment in the

⁵ <https://www.treasury.gov/resource-center/international/Documents/FIRRMA-FAQs.pdf>

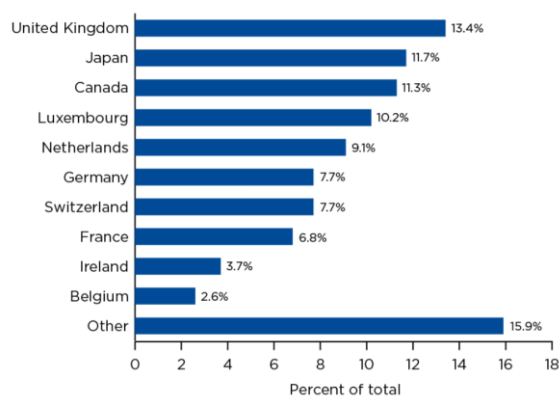
⁶ Remarks by President Trump at a Roundtable on the Foreign Investment Risk Review Modernization Act (FIRRMA), Aug. 23, 2018 <https://www.whitehouse.gov/briefings-statements/remarks-president-trump-roundtable-foreign-investment-risk-review-modernization-act-firma/>

⁷ CFIUS Annual Report to Congress (Report Period: CY 2015) [https://www.treasury.gov/resource-center/international/foreign-investment/Documents/Unclassified%20CFIUS%20Annual%20Report%20-%20\(report%20period%20CY%202015\).pdf](https://www.treasury.gov/resource-center/international/foreign-investment/Documents/Unclassified%20CFIUS%20Annual%20Report%20-%20(report%20period%20CY%202015).pdf) accessed on Oct 30, 2018

⁸ New Foreign Direct Investment in the United States, 2014 and 2015 <https://www.bea.gov/news/2016/new-foreign-direct-investment-united-states-2014-and-2015> accessed on Oct 30, 2018

United States is expected to be well smaller than the number.⁸ Such disproportion between the shares of covered transactions and actual investment position for Chinese investors is perplexing. It could be that Chinese investors are so unsophisticated that they keep blundering into sensitive industries or that, more likely, CFIUS consciously directs more attention to capital from China.

Figure 1. US Inward Direct Investment Position by Country



Source: US Bureau of Economic Analysis

Such attention is made explicit by the new act. In sect. 1719 of FIRRMA where modifications of annual report to Congress and other reporting requirements are specified, a sub-section is devoted to Chinese investment. According to the provisions, the Secretary of Commerce will submit to Congress and CFIUS “a report on foreign direct investment transactions made by entities of the People’s Republic of China in the United States” every two years through 2026.⁹ The report shall include the total value of Chinese investment by ultimate beneficial country, with breakdowns by transaction value, industry, type (establishment or acquisition), and investor (Chinese government or private). Moreover, the report will offer an analysis of the investment pattern of China, the extent to which it is in line with the *Made in China 2025* plan, and how it is compared with the investment patterns of other foreign countries. Washington is viewing China as a strategic competitor whose investment movement in America deserves special observation. The vigilance is largely targeted at governmental investment but private investors from China might also suffer from augmented transaction costs and investment barriers.

When it comes to different types of investment, a general influence of FIRRMA is expected but transactions related to high-tech industries specified in *Made in China 2025* might be subject to more intensive reviewing. FIRRMA defines covered transactions in a broad manner that renders under CFIUS jurisdiction both controlling investments and non-controlling ones as long as they afford a foreign investor access to material non-public technological information. Moreover, any transaction designed to evade CFIUS, e.g. in the form of joint ventures, will also be covered. Therefore, even though according to the US

⁹ Direct Investment Positions for 2017

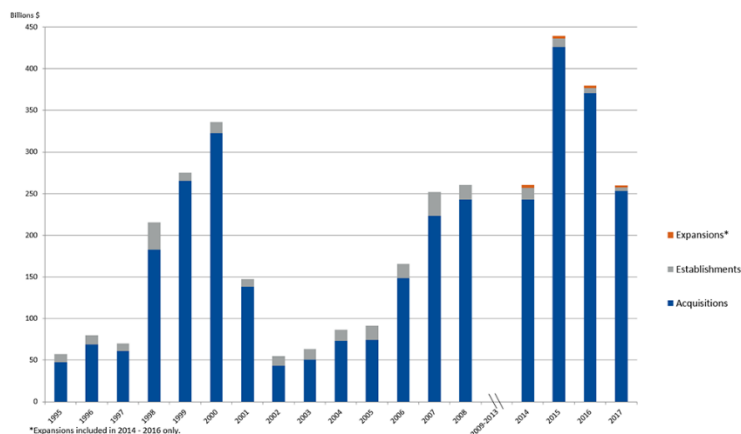
<https://apps.bea.gov/scb/2018/08-august/0818-direct-investment-positions.htm#inward> accessed on Oct 30, 2018

¹⁰ The Foreign Investment Risk Review Modernization Act of 2018 (FIRRMA)

https://home.treasury.gov/sites/default/files/2018-08/The-Foreign-Investment-Risk-Review-Modernization-Act-of-2018-FIRRMA_0.pdf

Bureau of Economic Analysis, acquisition accounts for 97.5% (US\$259.6 billion) of total inward FDI, green investment and joints ventures that accounts for less than 1.6% will still be affected by FIRRMA.¹⁰ Whether or not a transaction would be cleared will depend largely on CFIUS evaluation of how it might impact national security. However, since Washington is concerned about technological transfer and the way it might help China to challenge American dominance, investment regarding high-tech industries listed in *Made in China 2025* might be more sensitive.

Figure 2. New Foreign Direct Investment Expenditures by Type, 1995-2017



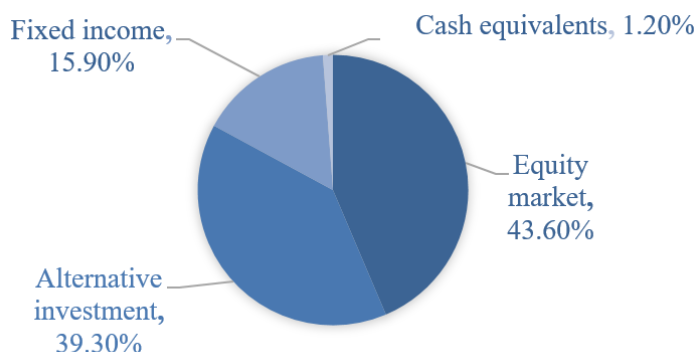
Source: US Bureau of Economic Analysis

Specifically with investor identity, sovereign investment fund might suffer more limitations as compared with private capital from China. Despite that sovereign wealth fund usually focuses on financial rather than strategic investment, its size and governmental presence tend to draw more attention amid general mistrust against Chinese capital. By August last year, China’s sovereign wealth fund China Investment Cooperation owns a total asset of over US\$ 900 billion. This means a return of over 200% in a decade since its establishment, to which overseas investment has contributed a compound annual return of 5.51%. Moreover, according to its 2017 annual report, alternative investment (including hedge fund, private equity, resources, commodities, real estate and infrastructure) makes up nearly 40% of its portfolio.¹¹ Compared with fixed income and secondary market, alternative investment offers better yields and contributes significantly to sovereign wealth management. However, as FIRRMA tightens foreign investment, China Investment Cooperation might be further limited in prospective industries and transaction volume. Even if the Chinese sovereign wealth fund has not been active in the American market or strategically retreats from it, rising national security concerns worldwide, either simultaneously or resultant of the American measures, might still force its capital into money or equity market and lead to a less promising return.

¹¹ New Foreign Direct Investment in the United States: 2017 <https://www.bea.gov/news/2018/new-foreign-direct-investment-united-states-2017>

¹² China Investment Cooperation 2017 Annual Report <http://www.china-inv.cn/wps/wcm/connect/2ead2bc5-4e25-4a1f-bcca-3cee617f68a7/%E4%B8%AD%E6%8A%95%E5%85%AC%E5%8F%B82017%E5%B9%B4%E5%B9%B4%E5%BA%A6%E6%8A%A5%E5%91%8A.pdf?MOD=AJPERES&CACHEID=2ead2bc5-4e25-4a1f-bcca-3cee617f68a7>

Figure 3. Overseas Investment Portfolio of China Investment Cooperation (as of Dec. 31st, 2017)



Source: China Investment Cooperation

4. What Can We Do and Learn from these Adjustments?

4.1 Taxation cuts implications

Taxation is very important in any economy. How to fix this policy along with the change of the inside and outside environment is a key fiscal policy for the government.

A. Macro Tax Burden

From a horizontal perspective, our government's share of national income distribution (18.5%) is higher than that of the United States (17.2%) and Japan (17.5%), but lower than that of Norway (38.2%), Sweden (32.3%), Finland (29.1%) and Ireland (22.8%). The proportion of China's residential sector in national income distribution is 61.6% lower than that of the United States (79.6%), Japan (75%), Germany (77.2%) and France (73.7%). Therefore, China's income distribution is characterized by high in government while low in families. The government's share of national income distribution has been continuously increasing, so there is room for substantial tax reduction. Since 2009, China's overall macro tax burden has been higher than that of the United States. In 2015, the total macro tax burden in China was 33.9%, slightly higher than that in the United States, which is expected to reduce the macro tax burden by 0.8% points per year after the tax cut. Generally speaking, people from all walks of life, including academia, have been calling on Chinese enterprises to be overweight in tax burden, hoping that the country can reduce the burden of tax.

B. Reform of the basic tax system

The United States is dominated by direct tax: the US federal tax mainly comes from individual income tax and social insurance tax; The state government mainly comes from income tax, general sales tax and total income tax; Local governments' tax comes mainly from property taxes. China's tax revenue mainly comes from value-added tax, enterprise and individual income tax, consumption tax, mostly indirect tax. First of all, the tax reform in the United States is worth referring to, among which the idea of stimulating domestic demand and expanding the economy is of great significance. However, on the optimistic view, in the face of US tax reform, China can take this as an opportunity for reform and other reforms to

re-examine domestic tax policies and create a more fair, just and effective tax system. So that the market can play a decisive role in the allocation of resources, promote the formation of a national unified market and form a fair competitive environment. But in the long run, whether or not the United States cuts taxes, China will have to reform its tax system to suit its own circumstances, and instead of following Trump's and its federal policies, we will turn shocks into a driving force for further reform and economic development.

4.2 Trade policy implications

The United States' withdrawal from TPP, NAFTA reformation, trade war and so on, symbolized the opening of a new era of US's trade policy. In the future, the Trump Administration is likely to continue rolling out new policies, making the global trade more uncertain. This may raise some problems like 'how to adapt to the new changes in global trade' and 'what we can learn from the US trade policy adjustment'.

A. China Strategy in Trade

First of all, we should actively defend the principle of multilateralism and maintain the existing international trade order. In the past decades after the war, the existing international environment and order has provided good external conditions for China's development. Therefore, we should continue its efforts to preserve the existing international environment and order, which is, maintaining the authority of the United Nations, the World Bank, the International Monetary Fund and the World Trade Organization, enforcing international law and international codes of conduct, upholding the multilateral trading system and opposing US's unilateralism. Changes in the international balance of economic, political and military power will require adjustments to international organizations and norms of international conduct, but such adjustments must be within the framework of existing international law.

Secondly, we should conscientiously fulfill WTO commitments and adhere to the principle of all-round opening-up while ensuring national security. China still has much to do for improvement in opening-up financial services and protecting intellectual property in accordance with WTO commitments. Therefore, the Chinese government proposed further opening-up of financial services in Boao Asian BBS in April 2018. Also, in protecting intellectual property, China has a lot of works to do. Regardless of the course of the China-US trade war, China should gradually push forward economic opening-up according to our own plan.

Last but not the least, in the process of globalization, China should further open up and expand export, and actively integrate into the global value chain. Despite the rising trend of trade protectionism against globalization, which leads China's participation in the global value chain decrease to some extent in recent years, China must further strengthen its opening to the outside world. In the new round of globalization, Chinese enterprises should make good use of the cast domestic demand market to build a global value chain dominated by China and participate in the global division of labor in a more active way. Furthermore, it is necessary to strengthen the industrial integration between the manufacturing industry and the service industry, seize the opportunity of the transformation of domestic industrial structure, and promote the transformation of the manufacturing industry to the middle and high end of

the global value chain through the development of the service industry. At the same time, we should improve our position in the global value chain by improving our technological capability and brand building. China should also properly handle the relations with the developed countries led by the United States, and share the benefits of a new round of economic globalization.

The slowdown in China's economic growth in recent years is closely related to the slowdown or even reversal of the economic globalization process in recent years. Therefore, in the prevailing environment of trade protectionism, China should keep a low profile and increase its opening up to the outside world while improving its internal skills, to lay a solid foundation for seizing the opportunity of the next round of economic globalization.

B. China's macroeconomic policy adjustment

At present, globalization has entered a new cycle. The Political Bureau of the Communist Party of China Central Committee made a rare reference to 'significant changes in the external environment'. Although China's economy is running smoothly, the situation is more complicated, let alone the uncertainty rises, and the difficulty of macro-control increases. The global environment is undergoing structural and developmental changes, and escalating protectionism will still pose a serious threat to the recovery of global trade. Therefore, under the background of restarting the reform process, China needs to adjust its macro policies:

Firstly, we need to balance participation in the global division of labor with relying on our own power. As is deeply involved in the value chain of global production network, China will be enormously impacted if it leaves the value chain. We have to consider how to balance all of those relationships, and build a deterrent balance that keeps the United States from doing what it wants to do. China's enterprises participating in the global production network should actively work with their counterparts in other countries in the world to protect the global production network and value chain from damage. At the same time, we must rely on our own strength to master the core technology.

Secondly, we'd better consider what kind of industrial policy should China have. US's advantage lies in high technology, so the key to catching up with the US is to improve the level of our technology. In the past, we relied on the market to exchange technology and the acquisition of high-tech companies, both of which will become more and more hard to realize in the future. In this case, China can only rely on its own research and development to narrow the technological gap with developed countries. However, the research and development of enterprises and research departments needs the government's financial support, which means China must have its own industrial policy.

Last but not the least, in the face of global trade, and thus the reconstruction of international trade rules, we should explore how to deepen reform and opening up, and keep pace with changes in the world economy. Moreover, we should abide by international rules, deepen market economic reform, and explore the driving force and pressure mechanism of innovative science and technology in market competition. In addition, we are supposed to better properly handle the relationship between market and government intervention and contribute to the establishment of a new international economic order.

Overall, the current trade dispute has limited impact on China. However, we must be alerted of the longer-term trend of the dispute, and the US approach to contain China's 2025 strategy, because it is the big issue with respect to China's industrial upgrading and economic transformation. We believe that the general trend of deepening China's reform and opening-up will not be reversed, which is determined by the inherent requirements of economic development. The trade dispute between China and the United States will increase the resistance to the transition, but it will also strengthen our determination. At the same time, we should focus on enhancing the momentum of endogenous growth and promote a high-quality growth strategy.

4.3 Investment policy implications

Chinese investors might want to be cautious with investment opportunities in the US. Intensified investment regulation under FIRRMA is expected to augment transaction cost. Even though by the time FIRRMA is fully implemented, light filing procedures might accelerate the reviewing process, the likelihood of having to cancel a negotiated or even closed deal would still be prominent, considering the vigilance against Chinese capital. Earlier this year, Ant Financial failed to obtain CFIUS approval for acquiring MoneyGram, an American company providing money transfer services, and had to pay US\$ 300 million for the resultant defaulting. The case should have alarmed Chinese capital. It would be advisable to seek legal consultation before initiating a transaction or during contract negotiation so as to evade unnecessary costs.

Apart from the US market, investors from China might also go after opportunities in other countries. In fact, Chinese capital flow into the United States has already slowed down over the last 18 months. According to the Rhodium Group¹², Chinese direct investment in the US has slumped from 45.6 billion US dollars in 2016 to 29.4 billion last year, and the cumulative investment for the first half of 2018 has plummeted to 2 billion, striking a 6-year low. The previous change is largely due to capital control measures in China introduced at the end of 2016 to restrict outbound capital flow, yet the latter decline has to be attributed to concerns over policy changes as well as the disputes or conflicts between the two countries. Meanwhile, Chinese investment in Europe as well as other regions has bounced back to the level before capital flow restriction in 2016. This suggests a re-direction of Chinese capital in global markets.

However, measures should also be planned for increasing global concern over national security. It is noteworthy that there is a global trend of stricter scrutiny over foreign investment for national security concerns. According to WTO's *Nineteenth Report on G20 Investment Measures*¹³, France, Britain and the European Union are all considering to revise their investment review policies. Besides, a number of non-G20 countries have either taken harsher review measures (e.g. Latvia, Lithuania) or are planning or considering similar policy changes (e.g. Netherlands and Norway).

¹² Rhodium Group: China Investment Monitor, <http://cim.rhg.com/>

¹³ WTO: Nineteenth Report on G20 Investment Measures, https://www.wto.org/english/news_e/news18_e/g20_oecd_unctad_report_july18_e.pdf

5. Summary and Conclusion

The above we observed and studies some adjustments conducted by US government in recent years, basically since the Trump's administration. The actual impact of these changes is still unfolding itself. These changes from US – the most important player in world arena— will raise much uncertainty. At the same time, China is going to begin its fifth decade of *Reform and Opening Up* process. More difficulties in deeper level of social and economic aspects are coming out. How to continue China's development path, how to maintain a friendly and favorable relationship between US and China, all these challenges are unavoidable. It needs not only the wisdom from the senior level of both governments, but also the thinking and contribution from academic research and communication in two countries.

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**Economic and Trade Cooperation under the Belt and Road Initiative:
Observations from the Perspective of Industrial Parks**

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I. Introduction

The Belt and Road Initiative (BRI) is a solution proposed by China for the purposes of promoting common prosperity across the world, further boosting the economic globalization and building a community of shared future for mankind. The BRI has been incorporated into the outcome documents of international mechanisms of great importance such as the UN, the G20 and the APEC, etc. 103 countries and international organizations have signed 118 cooperation agreements with China with respect to the BRI.

Economic and trade cooperation is the core of the BRI, while the economic and trade cooperation parks are important vehicles for the economic and trade cooperation to be conducted under the BRI. By developing economic and trade cooperation parks overseas in the BRI countries, Chinese enterprises have organically integrated their own industrial advantages with the development needs and comparative advantages of the BRI countries.

Given the important role of economic and trade cooperation parks in the economic and trade cooperation under the BRI, this article makes preliminary observations into the basic characteristics and effectiveness of China's efforts in building economic and trade cooperation parks in the BRI countries from the perspective of "industrial parks", the most popular parks across the world, and puts forward some conceptions as to how enterprises from developed countries may look for business opportunities in the overseas industrial parks of Chinese enterprises in the BRI backdrop.

II. Contribution of Parks to the Economic and Social Development in Host Countries

Over the past five years, Chinese enterprises have invested \$28.9 billion on a cumulative basis to develop 82 overseas economic and trade cooperation parks in the BRI countries, soliciting 3,995 resident enterprises, paying taxes of \$2.01 billion to their host countries and creating 244,000 jobs for locals. In particular, the Sihanoukville Special Economy Zone (SSEZ) in Cambodia, the China-Belarus Great Stone Industrial Park (Great Stone), the Thailand-China Luoyong Industrial Park, the Suez Economic and Trade Cooperation Zone in Egypt, and the Eastern Industrial Park in Ethiopia, etc are significantly effective in making contribution to the social and economic development of their host countries in terms of industrial development, job creation, personnel training and community services, etc.

The SSEZ, the largest special economic zone of Cambodia, is principally invested and developed by the Chinese Hodo Group. Upon completion, it will be an ecofriendly, highly habitable new city hosting more than 300 enterprises, employing 80,000-100,000 industrial workers and featuring the integrity of supporting functions. After a decade's growth, the SSEZ has had over 100 resident enterprises and contributed more than 50% of the industrial

production of the Sihanoukville Province as a whole, serving as an important engine for the economic growth of the said province and even the entire country of Cambodia. Moreover, the SSEZ has provided more than 20,000 jobs for 70% of local families, thus contributing greatly to the improvement of local economic development and standard of living. In addition to industrial development and job creation, the SSEZ also attaches great importance to the training of local personnel and charity for local communities and takes the initiative to perform its social responsibility in relation to locals. For instance, in partnership with the Chinese university Wuxi Vocational Institute of Commerce in Jiangsu Province, the SSEZ opened a vocational training center to train local technological and managerial talents for resident enterprises. So far, the vocational training center has trained workers 23,000 person-times, helping many locals working in resident enterprises succeed in growing from operators at the forefront to management personnel at workshop and even corporate levels, thus accelerating the development and accumulation of human resources for industrialization in the process of accelerating the industrialization process.

China has mature experience in using development zones (parks) to attract foreign investment and promote industrialization and urbanization. The industrial park model has been widely recognized as one of the most successful pathways in the reform and opening-up process of China. Naturally, economic and trade cooperation parks have become important vehicles for China and the BRI countries to deepen economic and trade cooperation between them. Meanwhile, the developing BRI countries are more than willing to duplicate the industrial park development model in their industrialization processes. So far, the influential parks invested by Chinese enterprises in the BRI countries are mostly distributed in Southeast Asian countries, e.g. Cambodia, Thailand, Indonesia and Viet Nam. But Chinese enterprises are investing heavily in industrial parks across Africa in recent years. As a result, industrial parks have become powerful boosters of the industrialization drive in some African countries, widely recognized and referenced by a growing number of African countries. The industrial park development in Ethiopia by Chinese enterprises is particularly eye-catching. The Eastern Industrial Park developed by Chinese enterprises has directly boosted the nationwide efforts of the Ethiopian government to construct industrial parks across the country. To date, more than 10 industrial parks are under construction or have been put into operation across the African country, becoming a signature card for the economic growth of Ethiopia. Out of a high level recognition of the industrial park model, the Ethiopian government has even directly invested in industrial park development projects. Hawassa Industrial Park is exactly one of the first industrial park projects financed by the Ethiopian government.

III. Basic Characteristics of Park Construction and Development

i. Agglomeration of Enterprises through Horizontal Combinational Investment and Vertical Industry Chain Investment

Most of the BRI countries are at a low level of industrialization, thus featuring poor infrastructure, underdeveloped industrial division of labor and significant lack of industrial systems. As a result, many industries there harbor the opportunity for overall industry chain investment, providing opportunities for Chinese enterprises to engage in “horizontal

combinational investment” or “vertical industry chain investment” overseas and at the same time to meet the local industrial development needs comprehensively and advance the local industrialization process quickly. For example, quite many African countries are weak in such basic raw material industries as steel and cement, but they have diversified, comprehensive demand for raw materials in their local industrialization and urbanization processes. In response to such demand, some steel, cement and other building materials enterprises of China come in to make “horizontal combinational investment” in these countries. Such investment, e.g. the investment in the steel industry, can also advance overseas investment in upstream (e.g. mining and electric power) and downstream (e.g. deep processing) industries, thereby generating “vertical industry chain investment”. Combinational and industry chain investment overseas is easy to result in spatial agglomeration of relevant enterprises, whereas parks can perfectly meet the needs of such agglomeration by lowering cost and providing facilitation and security. For example, the circular economy steel industry park developed by Hebei Iron and Steel Group in South Africa not only includes a 5 million-ton steel production project, but also includes combinational and industry chain investment projects, e.g. coking plants, power plants, steel deep processing plants, cement plants and ports, etc. For another example, the Zambia Comprehensive Industrial Park developed by Hebei Jidong Development Group is a building materials industrial park based on a cement production project and extended into steel and glass making industries.

ii. Financing the Construction and Development of Parks with Funds Raised by Enterprises Themselves

Presently, most overseas parks developed by China are invested by private enterprises. In developing overseas parks, private businesses often start from single production projects implemented overseas. After succeeding in the single production projects and understanding local industrial needs, they tend to shift naturally to the construction and operation of industrial parks, with a view to providing a platform for more Chinese enterprises to invest overseas and using the parks as a new model of profit making. Take Tiantang Group, a private business in Hebei Province, for instance. Initially, the company has been doing case and bag business in Uganda; it even creates the locally well known case/bag brand of UNIBEST. With the boom of the urbanization market in Uganda, the company successfully ventured into steel and household furniture industries. In recent years, furthermore, it extended its business to constructing and operating industrial parks by financing the development of Tangshan-Mbale Industrial Park, the largest of its kind in Uganda.

Industrial parks are special infrastructure serving the agglomeration of industries in a given space. They are characterized by a relatively long term of investment and development. Moreover, the number of resident enterprises in a particular period of time is uncertain in nature. Overall, industrial parks require a relatively long term to recover the cost of investment from their completion all the way to the moment they begin to generate profit. For this reason, sustainable funding during this period is crucial to the construction and development of industrial parks. The investment in and development of industrial parks in the BRI countries by Chinese enterprises are market-oriented behaviors, with very little financial support from the Chinese government. Due to risk considerations, domestic financial

institutions are extremely cautious in financing the overseas parks. On the other side, it is equally hard for the overseas industrial parks to raise funds from the financial institutions of their host countries (mostly underdeveloped ones). In consequence, the construction and operation of the overseas industrial parks are mainly financed by the investing enterprises themselves, which largely fund the parks with the profit generated by their own local production projects.

The Eastern Industrial Park is the first industrial park invested by Chinese enterprises in the African country of Ethiopia. Jiangsu Yongyuan Investment Co., Ltd, a private business of China, developed the industrial park in 2007. Large amounts of initial investment (\$200 million for the phase I project alone) and long recovery periods have always been bottlenecks checking the development of the industrial park. In the past, Yongyuan had to fund the construction and development of the park with the profit it generated from three industrial projects operated by itself in the park (two cement plants with their annual production capacity totaling nearly 1 million tons and one steel plant with an annual capacity of 1.3 million tons). After a decade's growth, the Eastern Industrial Park has had over 80 resident enterprises. Nowadays, the land and property it developed in the phase I project have all been rented out. The increase in the number of resident enterprises has finally brought about the long-anticipated return in the form of rental. Moreover, the acceleration of the industrialization process in Ethiopia has fueled a sharp increase in the value of land in the park (the land development fee to be paid by resident enterprises has increased from 75 yuan per square meter in 2015 to 180 yuan per square meter in 2017). As a result, the park has gradually embarked on the right track of funding its construction and development mainly with rental and land price hikes, thus effecting a change from "blood transfusion" with the profit made by production projects operating in the park to "blood generation" where the park's development is financed by its own operating revenues.

IV. "Business Opportunities in Industrial Parks" for Enterprises from Developed Countries

i. Industrial Parks Provide New Business Opportunities for the Production Service Industries of Developed Countries.

Infrastructure development is a priority area of cooperation between Chinese enterprises and those from developed countries in the BRI countries. It is considered by enterprises from developed countries as the area with the most business opportunities under the BRI. The industrial parks developed by Chinese enterprises in the BRI Countries are special infrastructure serving the agglomeration of industries; they are part or a segment of the BRI infrastructure market. Businesses from developed countries can naturally take part in their development.

Chinese enterprises have mature technologies, equipment and experience in developing the "hard" infrastructure for the industrial parks, but are significantly found wanting in the "soft" infrastructure, e.g. international market research, prevention of international market and legal risks and overseas financing, etc. In fact, the BRI countries are largely underdeveloped; their overall investment environment is obviously worse than that of both

the developed countries and China. Investment in these countries has to face, to varying degrees, environmental risks regarding political stability, policy continuity, business credibility, laws and regulations and social culture, etc, as well as the restraint of the factors of development, e.g. information and financing. Developed countries have advanced information and consulting, accounting and legal, financial and other production services; and their level of internationalization and ability to provide services for international business are far higher than those of their Chinese counterparts, hence enjoying a significant advantage in conducting international operations. In this way, they can land new business opportunities in the “soft” aspects of the construction and development of industrial parks invested by Chinese enterprises in the BRI countries. For example, McKinsey & Company once conducted a field survey with respect to the economic and trade cooperation between China and Africa and, in November 2017, made exchanges and discussions with competent Chinese authorities regarding results of the survey and many aspects of the economic and trade cooperation between China and Africa (including the development of industrial parks).

ii. Industrial Parks Provide a New Vehicle for Developed Countries to Develop Their Overseas Industries.

The industrial parks are not only spaces for Chinese enterprises to grow in the BRI countries, but can also become new vehicles for enterprises of developed countries to develop in the same countries aforesaid. Japanese scholars with the BRI Research Center of Japan once proposed that Japanese enterprises could participate in the industry clusters established by Chinese enterprises in the BRI countries. That’s to say, Japanese enterprises could develop in the BRI countries as their Chinese counterparts do. As the industry clusters are generally located in the overseas parks developed by Chinese enterprises, these parks can then become important vehicles for enterprises from developed countries to join the industry clusters created by Chinese enterprises in the BRI countries. In fact, some enterprises from developed countries have already located themselves in the relatively more mature parks developed by Chinese enterprises in the BRI countries. For example, the more than 100 resident enterprises of the SSEZ in Cambodia include those from such developed countries as Japan, the U.S., and Italy. For another example, the over-80 resident enterprises of the Eastern Industrial Park in Ethiopia include also enterprises from the developed countries, e.g. Unilever.

**Stakeholder Power Difference and Environmental Information Disclosure
Evolution Research**

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Abstract: In order to find out who is the strongest power of stakeholders, this paper analyses resource dependence theory and power theory and investigates stakeholders driving effect of enterprise environmental information disclosure in three time periods, 2004-2007, 2008-2011 and 2012-2015. The empirical analysis is based on a longitudinal data set that includes 126 Chinese listed companies. The empirical results show that: (1) In the early period corporate environmental information disclosure were substantially determined by the government power. There exists a significant reversed U-shaped relationship between government power and environmental disclosure. (2) The results for the 2012-2015 periods emphasize the increasing importance of regulator, shareholder and media environmental power. (3) Surprisingly, the result reveals there is no significant relationship between creditor, customer and environmental information disclosure in three time periods. This suggests that legitimacy pressure is no longer the only goal corporate disclosure of environmental information. But shareholder power influence is complex, it needs do further research.

Key Words: Power theory; Stakeholder power; Environmental information disclosure; Evolution

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Along with the prominent contradiction between economic development and environmental protection, the corporate environmental behavior and information disclosure have attracted more and more scholars. Mitchell (1997) suggested that companies would give preference to responding to the needs of stakeholders who excel in one or more of the three areas of "power, legitimacy and urgency."^[1] Therefore, legality theory has become the main theoretical basis for scholars to study the influencing factors of corporate environmental information disclosure. Most of the research has been based on the legality theory or institutional theory, and shows that in order to meet the legitimacy requirements of stakeholders such as government, enterprises often take the environmental information disclosure as a strategic legitimacy tool, and more inclined to disclose its environmental information. The studies show that decentralized ownership structure can improve the level of corporate environmental information disclosure (Brammer, 2008 Huang, 2010, Huang Jun, 2012),^[2-4] however, Nie Jinling (2015) found that centralized ownership structure can improve the environmental information disclosure level.^[5] Brammer (2006) found that companies with high Debt-Asset ratio were more likely to disclose relevant environmental information,^[6] while Cormier (2005) etc. found that companies with high debt levels were less willing to disclose too much environmental information.^[7] When enterprises respond to the environmental legitimacy requirements of shareholders, creditors and other stakeholders, the conclusions of the existing research are different. Obviously, legality theory cannot explain the difference of the above research conclusions. Mitchell (1997) suggested that power is the ability of stakeholders to influence the achievement of corporate goals, that is, whether stakeholders have the compulsory power conferred by law, the powerful stakeholders can influence the achievement of corporate goals, so enterprises should first respond to the demands of perceived powerful stakeholders. And power is a variable that can be authoritative through legitimacy and implemented through urgency. Therefore, this paper breaks through the existing research on the legitimacy requirement of stakeholders in the influence factors of environmental information disclosure, focuses on the research of stakeholder power, and reveals the evolution process of the influence of China's stakeholder power on environmental information disclosure.

1 Theoretical basis

1.1 The Power Theory

Emerson (1962) first proposed the power, arguing that one side's power over the other depends on degree of dependence of the other.^[8] Further, Ullmann (1985), Willer (1997) and Pfeffer (2007) analyzed how power was formed through dependence.^[9-11] They propose that the scarcity and importance of resources determine the nature and scope of organizational dependency, and that the success of an enterprise depends on whether it can obtain critical resources from external stakeholders. The proposal and development of power theory constitute the basis of the analysis of "dependence" and "power" in the resource dependence theory. The resource dependence theory holds that power is accumulated in the hands of stakeholders who control the necessary resources, and create power differences among these stakeholders. Further, the resource dependence theory proves that the stakeholders who occupy the resources power are more important to the corporate managers. The power theory emphasizes resources controlled by stakeholders and the degree to which companies rely on

these resources, and Ullmann (1985) points out that the stakeholder power derives from their control over the necessary resources. Willer (1997) deepens Ullmann's view, defining stakeholder power as an impact on enterprises access to potential resources.^[10] According to the conceptual framework of stakeholders (Clarkson, 1995), the enterprise is the hub, and the stakeholders are the spokes around the wheel. From the perspective of resource dependency, this framework can be interpreted as the degree to which an enterprise relies on its stakeholders for the resources it needs to survive, that is, the power of stakeholders towards the enterprise. Tang (2012) integrates the previous views, proposing that the influence of external stakeholders originates from the degree of corporate dependence on the required resources.^[13] Overall, the power theory holds that the power is the function of dependence, is a variable, the enterprise will rank the stakeholders based on its own degree of dependence on the resources of stakeholders, and separated manage the requirements of stakeholders.

1.2 Stakeholders Power

The higher the importance of stakeholder-controlled resources to the enterprise, the fewer ways in which alternative resources can be provided, and the stronger the corporate dependence on such stakeholders, the more likely the stakeholder is to influence the achievement of the enterprise's goals and enhance the ability to influence the enterprise. Based on different resources that generate power, Etzioni (1964) divides the influence of stakeholders into coercive power, practical power and social power.^[14] Among them, the coercive power is based on the legitimacy resources with forced power and restraint, and the legitimacy resources are the necessary basis resources for the enterprise's survival, as well as the scarce resources for the enterprise's development. For enterprises, tax incentives, financial subsidies and other resources can only be obtained by the government, enterprises are difficult to find other alternative resources, they must rely on the government to obtain legitimate resources. And the recognition and commendation of industry regulators can make enterprises become the green benchmark in the industry, bringing them more legal resources such as environmental subsidies. Therefore, the government and the industry regulator have the coercive power that affects the achievement of the enterprise goal. According to the type of coercive power resource provider, this paper divides it into two categories, government power and industry power. Practical forces based on material and financial resources, and both are the key resources on which enterprises depend for their survival. When an enterprise must rely on all kinds of financial and material resources, such as funds and technology provided by stakeholders, the demand for the environmental information of the enterprise by the provider of financial and material resources will be transformed into a substantial power for the enterprise. According to the main types of practical power resource providers, this paper divides it into two categories, shareholder power and creditor power. Social forces are based on symbolic resources such as social norms, the degree of social acceptance, social reputation and prestige. Symbolic social resources are the key resources that enterprises can stand out in the fierce competition. The key to obtain competitive advantage lies in building brand image and social reputation, while media and consumers are the resource providers who construct green brand image and social reputation directly at the present stage, which accord with the characteristics of social power. Therefore, this paper divides it into two categories, the media power and the consumer power.

2 Research hypotheses

2.1 The driving evolution of government power to environmental information disclosure level

As the main provider of legitimacy resources, the government's most concerned enterprise environmental information is the emission of environmental pollutants, the compliance and operation of corporate environmental protection facilities and the treatment of sudden environmental accidents. Tang (2012) pointed out that the legitimacy resources and financial resources held by the government are important and irreplaceable for enterprises in China. ^[13] Therefore, for enterprises, the government's net power occupies an absolute advantage, can directly have a significant impact on the environmental information disclosure level. Liu (2009) points out that SASAC, as a representative of government power, has strong regulatory powers over state-owned enterprises' environmental information disclosure. ^[15] In order to meet the needs of this powerful stakeholder, state-owned enterprises usually use environmental information disclosure as a strategic tool of legitimacy. Since May 2008, the state Ministry of Environmental Protection promulgated the *Environmental Disclosure Rules*, it also issued the *Guidelines for Environmental Information Disclosure of Listed Companies (consultation paper) (2010)*, the *Guidelines for Drafting on Corporate Environmental Report (2012)* and other normative guidelines, these regulations and guidelines extends the scope of the role of the government's environmental power to heavy pollution enterprises and listed companies. In addition, through the simple combing of the policy of energy saving and environmental protection financial subsidies introduced by the Ministry of Finance and other departments in recent years, we find that more and more financial subsidy policies have enhanced the government environmental power by providing economic incentives. For example: In 2012, the Ministry of Finance, the National Development and Reform Commission, Industry and Information technology jointly announced the TV and household air conditioning energy saving subsidy policy; In 2015, *General Office guidance on speeding up the construction of charging infrastructure for electric vehicles* also point out that, in addition to continuing the acquisition subsidy and operating subsidy for new energy vehicles, special funds will be allocated to subsidize the construction and operation of charging infrastructure. In all, as a legitimacy resources provider, the government has always been on the strong side, and the government's environmental guidance is becoming clearer, the monitoring process is becoming stricter. So, in order to obtain legitimacy resources, enterprises will be more inclined to meet the needs of government environmental protection information. Based on the above analysis, this paper puts forward the hypothesis that:

H1: Government power positively influence the environmental information disclosure level, and this relationship is gradually strengthened.

2.2 The driving evolution of industry power to environmental information disclosure level

Potoski etc. (2002) found that industry regulators exert environmental power on enterprises by rewarding benchmark enterprises that carry out their environmental responsibilities in the industry, thus creating competitive pressure on other enterprises in the same industry, prompting them to emulate responsible behavior and improving the level of environmental responsibility performance and disclosure. ^[16] Jenkins (2006) and Campbell (2007) also found that industry regulators' recognition and commendation can take companies as a green benchmark in the industry, bringing more benefits and resources such

as environmental subsidies to these company. ^[17-18] In China, the industry power is a growing stakeholder power, focusing on enterprise resource utilization efficiency, sewage treatment and other environmental protection. In the 2005, the Textile Industry Association promulgated the *CSC9000T*, it is the first domestic corporate social responsibility industry norms which introduced by the industry, including environmental responsibility management system. As of 2015, the industry with the largest number of environmental regulations promulgated 65 relevant regulations, the fewest industries issued 11, compared with 57 and 8 in 2006, there is a significance increase. This phenomenon shows that in the past 10 years, the environmental supervision of various industries in China is more urgent and more stringent, industry regulators began to become another important source of coercive power, and the impact gradually strengthened. Thus, this paper proposes:

H2: Industry power positively influence the environmental information disclosure level, and this relationship is gradually strengthened.

2.3 The driving evolution of shareholder power to environmental information disclosure level

Material and financial resources are the essential resources for the corporate survival and development. Neu etc. (1998) found that companies regard the stakeholders who provide financial resources, material resources and meet their financing needs as the first important object of disclosure when they disclose environmental information. ^[19] Deegan's research (2000) shows that corporate shareholders and environmental protection organizations are more concerned about environmental information disclosed by companies than other types of stakeholders. ^[20] Lu (2014) shows that only shareholder power will have a significant impact on the environmental information disclosure level. ^[21] In 1999, Levent company conducted a survey of 1200 randomly shareholders, they ranked the top two for "investment in Environmental protection" and "production of safer goods", and "be able to get a generous dividend" after both when they answered the question "What kind of project should the company prioritize its funds to?" This shows that compared to manager's attentions to the short-term interest, shareholders are more concerned about the corporate long-term interests and they will choose to actively participate in the environmental behavior and urge management to positively disclose the corporate environmental information. Since 2005, the reform of share division in China has been fully launched, and the 2008 has all ended. This shareholding division reform has made changes in the ownership structure of listed companies in China, and the shareholder power perceived by enterprises has changed. Based on this, this paper proposes:

H3: Shareholder power positively influence the environmental information disclosure level, and this relationship is changed.

2.4 The driving evolution of creditor power to environmental information disclosure level

Beside shareholders, creditor is the main provider of material and financial resources. Hossain (1994) found that if companies were more dependent on their creditors, it would inspire companies to disclose more environmental information. ^[22] That is, the high financial risk caused by high debt may cause creditors to lose confidence, and enterprises will disclose more environmental information to make up for the lack of trust. Murray (2006) suggests that highly indebted companies may think their creditors will have a greater impact on corporate

policy because creditors can recoup their loans or block the issuance of more loans. Thus, managers are more willing to disclose the social activities about environment in respond to the need of creditors. ^[23] For the creditor, when the company's behavior has a negative impact on the environment, the company will face with penalties or fines, which will also affect the creditors' interests. Therefore, creditors are concerned about the company's environmental behavior and environmental information. Especially in recent years, "environmental awareness" and "green finance" become more and more popular. since 2007, Many commercial banks have been gradually implementing green credit business, and require enterprises to actively disclose environmental information to obtain green loans for business needs. In February 2012, the China Banking Regulatory Commission issued the *green Credit guidelines* to further promote green credit for banking financial institutions, to strengthen the creditor power and the relationship between creditors and the companies. Thus, we propose:

H4: creditor power positively influences the environmental information disclosure level, and this relationship is gradually strengthened.

2.5 The driving evolution of media power to environmental information disclosure level

The media is the key social resource for enterprises to gain reputation and prestige in the fierce competition, enterprises can build the green brand image and reputation through the media environment report and obtain competitive advantages. At the same time, negative media reports of the enterprise environment will show the advantages of the media environmental power, increase the pressure of enterprises to disclose environmental information to the public. Studies by scholars around the world on different samples in different periods have confirmed that negative environmental media reports are positively affecting companies to disclose more positive environmental information. Deegan (2000), Bewley (2000) study of Australian and Canadian companies respectively, found that the more media coverage of negative corporate environmental behavior, the more environmental information disclosed by enterprises. ^[20, 24] Xiao Hua (2008) studied enterprise response measures of " the Songhua River environmental Events", found that media reports can urge enterprises to continuously disclose more environmental information after an environmental event occurs. ^[25] The above findings show that the greater the number of negative media coverage of the enterprise environment, the greater the environmental power of the media, the more enterprises tend to disclose more environmental information. In recent years, China's media more and more attention to corporate environmental behavior, negative coverage of the enterprise environment more and more timely, and the number is also increasing. Taking the case of negative environmental reports of samples selected in this paper as an example, the maximum value of 2004-2007 environmental negative reports is 19, the mean value is 2; 2008-2011 maximum media negative environment report is 59, the mean is 6, the maximum value of media negative environment report in 2012-2015 is 67, the mean is 13; The above data show that the media on the sample company environment negative coverage of the maximum and mean in the past more than 10 years have been on the rise. In the past 10 years, the media environment power has gradually increased. Thus, we propose:

H5: media power positively influences the environmental information disclosure level, and this relationship is gradually strengthened.

2.6 The driving evolution of consumer power to environmental information disclosure level

Taking large Canadian companies as a sample, Henriques (1999) found that consumer pressure is an important source of pressure for companies to choose to disclose environmental information. ^[26] As a provider of symbolic resources such as social acceptance, social reputation and prestige, corporate perceived consumer power also comes from consumer resistance to corporate products or refusal to buy. Xin Jie (2011) found that whether it is the rights supervision type or the responsible consumption type of consumers, they will resist the enterprise's products when the social responsibility of an enterprise falls considerably from its expectations. ^[27] consumer's boycott behavior will lead to business market share and sales decline, share prices fall, price decline and so on; in the long term, resistance may also result in damage to corporate brand image, declining employee morale, and reduced consumer trust; This has prompted companies to disclose more environmental information in response to consumer environmental pressures. In recent years, with the enhancement of consumers' awareness of environmental protection, as well as the gradual popularization of the concept of green consumption, the consumer environmental power perceived by enterprises has gradually increased. Thus, we propose:

H6: consumer power positively influences the environmental information disclosure level, and this relationship is gradually strengthened.

3 Research design

3.1 Basis of division of the study period

The study period was 2004-2015 for a total of 12 years, and it was divided into 2004-2007, 2008-2011 and 2012-2015. The classification of the study interval is as follows: (1) In 2004, Shanghai Baosteel Group released the first environmental report in China, marking the independent environmental reporting start to be carrier of environmental information disclosure. (2) February 8, 2007, the State Environmental Protection Administration issued the *Environmental Information Disclosure approach (Trial)*, which began to be implemented from May 1, 2008. This is the first official decree on the environmental information disclosure in China, which requires heavy pollution enterprises to disclose environmental information termly, and the environmental information disclosure of listed companies has begun to enter the legal stage. (3) The *Enterprise Environmental Report Guidance*, which was first issued in October 2011 and implemented in the same year, is the Enterprise environmental Information Disclosure standard prepared by the State Environmental Protection Department for the implementation of the *Environmental Information Disclosure approach (trial)*. This standard sets out the framework structure, compilation principles, working procedures, content and methods of the Enterprise environmental report detailly, which are extended to all enterprises in China.

3.2 Research samples and data sources

We select all listed companies as the research object, according to the following criteria to screen the sample: (1) to eliminate St and other in the abnormal trading status and related data missing listed companies. (2) Exclude listed companies that have not continuously disclosed CSR reports in 12 years. Finally, 126 sample companies were obtained, a total of

1512 observations. The CSR report and the annual financial report information in this study are from the cninfo, and the index data of the government environmental control power index comes from Statistical yearbook of china and China Environmental Yearbook , the quantity data of industry regulations come from Peking University Magic Net, and the media report data comes from the manual collation of the full-text database of Cnki China's important newspapers, the rest of the data comes from the CSMAR.

3.3 Variable measurement

(1) Dependent variable

Based on the construction of Environmental Information Disclosure index, scholars refer the rating data of authority as an ideal score¹⁴. This paper adopts this method, takes the environmental responsibility score in the professional evaluation of listed company’s CSR Report of Hexun as the ideal score to value the environmental information disclosure level, and takes its ratio with the self-constructed environmental Information Disclosure Index (EDI) as the final level index of environmental information disclosure, as detailed in Formula (1).

$$EDI_t = \frac{\text{(Enterprise Environmental Information Disclosure Index score)}}{\text{industry environmental responsibility ideal Score}} \quad (1)$$

This paper constructs an index system of enterprise environmental information disclosure level from four dimensions of equilibrium, comparability, accuracy and universality. Equilibrium means that the enterprise information disclosure should consider both positive and negative news. If the enterprise exists environmental illegal behavior but does not state truthfully in its CSR report or sustainable development report, it shows that there are problems in the quality of corporate environmental information disclosure. Comparability emphasizes that the enterprises should collect, compile and report information consistently. so that information users can compare changes in enterprise performance in different periods vertically. Accuracy requires that the information reported by the enterprise should be detailed. Because the quantitative information is mostly digital description, the adjustment space is small, so it is more accurate and objective. Therefore, the more quantitative indicators in enterprise environmental information disclosure, the higher the quality of its disclosure. Universality refer to the environmental information entries listed in the Environmental Information Disclosure Approach (for trial Implementation) (2007). The specific content and scoring criteria are as follows in Table 1:

Table 1 Evaluation Index System of Environmental Information Disclosure

Level		
Content	Explanation	Score
Neutrality	Whether to disclose environmental illegal punishment	Disclosure is 2, otherwise is 0
Comparability	Whether to issue the CSR reports continuously or to disclose environmental information in the management discussions or notes of	Continuous disclose independent reports is 2 Continuous disclose annual reports is 1

¹⁴ listed companies’ social responsibility professional evaluation system of Hexun grade from shareholder responsibility, employee responsibility, supplier, customer and consumer equity responsibility, environmental responsibility and social responsibility. The weight of environmental responsibility is 30%, ideal score of environmental responsibility is 30 points.

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Understand-ability	annual financial reports	Otherwise is 0
	Whether have a statistical chart	Have Chart is 2, otherwise is 0
	Whether to disclose the environmental protection objectives & plans	Quantitative disclosure is 4
	Whether to disclose the environmental certification & award	Qualitative disclosure is 2
comprehensive	Whether to disclose development of environmental protection technology	No disclosure is 0
	Resource consumption and utilization rate	
	Energy saving and emission reduction	
	Types and quantities of pollutant emissions	
Total		Full mark: 30

(2) Independent variable

This paper uses the government environmental control intensity index to measure the government's Environmental power (table 2), selects 6 indexes from environmental protection investment intensity and environmental law enforcement intensity, adopts entropy method used by Yu Jihong (2013) to empowering indicators objectively and finally synthesize the government environmental control intensity index. The larger the index, the stronger the government power.

Table 2 Indicators and Weight of Government Environmental Control Intensity Index

Indicators	Explanation	Weight
GOV1	Total investment to govern the "Three wastes" pollution project / Industrial value added of the province for the year	0.3502
GOV2	Total investment in urban environmental protection facility projects / Industrial value added of the province for the year	0.1796
GOV3	"Three wastes" comprehensive utilization value / Industrial value added of the province of the year	0.0702
GOV4	Sewage charges levied by local governments / Industrial value added of the province for the year	0.1659
GOV5	Number of people with environmental protection systems	0.1019
GOV6	Number of environmental administrative punishment	0.1322

This paper uses the number of environmental regulations in different industries to measure the industry power. The greater the value, the greater industry power. Based on the existing research, this paper selects the largest shareholder shareholding ratio and capital-debt ratio to measure shareholder power and creditor power. The number of negative media environment reports and the growth rate of the main operation revenue were used to measure the media power and consumer power respectively.

This paper selects the scale, profitability and nature of corporation as control variables. The measurement of independent variables and control variables is shown in table 3.

Table 3 Independent variables and Control variables

Variable	Symbol	Definition	Explanation
Independent variables	Government power	GOV	Government Environmental Control Intensity Index Calculate through entropy method
	Industry power	LEG	the number of environmental regulations promulgated each year in various industries
	Shareholder power	SHA	the largest shareholder shareholding ratio Largest shareholder shareholding share / Total share
	Creditor power	CRE	capital-debt ratio Total liability / Total assets
	Media power	MED	negative media environment reports ratio Negative media environment reports / Total media reports
Control variables	Consumer power	CUS	Main operation revenue growth rate the growth rate of the main operation revenue
	Industry Scale	IND SIZE	Heavy Pollution is 1, otherwise is 0 Natural logarithm of Total assets
	Profitability	ROA	Net profits / Average total assets
	Nature	STA	State-owned Enterprises is 1, otherwise is 0

4 Empirical analysis

4.1 Descriptive statistical analysis

Descriptive statistical results are shown in table 4. Vertical comparison shows that the average value of environmental disclosure index in 2004-2007 was 7.475, during which the overall environmental information disclosure of Chinese enterprises was at a low level. The average value of environmental information disclosure in 2008-2011 was 10.915, which indicated that the environmental information disclosure level was slightly higher than in 2004-2007, but it was at a medium low level in general. The average value of environmental information disclosure in 2012-2015 was 14.778, at which point the environmental information disclosure level has been greatly improved.

The average values of government power are 0.039, 0.064 and 0.136 in 2004-2007, 2008-2011 and 2012-2015, which indicating that government power increase and strengthen from 2004 to 2015, and that the average values of industry power and media power are 1, 36, and 38. and 0.053, 0.067, 0.163, which indicating that industry power, media power was also gradually increase.

Table 4 Descriptive statistical analysis

Model 1 (2004—2007)				Model 2 (2008—2011)				Model 3 (2012-2015)			
Max	Min	Mean	Std	Max	Min	Mean	Std	Max	Min	Mean	Std

Proceeding

EDI	11.951	3	7.475	2.443	16.227	4	10.915	3.201	22.867	6	14.778	2.166
EDIt	0.275	0.041	0.158	0.241	0.416	0.193	0.607	0.255	0.657	0.221	0.612	0.187
GOV	0.076	0.002	0.039	0.554	0.181	0.003	0.064	0.038	0.203	0.127	0.136	0.036
LEG	2	0	1	0.369	47	5	36	11.272	65	11	38	13.172
SHA	61.785	30.807	46.296	19.41	60.467	21.386	40.892	13.012	70.321	17.973	41.227	16.761
CRE	0.691	0.412	0.551	0.283	0.752	0.358	0.552	0.301	0.613	0.208	0.463	0.217
MED	0.106	0	0.053	0.45	0.147	0	0.067	1.963	0.331	0	0.163	0.513
CUS	0.762	-1.281	-0.259	0.289	1.951	-1.253	0.214	0.495	1.217	-1.928	0.183	0.335
IND	1	0	0.514	0.324	1	0	0.503	0.612	1	0	0.472	0.509
SIZE	16.115	22.682	19.395	2.678	23.412	19.873	21.371	2.537	27.086	21.818	24.416	2.051
ROA	-0.138	0.301	0.0815	0.161	0.138	-0.521	0.261	0.711	0.212	0.407	0.309	0.817
STA	1	0	0.612	0.517	1	0	0.695	0.325	1	0	0.736	0.317

4.2 Correlation analysis

Table 5 shows in 2004-2007, there was a significant positive correlation at 10% level between government power and Environmental Disclosure Index (EDI). In 2008-2011, there was a significant negative correlation at 10% level between shareholder power and EDI, there was a significant positive correlation at 1% between government power and EDI. There was a significant negative correlation at 5% level between shareholder power and EDI. In the 2012-2015, government power, shareholder power and Power were positively correlated with EDI.

Table 5 Pearson correlation coefficient

Model 1 (2004—2007)											
	EDIt	GOV	LEG	SHA	CRE	MED	CUS	IND	SIZE	ROA	
GOV	0.007*										
LEG	0.036	0.027									
SHA	-0.038*	0.04	0.021								
CRE	0.008	0.046	0.01	0.028							
MED	0.031	0.02	0.047	0.044	0.027						
CUS	0.011	0.034	0.027	0.007	0.015	0.045					
IND	0.022**	0.044	0.005**	0.021	0.034	0.024	0.044				
SIZE	0.041**	0.017*	0.035	0.037	0.006*	0.035	0.017**	0.028			
ROA	-0.012	0.007**	0.049	0.005	0.031**	0.015	0.009***	0.008	0.047		
STA	0.035***	0.039*	0.029	0.011	0.049*	0.034	0.035	0.035	0.018	-0.041	

Model 2 (2008—2011)											
	EDIt	GOV	LEG	SHA	CRE	MED	CUS	IND			
GOV	0.068**										
LEG	0.183	0.057									
SHA	-	-0.028*	0.047*								
CRE	0.072	0.032	0.029	0.012*							
MED	0.003	0.014	0.002	0.011	-0.005						
CUS	0.001	-0.022	0.018	0.007	0.008	0.239					
IND	0.306*	-0.058	0.084	0.05	-0.028*	0.015	0.048				
SIZE	0.231**	0.073**	-0.018**	-0.012*	0.005	0.123**	0.099**	-0.036*			
ROA	-0.102	0.061	-0.034**	0.175	-0.091	0.108*	-0.067**	0.047	0.092*		

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STA	0.085*	0.022*	0.057	-0.023	0.001	0.004*	0.058	0.007	0.021	-0.088
Model 3 (2012-2015)										
	EDIt	GOV	LEG	SHA	CRE	MED	CUS			
GOV	0.103** *									
LEG	0.073	0.079								
SHA	0.041*	0.178	0.122							
CRE	0.063	0.18	0.067	0.051						
MED	0.051*	-0.015	0.064	-0.04	0.033					
CUS	0.012	0.052	-0.037	0.075**	-0.096	0.051				
IND	0.125** *	-0.035**	0.051**	0.084	0.000	0.018**	0.038**			
SIZE	0.177**	0.103	0.17	0.127** *	0.025*	0.002*	0.007*	0.026		
ROA	-0.097	0.107	0.079	-0.012*	-0.005	0.026**	-0.085*	0.002	-0.022*	
STA	0.156*	0.163*	0.065	-0.098	0.053	0.033	-0.018	0.034	0.015	0.062

Note: ***, **, * represents a significant correlation between the two variables at levels 1%, 5%, and 10%.

4.3 Regression analysis

We put government power, industry power, shareholder power, creditor power, media power and consumer power and control variables into the Model 1, Model 2 and Model 3 respectively. The max variance expansion coefficient (VIF) of each independent variable in three models is 1.59, which satisfies the requirement that VIF is lower than 10, indicating that there is no serious multiple collinearity between variables. The concrete results of multivariate linear regression of three models are shown in table 6.

Table 6 Regression results

Variables	Model 1 (2004—2007)		Model 2 (2008—2011)		Model 3 (2012-2015)	
	Standardized coefficients	t	Standardized coefficients	T 值	Standardized coefficient	t
Constant	-0.136	-2.101	-0.581	-3.762	-0.126	-3.266
GOV	1.378**	2.034	1.602***	3.006	1.267***	2.916
LEG	0.004	1.274	0.031***	3.505	0.050***	2.875
SHA	0.062	1.066	-0.061**	-2.391	0.114**	2.413
CRE	0.038	1.224	0.035	1.208	0.853	1.253
MED	0.228	1.566	0.156	1.589	0.168**	2.371
CUS	0.012	1.209	0.029	1.137	0.071	1.652
IND	0.397**	1.992	1.011**	2.563	0.948***	3.237
SIZE	0.268**	2.14	0.043***	3.505	0.021***	3.732
ROA	-0.025**	-2.267	-0.633***	-3.136	-0.809***	-3.331
STA	0.052**	2.057	0.033*	1.933	0.027	1.126
Adj.R ²	0.166		0.285		0.305	
F-value	10.215		13.707		12.357	
Sig	0.000		0.000		0.000	

Note: $n=1512$; β are standardized regression coefficients. ***, **, * represents a significant correlation between the two variables at levels 1%, 5%, and 10%

Table 6 shows that all three regression models have significant statistical significance ($F=10.215$, $P<0.000$; $F=13.707$, $P<0.000$; $F=12.357$, $P<0.000$). Model 1 shows that the government power significantly positive impact on environmental information disclosure level ($\beta=1.378$, $p<0.05$). Industry, shareholders, creditors, the media and consumer power have a positive impact on environmental information disclosure, but not significant. The results show that the government power is the main driving power factor of enterprise environmental information disclosure in the 2004-2007. Model 2 shows that government power ($\beta=1.602$, $p<0.001$), industry power ($\beta=0.031$, $p<0.001$) have significantly positive impact environmental information disclosure level, creditors, the media and consumer power have a positive impact on the environmental information disclosure level, but not significant. These results show that, compared with 2004-2007, the significant driving effect of industry forces is evident in addition to the government forces in the 2008-2011. General speaking, the coercive power still was the main driving power of enterprise environmental information disclosure. Model 3 shows that government power ($\beta=1.267$, $p<0.001$), industry power ($\beta=0.050$, $P<0.001$), shareholder power ($\beta=0.114$, $p<0.05$), media power ($\beta=0.168$, $p<0.05$) have significantly positive impact on environmental information disclosure level. It shows that coercive power, practical power and social power have become important elements to drive enterprise to disclose the environmental information.

Comparing the regression results of three models, we can concluded that the regression coefficient between the government power and environmental information disclosure level is always positive and significant (β Government model 1= 1.378 , $P<0.05$; β Government model 2= 1.602 , $P<0.001$; β government Model 3 = 1.267 , $P<0.001$). It shows that government power has always been the main driving factor of enterprise environmental information disclosure. However, the trend of regression coefficient shows is from ascending to descending (β Government model 1= $1.378 > \beta$ Government Model 3 = $1.267 < \beta$ Government model 2= 1.602). Then, we will make further exploration and verification to analyze the relationship between government forces and environmental information disclosure.

Comparing the regression results of three models, we can conclude that the industry power is affecting environmental information disclosure level, the degree of impact is not significantly transformed into significant, and the regression coefficient continually increase (β industry model 1= 0.004 , $t=1.274$. β industry model 2= 0.031 , $p<0.001$; β industry model 3= 0.050 , $p<0.001$). So, H2 that the relationship between the industry forces is affecting environmental information disclosure level, which is significantly enhanced has been verified. Before the 2008, the industry power did not have a significant role in promoting the improvement of the environmental information disclosure level. This is due in large part to the industry self-discipline has not yet been fully established, and that companies rely less on industry regulation to obtain legitimate resources, and the perception of industry power is weak. 2008 years later, many industries, especially polluting industries, need to rely on industry regulators to obtain the legal resources, because they face to the environmental monitoring pressure from the industry.

In the 2004-2007, the shareholder power measured by the largest shareholder shareholding ratio positively affected environmental information disclosure level, but not

significantly (β shareholder model 1=0.062, $t=1.066$). In the 2008-2011, shareholder power was significantly negative correlated with environmental information disclosure level (β shareholder model 2=-0.061, $p<0.005$), which is consistent with the findings of Brammer (2008), Huang (2010) etc. [2-3] It shows that the more dispersed the equity of listed companies in China, the higher the level of environmental information disclosure. This may due to the decentralized ownership structure increase the probability that shareholder who holding positive environmental protection concept to hold the stock. The diversification of shareholder composition leads to the diversification of environmental information demand, which is conducive to urging enterprises to disclose more environmental information. In the 2012-2015, shareholder power (β shareholder model 3=0.114, $p<0.05$) significantly positive affected environmental information disclosure level, and the regression results showed that the positive influence of equity concentration on corporate environmental responsibility is significantly strengthened. It shows that the major shareholders have realized the important role of green development in the development of enterprises and they want to improve environmental information disclosure level. Comparing the regression results of three models, we can see that because of the substitution of financial and material resources, the shareholder power measured by equity structure and enterprise power are equal, and the influence of power on behavior is more complicated, which needs to be determined according to the specific situation. Therefore, assume 3 is validated.

Creditor forces always positive influence the environmental information disclosure level in the three period of 2004-2007, 2008-2011 and 2012-2015, and the regression coefficient of Model 3 (β creditor model 3=0.853) is significantly higher than Model 2 (β creditor Model 2 = 0.035) and model 1 (β creditor model 1=0.038). The results show that the positive relationship between creditor power and enterprise environmental information level is gradually enhanced, so H4 is verified. It shows that green credit and green finance pursued by banks and other financial institutions has worked gradually, enterprises perceive creditors power is increasing, so they disclose environmental information to meet the increasingly urgent needs of creditors for environmental protection, and the positive relationship between the creditors practical power and environmental information disclosure level is gradually strengthen.

In 2004-2007&2008-2011, media power is affecting the environmental information disclosure level, but not significant (β media model 1=0.228, T Media model 1=1.566; β Media model 2=0.156, T media model 2=1.589). In 2012-2015, the media power significantly positive affected the environmental information disclosure level (β media model 3=0.168, $P<0.05$), and the regression coefficient (β media model 3=0.168) was greater than the 2008-2011 (β media model 2=0.156). Comparing the regression results of three models, we found that the media power is affecting the environmental information disclosure level, and the degree of influence is gradually increasing significantly. So, H5 are validated. Before the 2012, media power did not play a significant positive role in improving the environmental information disclosure level. This shows that the media on the environmental behavior and accidents are not enough exposure, enterprises obtain social resources rely on the media is weak. After 2012, more and more media negative environmental reports have "magnified" corporate environmental violations to the government and the public, and companies have perceived media power and taken media power into account when disclosing environmental

information.

In 2004-2007, 2008-2011 and 2012-2015, consumer power is affecting the environmental information disclosure level positively, but not significant (β consumer model 1=0.012, β consumer model 2=0.029, β Consumer model 3=0.071). Compare the regression results of three models, consumer power always has positive influence on the environmental information disclosure level, and the regression coefficient increases in turn. It shows that consumer power enhances the enterprise environmental information level, and this positive relationship is gradually increasing significantly in the research interval. So, H6 are validated. This shows that in China, with the consumer green consumption concept rising, the ability of enterprises that feel the consumer power gradually increased. Therefore, the consumer power has gradually become one of the important driving factors that affect the enterprise to improve the environmental information disclosure level.

In addition, regression results of three models show that the industry, enterprise scale have significantly positive impact on the enterprise environmental information disclosure level. That is, heavy pollution enterprises are more inclined to disclose more environmental information, the larger corporate size, they are more inclined to disclose environmental information. The corporate profitability is significantly negative correlated with the environmental information disclosure level, indicating that the stronger the corporate profitability, the less environmental information disclosure. During the three period, the positive correlation between the corporate nature and the environmental information disclosure level was changed from significant to not significant, and the regression coefficient was reduced (β Nature Model 1=0.052 > β Nature Model 2=0.033 > β Nature Model 3 =0.027), It shows that the nature of state-owned is no longer the main pressure for enterprises to disclose environmental information, and non-state-owned enterprises have paid the same attention to environmental information disclosure as state-owned.

4.4 Further analysis

The results of multivariate linear regression show that the trend of influence that government exert to the environmental information disclosure level is first rising and then falling. Compared with the initial stage of environmental information disclosure in 2004-2007, the role of government environmental forces in improving the environmental information disclosure level increased in 2008-2011. In this period, our government concentrate on introduce the relevant laws and regulations and invest in environmental protection facilities, enterprises hope that they can obtain the recognition and commendation of relevant government through to disclose more environmental information. Compared with 2008-2011, the role of government forces in improving the level of environmental information disclosure decreased during the period 2012-2015. On the one hand, with the development of economy, the complexity of corporate products, and the difficulty of environmental supervision, the effectiveness of the actual government environmental control has diminished. on the other hand, with the increasing attention of stakeholders to environmental issues, the impact is increasing. the role of environmental power, such as industry self-regulatory organizations, green consumer organizations and the media, has increased, and compared with before, the corporate dependence on legitimacy resources has decreased, and government power has weakened. Furthermore, we make the following

hypothesis:

H7: the relationship between the government power and environmental information disclosure level is a reversed U-shaped.

In order to verify the government power and enterprise environmental information disclosure Level have an inverted U-type relationship. We first put the industry, size, profitability and nature, government power and their squared into Model 4 and model 5 in turn. The regression results are shown in table 7. It shows that both regression models have significant statistical significance (F=10.176, p<0.000; F=12.095, p<0.000). Model 4 shows that the government power has significantly positive impact on the environmental information disclosure level ($\beta=0.149$, p<0.050), this result consistent with previous research. In model 5, government power has significantly positive impact on the Enterprise environmental information disclosure level ($\beta=0.289$, p<0.000), the square of government power significantly negative affects the environmental information disclosure level ($\beta=-0.181$, p<0.050). The adjusted R2 (Adj.R2 =0.223) of model 5 is significantly higher than that of Model 4 (Adj.R2 =0.118), and the fitting superiority of model 5 is higher. So, H7 has been verified, and the results show that the driving effect of government power on the environmental information disclosure level presents a reversed U-shaped relationship which increases first and then decrease.

Table 7 further regression results

Variable	Model 4		Model 5	
	β	t	β	t
Constant	-0.183	-3.059	-0.251	-2.652
IND	0.172***	2.602	0.162**	2.437
SIZE	0.224**	2.318	0.270**	2.076
ROA	-0.164**	-2.285	-0.182**	-2.026
STA	0.238**	2.117	0.105***	3.149
GOV	0.149**	2.379	0.289***	3.262
GOV ²			-0.181**	-2.543
Adj.R ²	0.118		0.223	
F	10.176		12.095	
Sig	0.000		0.000	

Note: n=1512; β are standardized regression coefficients. ***, **, * represents a significant correlation between the two variables at levels 1%, 5%, and 10%

5 Conclusions and suggestions

Based on the power theory, this paper studies the evolution process of the influence of stakeholder power on the environmental information disclosure level. The results of the study show that:

(1) Significant changes in the driving effect of stakeholder power on environmental information disclosure

The evolution of the driving force of government coercive power is the most obvious, showing the trend of inverted U-shape, that is, first ascending and then descending. Legitimacy resources are the basic resources necessary for the survival of enterprises, as well

as irreplaceable key resources in the development of enterprises, and the government coercive power with legitimate resources have been the important factors driving environmental information disclosure. However, as the companies rely and perceive less on the coercive power to have legitimate resources, the role of the practical forces and social forces perceived by enterprises is gradually enhanced, and legitimacy is no longer the only goal for enterprises to disclose environmental information. The driving effect of creditor power, media power and consumer power on enterprise environmental information disclosure has been significantly enhanced. Although the resources controlled by the controllers of material and financial resources and the providers of social resources are only one of the most important or irreplaceable for enterprises, the green credit concept and business promoted by financial institutions, the negative behavior of the enterprise environment media exposure more timely and increase, the formation of green consumption concept and the activities of green consumption organization all reflect the environmental awareness of social, material and financial resource providers, the urgency of environmental protection orientation and the environmental requirements for enterprises. Based on the resource characteristics controlled by the stakeholders of social, material and financial resources and the urgent requirements of environmental protection orientation gradually transformed into the substantial environmental forces of enterprises, the influence on the environmental information disclosure level is gradually enhanced.

(2) According to perceived stakeholder power, enterprises meet the needs of environmental information

The power theory emphasizes that the enterprise managers will divide their power categories according to the stakeholder's possession of resources, and meet the environmental requirements of the stakeholders respectively in the light of the power. Corporate perceived stakeholder power is different, and the adoption of environmental response strategies is also different. During the 2004-2007, the government power is the only perceived coercive force of the enterprise. In this time, the enterprise selects the more negative and passive environmental strategy and mainly satisfies the government's legitimacy requirement to the corporate environmental behavior. Thus, the corporate environmental information disclosure level is low. During 2008-2011, although the driving role of industry forces appears, the enterprise is still feeling the coercive power. So, the enterprise still adopts the passive environment strategy to pursue the environmental legitimacy. Compared with the previous two periods, during the 2012-2015, except the coercive power, enterprises also can perceive the requirements of practical power and social power on the enterprise environmental information. At this time, the pursuit of environmental legitimacy to obtain legitimate resources is no longer the only driving force for enterprises to disclose environmental information, enterprises must also deal with urgent requirements of the financial, material and social resources provider on environmental protection. Therefore, enterprises began to take a more active proactive environmental strategy, to upgrade environmental management to the strategic level of enterprises, participate in environmental management actively, improve the level and quality of environmental information disclosure.

The influence of the stakeholder power perceived by the enterprise is different, there are two reasons. one is the power is a variable, it may be got or lost. Another one is powerful stakeholders are not necessarily aware that they have power, even if they realize that they

have power, it does not mean that they will use it, let alone impose their will on the enterprise. Thus, enterprise perceive the stakeholder power which have realized that they have power and willing to impose it on corporation. Therefore, this paper suggested that powerful stakeholders should use their environmental power to influence the corporate environmental behavior and information disclosure consciously. At the same time, stakeholders should also be aware that power can be inspired by the reality of urgency, so that stakeholders with various power should continue to increase the urgency of environmental protection requirements, enhance their own environmental power and affect corporate environmental strategy and information disclosure. Of course, corporate managers also should have awareness that stakeholder power is a variable, legitimacy requirements are no longer the only external requirements of stakeholders for the performance of the enterprise environment, both of practical forces, social forces have very urgent environmental requirements. Therefore, enterprises should select more active environmental strategy to respond to the higher demand for environmental protection from a variety of stakeholder power.

It is worth noting that in the whole research, the shareholder power measured by the shareholding ratio of the largest shareholder has a positive and insignificant effect on the environmental information disclosure firstly level, then has a negative effect, and has a positive and insignificant effect. According to this conclusion, we found that in our country, the shareholder power and enterprise power are equal, and the influence of the shareholder power on the behavior is more complicated, which needs to be further studied in the light of the specific situation.

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A Study on the Differences between the Development of Entrepreneurial Investment in China and the U.S.

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I. Meaning of Entrepreneurial Investment and Basic Characteristics of the in China and the U.S.

i. Meaning of Entrepreneurial Investment

For start-up firms, entrepreneurial investment is their lifeline; for, private capital is an inexhaustible “reservoir” of funds. Private investment is crucial to; macro-control and support of the government is also indispensable, though.

Entrepreneurial investment, also called “risk investment”, is a process of investment in which capital is invested into the R&D area of hi-tech technologies and products in order to accelerate the commercialization and industrialization of hi-tech technologies and obtaining returns from the investment. The purpose of is not to control a company, but to obtain some equity of the invested company and in turn to boost growth and added value of the start-up company through capital and management. Entrepreneurial investment consists of four stages, namely, financing, investing, management and exit.

Entrepreneurial investment has four basic characteristics: firstly, it boasts high returns accompanying high risk. Entrepreneurial investment targets hi-tech enterprises, mainly funds newly developed technologies and products and invests in sci-tech enterprises in their early stages. As products and technologies are still in their R&D stage, the incidence of failure is very high, with extremely big market and economic risks. Once investment is successful, however, the rate of return is very high. Secondly, entrepreneurial investment tends to be spread capital among different projects in an effort to lower the risk of investment, such that even if one of the investment projects fails, investors can still offset the resulting loss with the successful investment projects and reap some benefits overall. Thirdly, entrepreneurial investment is generally a long-haul investment that spans a period of 3-7 years and may have to increase investment to the invested project during the term of investment. Finally, entrepreneurial investment is highly professional, in which investors and managers have different functions and take on different responsibilities for the same purpose of assisting in the success of start-up enterprises.

ii. Basic Characteristics of in China and the U.S.

Venture financing on the part of entrepreneurs has a very long history in the U.S. At the very least, it can date back to the 19th century when the U.S. started to raise fund to construct railways and build textile factories across the country. In the wake of the WWII, venture financing in the U.S. grew into a considerable size and gave rise to a venture capital industry. Early venture capital in the U.S. was of a strong private color, with private funds being a primary source of the venture capital. For example, there were once more than 2,000 private companies in the U.S. and these companies accounted for 70% or so of the total start-up investment.

Later, the sources of venture capital in the U.S. became all the more diversified. They

included not only personal funds of the rich individuals, but also the funds of institutional investors, which are primarily pension funds and insurance funds, as well as the funds of some large corporations, fiscal funds of government and funds of financial institutions, e.g. banks. But the fiscal funds of government accounted for only a very small portion. Business incubators in the U.S. mainly serve start-up enterprises, while business accelerators more often than not serve growing enterprises. The business incubators in the U.S. tend to adopt the model featuring a combination of “incubators + financial support + entrepreneurship mentors + management experience”, which is a professional model. According to statistics of the U.S. National Business Incubation Association, there were roughly 1,500 incubators across the U.S. in 2016 that offer services for start-up enterprises. Limited partnership venture capital institutions are relatively more better developed institutional investors in the U.S. at present. They are private partnership consisting of limited partners and general partners, such as the well-known Draper Fisher Jurvetson (DFJ), which is focused on investing in start-up internet companies, and Kleiner Perkins Caufield & Byers (KPCB), which focused on investing in entrepreneurship projects of various famous universities.

Presently, a majority of the industrial investment funds in China are closely related to public finance at various levels. The main entities of seed fund of entrepreneurial investment in China include governments, venture investors and incubators. Chinese venture investment has a short history and relatively low level of maturity with governments bearing heavily on the development of entrepreneurial seed fund. Business incubators in China adopt a two-dimensional “incubator + financial support” model that provides venue and funding for start-up enterprises. The most prominent characteristic of business incubators in China is that most incubators, e.g. the business incubators across the country, are built with government-granted land and funding. A proportion of the business incubators, e.g. business nurseries, are jointly funded by governments and enterprises. The rest of the incubators, e.g. university-based sci-tech parks, are funded by governments and developed on university-granted land. Governments give a lot of preferential policies and funding support to business incubators. By introduction from overseas and innovation at home, China has so far created a new model of government supporting micro-sci-tech enterprises, which finds expression in the combination of “funding + service + management”, by ushering in entrepreneurial seed funds in which foreign investors can invest in and therefore supporting sci-tech start-ups by way of equity investment.

II. Formation of the entrepreneurial investment System in the U.S.

i. initiated in the 1940s and 1950s

The U.S. is a cradle of entrepreneurial investment and therefore a leader in the same field. In the mid-1950s, due to the cold-war-induced fear of the scientific and technological advancement on the part of the former Soviet Union, the U.S. conducted a study and found that the shortage of funding was a critical barrier to business development in the U.S. In a bid to improve the situation, the then U.S. President Dwight David Eisenhower signed and the U.S. Congress ratified a Small Business Act in 1958. The law mandated the U.S. Small Business Administration establish a Small Business Investment Corporation program so that small businesses can obtain loans from government at lower-market-level interest rates. Meanwhile, the Congress permitted banks to set up small business investment corporations so

that banks can engage in other commercial activities than banking. During the four years subsequent to that, there have been more than 600 small business investment corporation in operation across the U.S.

ii. Environment improved for entrepreneurial investment in the late 1970s

There were several reasons for such environment improvement: firstly, the U.S. Congress lowered the capital gains tax rate from 49.5% to 28%. Secondly, the listing of some companies invested by entrepreneurial investment capital, including the listing of FedEx in 1978 and the listing of Apple Inc. later, stoked the investment of entrepreneurial venture capitalists. Entrepreneurial investment embraced an unprecedented growth in the 1980s. Entrepreneurial venture capitalists raised no more than \$600 million in 1980, but managed to raise \$4 billion in 1987.

iii. Some institutions arising in the 1980s were the primary source of entrepreneurial capital

In 1978, rich individuals and families were the largest sources of venture capital, accounting for more than 1/3 of the total venture capital then. Subsequently, their share gradually reduced to 10%, and public and corporate pension funds became the largest sources of venture capital, accounting for 1/2 of the then total venture capital. By 1990, however, the average rate of return on entrepreneurial investment dropped to below 8%, putting entrepreneurial investment into the doldrums. In consequence, individual and institutional investors exited one after another in the period of 1980-1991.

iv. Entrepreneurial investment constantly on the rise during the 1990s

An economic recovery during the period of 1991-1994 enabled entrepreneurial investment to rebound and embark on an upward trend. Currently, there are nearly 2,000 entrepreneurial investment institutions across the U.S.; and around 10,000 hi-tech projects are funded by entrepreneurial investment on a yearly basis. Many well-known hi-tech companies start up and grow fast with the very help of entrepreneurial investment.

v. measures into the new century

In 2001, the U.S. Small Business Administration (SBA) enacted a New Market Venture Capital Program and revised the original Uniform Limited Partnership Act, thus boosting entrepreneurial investment. In 2003, the U.S. government issued a Jobs and Growth Tax Relief Reconciliation Act, which lowered the capital gains tax rate from 20% to 15%. In the same year, the U.S. government amended the Jobs and Growth Tax Relief Reconciliation Act, which lowered the long-term capital gains tax rate from 20% to 15% and the dividend tax rate from 38.6% to 15% and therefore greatly fueled the enthusiasm of investors. In 2004, the U.S. adopted the American Jobs Creation Act and the Deferred Compensation Act, prohibiting the transfer of SILO-related revenues from taxable items to non-taxable items. In 2015, the U.S. issued a Credit Guarantee Act, providing that the SBA was responsible for offering credit guarantee for start-up enterprises. Under the law, loans in an amount of less than \$155,000 can have 90% of them secured, while loans in an amount of \$155,000-250,000 can have 65% of them secured, by the SBA.

In 2016, the SBA planned to invest \$2 billion in a period of 5 years to support start-up enterprises, with \$1 billion used to set up an impact investment fund and another \$1 billion used to set up an early state innovation fund. Moreover, it planned to create two general incubators and provided that young students use 15% of the income to repay their loans and be exempted from their remaining loans 25 years later. In 2017, the U.S. Department of Homeland Securities announced that start-up entrepreneurs of foreign origin could apply for two-year entrepreneurship visas. In the same year, the U.S. government sharply cut down on its corporate tax rate from 35% to 15%.

III. Development of Venture Financing in China

i. Origination

Entrepreneurial investment originated in China in the mid-1980s. The first entrepreneurial investment company, China New Technology Entrepreneurial Investment Company, was founded in 1985, marking the beginning of entrepreneurial investment in China. However, entrepreneurial investment boomed in China only after China National Democratic Construction Association's Central Committee submitted a Proposal on Accelerating the Development of entrepreneurial investment in China at the first session of the 9th CPPCC convened in early 1998. Thereafter, entrepreneurial investment companies and entrepreneurial investment management companies mushroomed across the country. They invested in a large number of hi-tech enterprises. Such well known enterprises as Baidu, Mengniu and Focus Media have all been beneficiaries of.

ii. Development

Exit mechanisms are at the core of the Growth Enterprises Market Board. As an important channel for small- and medium-sized enterprises to raise funds, the growth enterprises board is a primary channel for entrepreneurial investment capital to exit the market.

Domestic entrepreneurial investment institutions also raised 32 new funds in 2006 in the backdrop of favorable entrepreneurial investment policies, including several trust and limited partnership funds. These new funds have been created in accordance with the "new trust policy" and with the newly revised Partnership Enterprises Law. They not only widened the channel for private funds to access the venture capital market, but also enriched the management models of venture investment institutions in China.

The total amount of entrepreneurial investment saw an explosive growth in 2007, reaching \$3.247 billion, which represented a striking growth of 82.7% over 2006. Moreover, the number of venture investment cases also increased from 324 in 2006 to 440 in 2007, representing a growth of 35.8%, and then finally the Growth Enterprises Market Board came into being in 2009 with the middle and small enterprises market board as a stepping stone in 2004.

iii. Advent of the era of mass entrepreneurship and innovation

Chinese Premier Li Keqiang set forth a slogan of mass entrepreneurship and innovation in 2014, thereby initiating a wave of entrepreneurship activities across the country. The Chinese government reiterated the slogan in its work report 2015. After years' development,

venture investment has made great strides in China, so much so that it is almost complete in categories and mature in operating methods nowadays. Many famous entrepreneurial investment companies are emerging, boosting the fast growth of angel and venture investment in the country.

IV. Problems of Entrepreneurial Financing in China in Comparison with the U.S.

Over more than two decades' development, entrepreneurial investment has seen considerable growth in China, whether in terms of size or in terms of the growth pace. Compared with its counterpart in the U.S., however, China's entrepreneurial investment is still in the primary stage.

i. Incomplete entrepreneurial financing laws and regulations

Firstly, the slow development of entrepreneurial investment, the inability of private savings to enter the entrepreneurial investment capital market and the hi-tech venture investment market in particular, and the lagging establishment of laws and regulations increase the risks of venture investment, leading to the all too high cost of venture investment. Secondly, due to the lack of concerned laws and regulations, existing venture investment companies are still fraught with irregularities in their operations. For example, some entrepreneurial investment institutions do not focus on their own business; instead, they speculate on stocks by taking advantage of entrepreneurial investment capital and even engage in private securities investment funds.

The U.S. government classifies seed venture funds into entrepreneurial investment funds, planning them according to market mechanisms and having investors manage them freely. The U.S. government makes quite a small share of contribution to the capital of seed venture funds. Apart from setting up seed funds under the venture capital funds category and using them for seed stage venture investment, the U.S. government supports start-up enterprises mainly by way of providing various preferential policies, e.g. credit guarantee, government procurement, tax preferences and intellectual property protection, etc.

ii. Shortage of entrepreneurial investment talents

As operators of entrepreneurial investment capital, entrepreneurial investment capitalists bear responsibility for the entire process of fund raising, project screening, investment management and supervision, etc. They are therefore the key to entrepreneurial capital contributors reaping any profit in the end, thus playing an important role in the development of entrepreneurial investment. In recent years, a group of entrepreneurial investors have emerged in China, but they are still too small in size. Consequently, the entrepreneurial investment funds in China are generally short of excellent management teams and sound institutional arrangements, still in the primary, exploratory stage of development.

iii. Failure for some start-up enterprises to have right financing concepts

With successful introduction of entrepreneurial capital, some entrepreneurial teams do not focus on improving corporate performance, but concentrate on distribution of interest, resulting in the departure of venture capital from entrepreneurial knowledge. Some entrepreneurial investment companies even put some of their money into the real estate or

securities market, thus severely deviating from the original mission of entrepreneurial investment institutions.

iv. Small size of entrepreneurial investment

The total amount of entrepreneurial investment in the U.S. is far greater than that of in China. In 2010, the total amount of entrepreneurial investment added up to \$38.8 billion in the U.S., as opposed to \$5.668 billion in China. Moreover, the size of capital of single entrepreneurial investment companies, as micro-individual entities in the venture investment field, tends to be small in China. Driven by the motive to make profit, many entrepreneurial investment companies resorted to some short-term projects that require little investment and generate immediate effect, thus often deviating from the original mission of entrepreneurial investment and checking the development of venture investment in China.

v. The sources of entrepreneurial investment capital are quite narrow in China. Pension funds are not permitted to directly invest on the entrepreneurial capital market; foreign institutions contribute the largest share of the venture capital in China, followed by non-financial enterprises and individuals and government respectively. The contribution rate of financial institutions is far lower than in the U.S. What's more, the number of investors is relatively small, so is the amount of entrepreneurial investment.

vi. Relatively late creation of the growth enterprises board market

In the 1960s, many world regions, such as North America represented by the U.S. and Europe, began to create their own growth enterprise markets in an effort to resolve the financing problem facing small- and medium-sized enterprises. The HKEx growth enterprise market finally came into being on November 25, 1999 after a decade's preparations. It was positioned to serve small- and medium-sized high-growth start-up enterprises and hi-tech companies in particular. On October 30, 2009, 28 mainland companies were for the first time ever listed on Shenzhen Stock Exchange's growth enterprise market board for public trading, thereby putting the growth enterprise market of China into operation and providing a platform for SMEs to thrive.

vii. Over dependence on government funding at the seed stage

The seed entrepreneurial investment capital funds in China are still in their initial stage. With quite a small coverage, they are mainly restricted to economically developed tier1 or 2 cities. In a small sized city, they tend to provide limited funding support. Other problems facing them include the lack of private capital infusion, the limited ways to approach, the lack of mature investment teams and the lack of effective policy supports, etc. The seed stage entrepreneurial investment funds in China are dominated by various types of start-up entrepreneurial investment funds led by the government, whereas those created by private investment groups account for a very small share. Moreover, the Chinese government invests in seed stage entrepreneurial enterprises mainly in the form of lending, e.g. providing security for loans, making financing subsidies, etc, which is not conducive to sharing the risks of start-up enterprises. The seed stage of entrepreneurial enterprises in the U.S. are, to the contrary, led by private venture capital and supplemented by government, which features a coordination mechanism between enterprises and government. The seed stage venture capital

in the U.S. is, moreover, derived from many sources, including the angel seed funds from angel investors, the seed venture funds from venture capitalists and the entrepreneurship guidance funds of government. In addition, the seed venture funds in the U.S. derive their money mainly by way of equity financing, where investors subscribe shares of the start-up enterprises and exit them upon their successful listing on the stock market.

viii. The reasons why the entrepreneurial investment model of China lags behind that of the U.S. include: Firstly, the U.S. has a sound risk sharing mechanism in which it has a well-developed entrepreneurial investment market, where the number of investors is greater, the amount of investment is larger and therefore the risk of investment is highly dispersed by a great deal of private capital. Secondly, the U.S. has a good entrepreneurship culture and environment. Many successful alumni will return to their university to support the entrepreneurship activities of their fellow university students, provide them with financing channels and therefore expand the size of investment. In China, however, there is no risk sharing mechanism in the first place, so that private investors are not willing to invest in start-up enterprises in the face of all too high risks. In the second place, China is lacking in a strong venture investment culture and environment and an investment platform, resulting in the disconnection between entrepreneurial investment projects and capital market channels and the poor communication between investors and entrepreneurs. In consequence, government has to play a leading role in venture investment in an attempt to get start-up enterprises out of the financing dilemma.

V. Conclusion

There is an abundant supply of venture capital and private capital in particular across China, yet due to lack of effective incentive mechanisms and limited financing channels, however, extremely little private capital manages to access the entrepreneurial investment market in the country. On the other hand, the over-intervention of government will not only hamper the development of entrepreneurial investment, but also get nowhere due to the limitation of its funding. Therefore, there is the need for China to draw on the experience of western countries and our own national conditions to foster the capital market, open up diversified financing channels and create funding sources for entrepreneurial investment. In addition, there is the need to accelerate creating a sound system of laws and regulations for venture investment with a view to playing a guiding role through government policies, improving the capital market, introducing high caliber entrepreneurial investment talents and in the end promoting healthy development of the entrepreneurial investment industry in China.

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A Comparative Study on the Financial Consumer Protection in China and the U.S.

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In the wake of the U.S. subprime mortgage crisis, financial consumer protection was unprecedentedly highlighted and enhanced. It was a consensus of the international community that, in order to get rid of the impact of the crisis, there is not only the need to improve prudential financial supervision and the ability of financial institutions to prevent and control their risks, but also the need to strengthen the financial consumer protection and rebuild the trust and confidence of financial consumers. In the post-crisis era, both China and the U.S. have reshaped and reformed their existing supervision concepts and systems, placing more stress on behavioral supervision. In particular, they both have adopted multifaceted measures, e.g. redirecting their financial supervision, setting up specialized protection agencies and enhancing the development of laws and regulations, etc, to properly handle the relationship between financial consumer protection and prudential financial supervision, thereby successfully maintaining their financial security and stability while improving the efficiency of their financial markets.

I. Connotation and Scope of Financial Consumer Protection

Financial consumer is a very broad concept; it has no uniform definition across the world. The financial consumer protection of an absolute majority of countries in the world targets the consumer financial products and services. In China, similarly, financial consumer is not a legal concept in the strict sense of the term and no laws have ever used the term explicitly or defined the scope of financial consumer clearly. Consumers under the Consumer Protection Law of China refer to individuals who purchase and utilize commodities or accept services for life purposes; the law, however, fails to provide clearly whether individuals who buy financial products of a strong investment nature fall into the scope of its protection. In providing for financial consumers' rights and obligations, such departmental laws as the People's Bank of China Law, the Banking Supervision and Management Law, the Commercial Bank Law, the Securities Law and the Insurance Law, etc, still employ such traditional concepts as "depositors", "policy holders" and "investors", etc. In the U.S., on the other side, the U.S. Consumer Protection Act prescribes that consumers are individuals who obtain and use loans or purchase movable property, immovable property or various categories of services to meet the needs of their families or themselves; the Financial Modernization Act of 1999 and the Dodd-Frank Act stipulate that acts of obtaining financial products or services from financial institutions for personal, family or housework purposes fall into the scope of protection rendered by the acts. So natural persons, e.g. individual investors and their legal representatives, who perform the foregoing acts are the object protected by the acts, but whether special organizations belong to financial consumers remains highly disputable.

With regard to financial consumer protection, both the Chinese and U.S. laws have provisions on financial consumption, but the U.S. laws have clear definition for the connotation and scope of financial consumption and provide a greater scope of protection

than their Chinese counterparts.

II. Financial Consumer Protection Agencies

After the subprime mortgage crisis, China enhanced its efforts to protect financial consumers. For that purpose, it adopts an “inner twin peaks” protection model under which the People’s Bank of China, China Banking Regulatory Commission, China Securities Regulatory Commission and China Insurance Regulatory Commission, etc respectively set up their own specialized agencies and conduct the financial consumer protection work within their respective purview of responsibilities. With surging financial innovation activities and the resulting diversification, complication and blending of financial products and services, however, the information imbalance between financial institutions and financial consumers is exacerbated, hence the need to establish specialized financial consumer protection agencies. In this regard, there are currently two reform proposals in the academia: one is to employ a mixed supervision model, that is, to establish a standalone financial consumer protection agency independent of the People’s Bank of China and China Banking, Securities and Insurance Regulatory Commissions to exercise supervisory functions over all the banking, securities and insurance industries; another is to undergo small-scale, local reform in which the People’s Bank of China plays a leading role in facilitating coordination and cooperation among China Banking, Securities and Insurance Regulatory Commissions in that the financial market in China is still in its early stage and it is impossible to align the interest of the banking, securities and insurance industries in the short run.

Before the subprime mortgage crisis, there were 7 financial consumer protection organizations in the U.S.. Such multi-thronged approach resulted in serious supervision arbitrage on the one hand and a vacuum of supervision on the other hand. After the subprime crisis, however, the U.S. government shifted from functional supervision to supervision by objective by breaking out of the beaten track of setting up the supervisory framework by financial business category and separating the prudential supervisory function from the consumer protection function, thereby attaching equal importance to the prevention of systemic risks and the protection of consumer rights. One of the important achievements of the Dodd-Frank Act was that it delegated the financial consumer protection functions wholly to a special consumer protection agency within the Fed, i.e. the Consumer Financial Protection Bureau (CFPB). In order for the CFPB to be free from interventions of the Fed, the U.S. government granted autonomy to the agency in terms of the appointment/removal of personnel, the setup of functions and the use of funds, etc.

China has not yet established specialized financial consumer protection agencies, with the functions of protecting financial consumers distributed across a wide range of functional departments. The U.S. agency CFPB is not an independent entity, either, but it is able to independently perform the financial consumer protection responsibilities to the highest extent possible.

III. Innovation of diversified financial dispute resolution mechanisms

Resolving financial consumer disputes through an array of methods, e.g. mediation, arbitration and litigation, etc, is a dispute settlement approach highly recognized and actively experimented by many financially developed countries and regions.

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In recent years, China performed a series of institutional innovations in respect of diversified financial dispute resolution mechanisms. Firstly, the internal customer complaint mechanisms of financial enterprises are the most convenient and least costly financial dispute resolution method. The Interim Provisions of China Securities Regulatory Commission on Managing the Suitability of Investors on the Growth Enterprise Market have provisions regarding that. The provisions are simple, indeed, but they represent a very good beginning. Secondly, China is short of agencies dedicated to resolving financial disputes through mediation. Thirdly, Chinese arbitration organizations attach great importance to financial arbitration and already made great progress in relevant institutional building. For example, China International Economic and Trade Arbitration Commission formulated Financial Dispute Arbitration Rules; Shanghai, Wuhan, Zhuhai, Guangzhou, Tianjin and Haikou have set up financial arbitration courts and made financial arbitration rules accordingly. Fourthly, there is the administrative disposal mechanism on the part of financial regulatory authorities. The People's Bank of China, China Banking Regulatory Commission, China Insurance Regulatory Commission and China Securities Regulatory Commission are competent administrative entities in charge of the financial consumer complaints. Fifthly, there is the court litigation method. In view of the complexity and specialty of financial disputes, China has actively probed and innovated in financial trial mechanisms. Some financially developed cities have even set up financial courts. For instance, Shanghai Financial Court was established in August 2018 to provide financial consumers with professional judicial relief. This was a big innovation of the justice system in China. However, the court currently accepts only civil and commercial financial disputes as well as financial-related administrative cases and does not accept criminal cases.

The U.S.: Financial regulatory bodies and self-disciplinary organizations in the U.S. play important roles in financial consumer dispute resolution. Without altering the existing pattern of financial consumer dispute complaints in the U.S., the Fed, the SEC and the OCC still maintain their respective responsibilities and powers in handling consumer complaints. The Financial Industry Regulatory Authority is the largest self-disciplinary organization in the U.S. for the securities industry, undertaking securities arbitration and mediation responsibilities. The American Arbitration Association also plays a positive role in securities arbitration. With respect to litigation, the SEC sets an Office of Administrative Law Judges (OALJ). Although the OALJ is based at the SEC, it is considerably independent of the latter in that the power to appoint or remove its personnel rests with the Office of Personnel Management under the U.S. Congress, a part of the judicial system. The OALJ presides over the trial of violations of laws and regulations and sanctions the parties concerned through administrative adjudication procedures

With regard to the resolution of financial disputes by diversified means, both China and the U.S. engage in a series of institutional building in the internal handling by financial institutions, mediation, arbitration and litigation, etc, thereby providing institutional support for the protection of financial consumers. But either of the two countries have set up third party dispute resolution organizations similar to financial ombudsman services. So there are no independent, impartial mechanisms for financial dispute resolution in both countries.

III. Development Trends of Financial Consumer Protection in China and the U.S.

How to change the previous concept of “playing up prudential supervision while playing down behavioral supervision” and mobilizing and integrating supervisory resources to create a twin peaks supervision model with Chinese characteristics is an urgent, practical issue to be addressed at present. In recent years, along with the ongoing innovation of financial products and the constant development of internet finance, hotspot events in which financial consumer rights and interests are infringed emerged endlessly, such as the ICO messes, the flights of P2P platforms and the creditor’s right transfer involving LU.com, etc. With the situation of financial consumer protection becoming increasingly stark, the protection of financial consumers has been attached with unprecedented importance. The financial work conference of China will step up efforts to create a sound financial consumer protection system in favor of financial consumers, regarding it as a priority of the financial work in the next five years to come. The State Council’s Plan on Promoting the Development of Inclusive Finance (2016-2020) also orients the inclusive finance work towards establishing a sound consumer protection system for inclusive finance, thus providing policy support for the protection of financial consumers. The year 2017 was “the strictest year of supervision in history” of the financial industry, so much so that the financial regulatory authorities issued more than 20 important regulatory documents in succession. The year 2018 also saw the issuance of a series of provisions aimed to protect financial consumers. For instance, the shadow banking system embraced new capital management rules; the ICO and virtual currency exchanges were cracked down on; the cash advances and third party payment were again regulated. These all played important roles in regulating the financial consumer market.

The U.S.: Before the subprime mortgage crisis, the U.S. upheld the concept that “the least supervision is the best supervision” and therefore implemented a dual-line, multi-department supervision model involving the federal and state governments that gave priority to financial efficiency and encouragement of financial innovation and overlooked financial security and protection of financial consumers. Such regulatory structure fueled supervision arbitrage and risk aggregation and failed to effectively cover the business behaviors and financial products that were easy to generate risks, thus leading to the outbreak of the once-in-a-blue-moon global financial crisis.

After the crisis, as the origin and a victim of the financial crisis, the U.S. reflected on the inadequacies of its legal protection system for financial consumers and its original financial supervision system in particular, rebuilt a financial regulatory system and made six aspects of improvements to its financial consumer protection system: firstly, it endeavored to change the “too big to fall” situation; secondly, it set up the Consumer Financial Protection Bureau (CFPB); thirdly, it established the Financial Stability Oversight Council to address coordination issues among financial institutions; fourthly, it tightened supervision of financial rating agencies by setting up a supervisory office under the SEC; fifthly, it enhanced the supervision of commercial banks; and sixthly, it enhanced the supervision of derivatives and hedge funds.

To sum up, it is a common aspiration for China and the U.S. to incentivize financial innovation, promote good operations of financial institutions and protect the rights and

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interests of financial consumers to the maximum extent during the post-crisis era. The successful probes of the U.S., a large and strong financial power, in setting up dedicated agencies, developing legal systems and innovating concepts with respect to financial consumer protection are worth learning and borrowing for China, indeed.

Comparisons and Analyses of Relationship between the Government and Market in China and the United States

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1. Introduction

Relationship between government and market is the most heated fundamental modern economic question. It is also the core question for China to achieve the economy reform of which the next step is achieving socialistic economy. On basis of fundamental economic viewpoints, there are two driving resources, i.e. government and market. They are also been called as *Two Engines* or the *Visible and Invisible Hands*.

China is the largest developing country while the United States is the most developed capitalism country in the world. Total economic volume of the United States and China ranks top 1 and 2 worldwide respectively. Through comparing and analyzing the relationship between government and market under system of capitalism and socialism with Chinese characteristics can inspire with lessons and significance. This is also going to help China to conclude the economic development history under socialistic system in the past 40 years after the economy reform. Moreover, it helps China to scientifically balance the *Two Engines* - government and market in order to drive economic development in new era. At last, it plays a significant role in sustainable development.

2. Relationship between government and market under economic reform in China

2.1 Practice of the economy reform in China

The key question of the economy reform in China is to balance government and market. Since the economy reform, the planned economic system gradually turned to be socialistic market through continuously exploring, practicing, solving, handling the relationship between government and market. The history tells the market regulation is the core factor to achieve the economy reform which guide and protect the reform during the procedure. This procedure provided evidence on cooperation between government and market and witness how it worked. Since the economy reform, it came through the main five following stages starting with ‘planned economy led plus slight market regulation’ to ‘resource allocation by government and market together. In different stages, the relationship between government and market waved up and down. However, it ends in market plays key role while government goes out and back in timely.

The first stage (1978-1984) is ‘planned economy led plus market regulation’. It initiated the curtain of the economic reform and market regulation started to work in this stage. The second stage (1984-1988) is planned commodity economy. In 1984, *Decision to Economy System Reform of Central Party Committee of PRC* approved in the Third Plenary Session of the Twelve Central Committee pointed out ‘the priority to the economy reform is to establish

right attitude on planned commodity economy against traditional concept, obey and scientifically use market regulation, especially the planned commodity economy on basis of public ownership. The full development of commodity economy is the stage which cannot be skipped, and it is the necessary condition to make economic modernization of China come true'. It was the first time to highlight theory of socialism planned commodity economy and the first time to recognize the function of market in a socialistic country. The third stage (1989-1992), the nation governs market and market guides enterprise. The Thirteen Central Committee pointed out socialistic planned commodity economy should be the system which plan and market unified together. The Fourth stage (1992-now) socialistic economy. The Fourteen Central Committee pointed out 'the target of the economy reform is to establish socialistic economy system. Market works under macro management of a socialism country and plays a basic function to resource allocation'. In 2003, the Sixteen Central Committee pointed out 'enlarge the most efficient function of market in resource allocation'. The Eighteen Central Committee in 2012 pointed out 'apply its basic function of market to allocate resources in a wider range and deeper degree. *Decision to Some Important Problem in Deeper Revolution by Central Party Committee of PRC* approved in Third Plenary Session of the Sixteen Central Committee pointed out its significant function of market in resource allocation. Report of The Nineteen Central Committee gave further illustration which adds government's role in resource allocation alongside market. During this stage, market plays a constantly function. It also enhanced better understanding of market's function and gives great opportunity for government to gain experience and better control the process. Thus, government and market should cooperate and take their advantages during the transfer from planned economy to market. This is going to be a special socialistic approach with Chinese character and brings Chinese economics increasing miracle.

2.2 Special method of Chinese economic increase

In accordance to Roosevelt's economic growth theory, economic growth can be divided into 5 stages. Government and market play key roles in each stage. To be specific, in traditional society stage, modern science and technology didn't exist and agriculture dominated, people can barely manage to survive. During the stage 2, agriculture offers the soil for industry and city. The third stage is taking-off stage, there should be three conditions in this stage, i.e. relatively accumulate rate, dominating department, protection system. It should be mentioned that government leads in all three conditions. The stage 4 is mature stage, modern technology is widely in application, diversity of industry varied. This stage highlights regulation function of market which adds energy, competency and competitiveness in every department and every industry. The stage 5 is high consume stage, government and market cooperate and take its advantage. Thus, resources are gathering to produce long existing merchandise, public welfare reaches to key position.

From the perspective of China's economy establishment, the early establishment stage can be regarded as traditional society phrase. The next phrase till the economy reform can be concluded as preparation stage as well as Government dominating economy which lack of energy and low efficient in this period. During the 30 years after the economy reform,

economy took off and market economy played a significant role inside. Government played a key role in complete economy in socialistic system and reform, it accelerated Chinese economy and led to the miracle. When Chinese economy came to well natured, the distinguish between market and government was getting clearer, and market played a more significant role in resources allocation. Whilst, government was more essential in social protection and other public service. In current stage, both market and government should cooperate with each other and co-forward economic development constantly and continuously.

3. Relationship between government and market in the United States

Economy in the united states is a typical market economy. Neoliberalism guides the government, market in the United States is free and slight influenced by government. This is the unique characteristics of development between government and market. There is an outstanding characteristic of American economy which is private ownership. Government rarely holds and operates business, and encourages market regulation working in purchasing, logistics, distribution and sale. Survival of the fittest principle was appealed while Keynesianism which emphasize interface from government was being against. The environment asked for as less influence from government as it could be.

3.1 Milestones in economic history in the United States

Reviewing economic history in the United States, the Great Depression discouraged American people and they began to doubt the dominating regulation force in American economy which is market. Hence then American people began to wish the strong power from the government like economic regulation facing disorder in the United States. After World War II, Keynesianism exceeded and expanded more than ever. In addition, government interfaced stronger in not only microeconomic but macroeconomic regions as well. American economy took off in 1950s and 1960s as well as Keynesianism reached its peak and began to drop. Deficit showed up due to the Great Depression and war during Roosevelt's new deal. When economy decreased, American people had no tolerance on governmental deficit and abused it to improper performance of government. In the beginning of 19670s, stagflation pushed American people to reconsider governmental economic regulation. President Nixon published new economic policy in such circumstance. Those overall control on wage and price during war period applied, but it resulted in inflation and turned to failure. However, wave to release economic regulation fueled American economy and restarted economy engine. During 1990s, American economy came to its peak, high increase rate and low inflation. American people nearly forgot governmental economic regulation. However, when it came to 21 century, those potential and critical problem in some industries came out to the surface and had a negative impact on American economy. The Economic Crisis burst out in 2008, it is the most serious global economic crisis ever since 1930s. American government took some measures including financial aid and got the United States out of this trap and re-welcomed its new economic circle.

4. Comparison on how to deal with relationship between government and market in China and the United States.

4.1 Similarity

Market regulation plays a key role. Both capitalistic economy in the United States or socialistic economy! in China emphasize market regulation. The free enterprise system consisted of private enterprises and centralize private trust is the foundation of economy in the United States. Decision to movement of producing, operating, selling in an enterprise is made after signals of price fluctuation while seldom be interfaced by government. Commonly, strength of market consisted of competition system, supply and demand system and pricing system overweighs strength of government and drives allocation of capital resources. Thus, the market, in principle, might takes care of any occasion that individuals, enterprises and itself could or could do more efficient than government interface. In contrast, resource allocation and macro governmental control attribute to economy in China. Main body of this economy is public economy, along with multiple economy developing together. It pays respect to market rhythm, highlights market regulation in decision-making to resource allocation and boosts efficiency of value rhythm through competition, supply and demand system.

Government participates compensation function. Government is an undivided composition of the market in form of market regulations and legal protection. Unlike economy in the United States, continuous modification should be kept under conducting in a developing country like China, which means strong interface from the government. What's more, this interface ought to play within framework of market system rather than destroying its original function.

4.2 Differences

4.2.1 Ownership

The United States is a typical capitalism country. Every regulation in this country is built on basis of private ownership system, this is entirely different from China. As a socialism country, China origins its own political and economic system. To be specific, public ownership is the main body, meanwhile multiple ownerships exist. Thus, economy and developing approaches in socialism with China's characteristics are determined and determined to carry on

4.2.2 Economic Decision Authority

Government of the United States controls its economy through financial policy including legal, economic and financial policy. In the past, freedoms long dominated American market while government play the role like a night watch and seldom interfaced until 1930s. Since the Great Depression, American government began to dramatically interface and control society behavior and economy. Currently China's control policy mainly conducted in aspect

of economic and political along with administrative methods, through a series of guidance policy like financial policy, monetary policy, production policy.

4.2.3 Resources Allocation

There is a significant difference in scale, degree, method of interface conducted between China and the United States. Comparing associating method, American government allows market guides itself. Government regulates laws to keep market order and protect. While, Chinese government cooperates with market. The strength of each power waves up and down. In some occasions, governmental decision may have an impact on market.

5. Lessons and Significances

5.1 Release the market to make decision under some certain conditions

China should release resource allocation function of the market in a wider range while insist on revolution of market system. Meanwhile, the government should complete pricing system, never interface pricing behavior which the market can complete itself. In addition, those important public and non-profitable programs should be exposed to the public. A further step should be taken on complete merchandized and elementary market, which can lead to a unified, ordered and competitive market system. In addition, accelerate revolution to a more completed administrative approval which highlights release, control and service at the same time. It is going to low down entrance limitation, enhance service quality, encourage entrepreneurship, accelerate positive competition, build a healthy development environment and finally create more micro economic power and make high-quality economic development comes true.

5.2 Boost governmental macro control function in specific zones

Reviewing development history and award achievement of the past 40 years after the economy reform, it indicated that socialistic economy is a high-hierarchy design which fits China's economic situation and played a significant role in triggering economic development. The unique development approach and socialistic economy with China's characteristics which highlights governmental control and guidance would keep leading the country in the future.

The government should take a further step on balance of macro economy, modify imbalance among income, public supply to product and service, resources environment protection and substantial development. The government should lead a systematic, regulated and ordered market, build a stable and safe environment in unseen place of market and those long-term programs.

5.3 Positive forward cooperation between government and market

Government and market should stick together to achieve better economic development.

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From macro perspectives, market should play a role to create, initiate, increasing efficiency and make decision. Government should supervise, serve and regulate the market like a night watch. Both government and market should cooperate and take its advantages to establish an active socialistic economy and boost creation and competitiveness of Chinese economy.

The Influence of Individualism on Paths to Gender Equality in the Workforce

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At the turn of the millennium, China was a leader among nations in women's labor force participation, but women's labor force participation rate has declined since the market-oriented economic reforms, particularly among mothers with pre-school age children. The income gap between married men and women is one of several growing inequities during China's economic transformation that has concerned the UN Women China Office and the People's Republic of China.

In this paper, I compared and contrasted two paths that were taken in the West to address the income gap: the individualist approach of equal pay for equal worth taken by the U.S., the United Kingdom and Canada; and the group approach of allowing equal access to the family wage taken by the Nordic countries.

In the more individualistic countries, the wage gap was narrowed by giving the cost of living increase to women's wages. Over time, the family wage began to weaken as the cost of living increased. Initially, more women entered the workforce after having children, to strengthen the family wage against the rising cost of living. Once that coping strategy was maximized, the family wage stagnated and spending money shifted away from families to singles and double-income-no-kids. The number of people choosing to have no children has also increased during that same timeframe. Once family wages stagnated, the number of children being raised below the poverty line has continued to increase. Approximately 24% of the next generation in the United States is now being raised below the poverty line with long-term negative impacts on the workforce for the next generation.

In the Nordic countries, the path of equal access to the family wage has not resulted in increased family poverty rates. By almost every measure, the workforce in these countries fares better than the workforce in the more individualistic countries (e.g. infant mortality rates, literacy rates, longevity rates, quality of life measures, etc.).

China may be grappling with how much their culture will embrace individualism as it undergoes economic transformation. I offered this analysis from the West as evidence of how two paths for socially organizing the interface of family, law and the economy have impacted the labor force. China may want to consider the long-term costs of individualism and may want to consider offering stronger social supports for families raising the next generation.

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**The Technologies and Analytics in Human Resources Management:
A Trend in US**

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Introduction

Big data and business analytics are hot topics in human resources management (HRM) such as using technologies for recruiting, training, and identity management. The primary purpose of this paper is to discuss new technologies such as big data and business analytics that are applied in the area of human resources management in the U.S. The secondary purpose of this paper is to discuss whether these technologies can be applied in new industrial countries such as China or not. The third purpose of this paper is to discuss the possible ethics limitations of these technologies due to different social and cultural environment.

In summary, this paper discusses the following technological trends for human resources analysis:

- 1) People analytics. People or talent analytics is to find out the relationship between the best employee profile and job performance. The best employee profile allows a company to find the best candidates in the recruiting (Bersin, 2013).
- 2) Identity life cycle management. Research indicates that 36% of attacks come from internal employees in 2013 (Hatchimonji, 2013). For security reason, many companies use the concepts of business roles and security roles in enterprise applications. Employees' access to the enterprise applications should be based on their security roles. When a company hires an employee, this employee may be hired as an entry-level position. His security role should be limited in the entry-level position such as a sales person. When he is promoted to a higher position such as a manager, his security role should be in a higher level and more privileges to access the enterprise applications will be assigned to him. When he leaves the company, his security role and access permission should be deleted immediately. This concept is referred to as identity lift cycle management.
- 3) Cyber learning technology for training: Technology is changing so fast that all the employees are needed for re-educated and training. Companies use cyber learning and gaming tools to re-educate the employees. In addition, new software or applications about performance evaluation are emerged so that the company can predict the successfulness of these applications for training.

Privacy and potential risks are major concerns in the US when the people data are used for data analytics (Agarwal et al, 2018). Due to the difference in culture and economic development, privacy issues may be different in another country. Therefore, the government should find a balance between economic development and labor relationship.

Software Applications for HRM Analytics

There are many software applications for Human Resource Management (HRM) analytics. For example, Power BI is one of the analytical tools provided by Microsoft for business analytics. Power BI also provides a sample case for HRM analytics. Figure 1 shows a screen shot for new hires analytics.

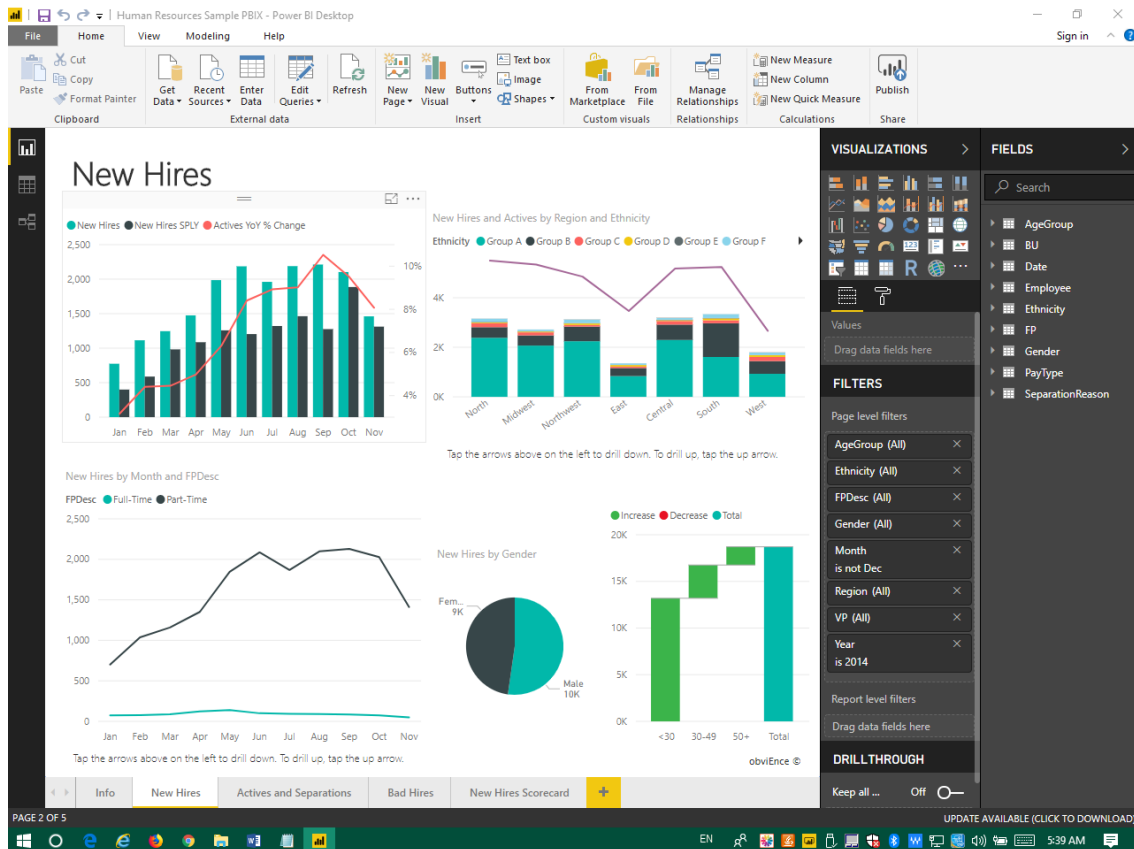


Figure 1. New Hires Analytics using Power BI

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The international Monetary System and Manufacturing Technology Innovation---- a Case Study and its Implications for China

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Manufacturing technology innovation ability is the important symbol of national technology innovation level, how to improve the manufacturing technology innovation ability has become an important problem of many scholars study.

The international monetary system is a series of principles that how to decide the currency exchange rate mainly between the states in the in process of the international trade and which one monetary can be used in the international trade. Now, American decide how to settlement in the international trade using the dollar, so, the American dollar as a sovereign currency becomes an international money during the international trade settlement. This is a very good for innovation of American businesses, but in the varying degrees, it has been damaged to the businesses innovation of countries which have international trade with United States. Through the cases study about currency fluctuations between the United States and Japan, and the shift of manufacturing powerhouse between the American and the British. In this paper, it has been detailed studied of difference phenomenon of an enterprise technological innovation in the existing international monetary system based on in the United States and some countries which has close trade country of the United States. It puts forward to improve manufacturing technology innovation ability of specific measures in China under the existing international monetary system, such as refactoring use of foreign exchange mechanism; Build difference demand mechanism; to promote exchange rate mechanism change, etc.

To refactoring use of foreign exchange mechanism, it should have comprehensive considered the rising of RMB exchange rate and sovereign wealth funds of overseas investment, form linkage mechanism in foreign investment of the appreciation of RMB exchange rate and the using of sovereign wealth funds to inform of the international cooperation mechanism. In sovereign fund investment of strategic emerging industries, it should make China's current-account surplus of the creditor's right change into R&D capital of domestic manufacturing technology innovation.

Build difference demand mechanism, that is to say, on the basis of the different regional trade demand to provide different grades of products to ensure manufacturing enterprise product sales to accumulate requirements of technical innovation capital and utilize of limited domestic resources effectively to guide the manufacturing industry to upgrade.

Promote exchange rate change to avoid risk on financial dependent , strengthen international technology pricing ability of China's manufacturing industry in using of international technology to engage in the researching and development, configuration innovation resources within the scope of the international; Change of RMB exchange rate

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change rhythm to guide enterprises to participate in the U.S. manufacturing reengineering action, using technology chain fission and reorganization of the opportunity in the world financial crisis era, actively participate in new energy, biotechnology research and development of the United States, to strive for implementation of China's enterprises "point off balance" in the field of these technologies .

Change the present reserve currency allocation pattern and the interests of the seignior age, making investment and savings clogged conversion mechanism, by increasing the national income to achieve wealth property reforming, strengthen material resources of enterprise technology innovation.

Key words: the exchange rate; the monetary system; sovereign currency; manufacturing technology innovation

United States vs. China : The Global Race towards AI Supremacy

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Abstract:

The emerging consensus around the world is that the United States and China are in the midst of a global race towards dominance in the field of Artificial Intelligence (AI). The United States is still the world AI superpower but China is emerging as the AI challenger that is best positioned to overtake the US as the dominant force in the near future. The US and China are competing in other technologies too, like biotechnology, genetic engineering, and quantum computing, but AI is unique since it is the type of technology that has the ability to shift the balance of power in both the global economy and international relations. Whoever can master AI first will have a crucial advantage in writing the rules governing AI for the next global order.

AI in China is on the rise, as it is propelled by several structural advantages for AI development: Huge data sets, young but growing army of AI talent, aggressive entrepreneurship, and strong and pragmatic government AI policy. These advantages will accelerate development across all four waves of AI: Internet AI, Business AI, Perception AI, and Autonomous AI.

The big AI players in China are competing fiercely with their US counterparts, but currently lag on research and scientific expertise as well as global platform experience. Despite of this, the vibrancy of the Chinese technology startup ecosystem and huge expansion of technological and engineering talent is closing the talent gap. China's sea of data, robots, and computation proficiency are all growing rapidly, with the size and availability of massive data sets set to become a key advantage for China's AI development. On the other hand, China's low data accessibility compared to the US will hinder the development of AI capabilities in companies outside of the AI giants throughout its economy.

The US, EU, and China will also compete to be out in front on developing a regulatory regime around AI technologies and applications. The government's approach to AI regulation, AI ethics, and economic adjustment will reflect Beijing's broader centralized model of governance and ideology. It is possible that China will launch an initiative via the UN to establish first an Automation/AI-related "code of conduct", or basic regulatory approach, followed by a special committee on the topic and eventually an oversight body within a UN framework. Such an initiative would put China at the forefront of developing a global approach to these issues.

The "Next Generation Artificial Intelligence Development Plan", announced by China's State Council in July 2017, called for China to catch up on AI technology and applications by 2020, and to become a global AI innovation hub by 2030. Based on China's

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past history on becoming world leaders in high-speed rail, and other initiatives like the “Mass Entrepreneurship and Innovation Plan”, there are reasons to believe that China is not just serious about becoming the dominant power in AI technology, but has the track record to back up that claim. The extremely supportive regulatory environment and turbo charge Chinese government ambitions for AI will ensure that the country is uniquely placed to become the dominant global power in AI.

Keywords: Artificial Intelligence, Global Economy, Regulatory Competition.

**Information Vs Intuition Based Decision Making among Managers:
The Role of Professed Religiosity**

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Abstract: Previous research in experimental psychology suggests that religious belief is influenced by one's general tendency to rely on intuition rather than information. A corollary emerging from this based on *balance theory* is that managers who are religious might make more intuition based decisions than their counterparts who are not religious. The latter group might tend to make more information based decisions. Recent research also indicates that the use of scientific method, a close cousin of information based decision making, triggers moral behavior. Employing critical incident technique, the present researchers test this potential relationship among business executives at various ranks, various cultural contexts, and holding various religious beliefs. Our analysis indicates that theist managers, both gnostic and agnostic, preferred intuitive decision making. Likewise, both gnostic and agnostic atheist managers preferred information based decision making. Also, atheist managers articulated better logical explanations as to why their decisions were morally correct.

Keywords: religiosity; decision making; spirituality; reason; intuition

Introduction

Managerial decision-making style can be classified into intuitive or rational (Allinson & Hayes, 1996; Taggart & Valenzi, 1990). Managerial information processing and decision making reflect this underlying dual nature of human consciousness, observes Robey and Taggart (1981). According to a study by Khatri and Ng (2000), Organizational performance in an unstable environment was positively correlated with the managerial use of intuition although the relationship was found to be negative in stable environments. The unstableness of environment may not be the only factor here – associated factors that typically covary with this include incomplete information and also the rate of change of the currency of information. The rational model works better in tried and tested conditions, strategic first mover decisions are almost always riddled with puzzles, and avoidance of intuition will be perilous.

Plato, in his *Republic*, considered intuition as a quality higher in order than intelligence, reason, belief, and illusion. From the time of Plato, intuition was considered to be non-inferential, at least in a conscious way. Descartes clarified the concept of intuition by stressing its a-priori nature: fundamental knowledge is gained not by referring to sensory experiences but rather from the 'natural light of reason'. Intuition is attaining direct knowledge without the interference of conscious thought (Schwartz, 2010). Our intuitions are affectively charged judgments, although domain knowledge, prior learning, and task characteristics determine the effectiveness of intuitive judgements (Dane & Pratt, 2007). Intuition emerges from the cognitive structure of human mind and it is possible that it may have imprints of what worked or did not work in the past (Bering, 2011). Notwithstanding the

recent advances in social cognitive neuroscience and allied fields, intuition is still a largely underexplored territory (Hodgkinson et al., 2009). What we know is that intuitive judgments are made based on largely effortless and automatic processes. Intuitiveness is often associated with thinking that is reflexive, heuristic, associative, holistic and experiential (Shenhav, Rand, & Greene, 2012). On the other side, we can posit reflective judgments as those that are made consciously based on the systematic analysis of data (Evans, 2008).

If it is agreed that beliefs in the supernatural spring to mind automatically or effortlessly, such beliefs may as well be termed as intuition driven (Shenhav, Rand, & Greene, 2012). Since the consistency motive or the drive toward psychological balance is something that is fundamental to human nature (Heider 1958; Woodside & Chebat, 2001), intuitive judgmental style may be employed by religious individuals even in the conduct of more secular aspects of their lives.

Religiosity might predict not only managerial decision-making style but also the moral nature of the decisions. Decision alternatives are morally judged before one alternative is adopted. Based on a widely held belief, religiosity influences morality. Mainstream society holds that religious people are more likely to be concerned about the morality of their decisions (Spilka, Hood, Hunsberger, & Gorsuch, 2003). Wright (1909) sees moral development as the progressive betterment of self-consciousness and conduct by the instrumentality of volition. He posits religion as the final step in the self-organization process leading to superior morality. In other words, to say the least, religious faith provides a fertile context for moral development. Yet, recent research by Wainwright (2005) offers a critical relook at this claim and concludes that the relationship is not so straightforward. Ma-Kellams and Blascovich (2013) fortifies this view by highlighting that rational-scientific thinking rather than religious thinking is positively associated with moral development. In the light of this discussion, we believe that managerial decision-making presents a special but important context to examine the impact of religiosity upon managerial decision making style.

Religiosity, Intuition, and Decision Making

It is widely known that religiosity influences one's ethical standards. Research by Keller, Smith, and Smith (2007) highlights how accountant's views on what is ethical varies in accordance with their religious faith. Religious politicians employ a different set of cognitive heuristics in arriving at their judgements, observe Lau and Redlawsk (2001). Risk aversion is positively correlated with religiosity and religious finance managers are less likely to invest in risky stocks with uncertain payoffs (Hilary & Hui, 2009). These authors also conclude that religious managers tend to choose employers similar to their current ones, when they switch jobs. The anxiety while dealing with uncertainty, rather than religiosity, could be the key factor that determines the conservative behavior. Uncertainty avoidance is a key driver for religious faith, too (Miller, 2000).

Religious managers tend to construct an issue in ethical terms (Parboteeah, Hoegl, & Cullen, 2008); the inherent uncertainty this construction affords may make a fertile condition for the application of intuition in judgements. Ruth-Sahd and Hendy (2005) observed that religious nurses employed more of intuition in their patient care decisions. Religious purchase managers used intuition in key decisions and then used post hoc moral reasoning to

justify them rationally. The cognitive-affective process sequence is: issue construction, intuitive judgment, explanation, and justification. Cavanagh and Hazen (2008) takes a potentially controversial position that prayer organizes the mind to see causes and consequences clearly and thus lessens the chance of making wrong decisions. The often-found negative relationship between reasoning and religiosity happens only in those situations when intuition and logic are in conflict (Daws & Hampshire, 2017). If this is true, religious managers might apply their bias towards intuition only in those situations where there is an unresolvable conflict between intuition and reason. Ecklund and Scheitle (2007) investigated the religious faith of academic scientists at twenty-one elite U.S. research universities and found that their trust in the scientific method was not diluted by their faith. It is more likely that religious faith adds a different kind of awe factor into their investigations and findings.

The Belief-Nonbelief Spectrum

Most people hold a particular view on the belief-nonbelief continuum as well as on the certainty-uncertainty conundrum (Lucey, 2015). Based on this classification (See Fig. 1), atheists are individuals who do not believe in god(s); theists are those who believe in god(s); gnostic individuals hold that the existence or non-existence of god(s) is verifiable; and, finally, agnostic individuals hold that this knowledge is not verifiable. Thus, a gnostic atheist is someone who not only does not believe in god(s) but also claims to know that for a fact. An agnostic atheist also does not believe in god(s), but does not make any claims about the verifiability of this position. Similarly, an agnostic theist believes in god(s), but does not claim that his belief is factually verifiable. A gnostic theist, on the other hand, not only believes in god(s), but also claims that his belief is provable.

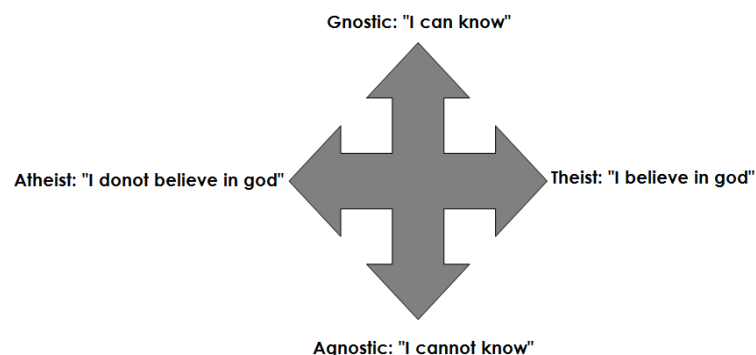


Figure 1: The Belief-Certainty Classification

Dawkins Scale (Dawkins, 2016) is a spectrum of theistic probability, devised by the English evolutionary biologist Richard Dawkins. In his famous but controversial book, Dawkins suggests certain milestones to summarize one's place along the spectrum:

1. *Strong theist*. 100% probability of God. "I do not need to believe, I know for sure".
2. *De facto theist*. Very high probability but short of 100%. "I don't know for certain, but I strongly believe in God and live my life on the assumption that he is there."
3. *Leaning towards theism*. Higher than 50% but not very high. "I am very uncertain, but I am inclined to believe in God."

4. *Completely impartial*. Exactly 50%. "God's existence and non-existence are exactly equiprobable."
5. *Leaning towards atheism*. Lower than 50% but not very low. "I do not know whether God exists, but I'm inclined to be skeptical."
6. *De facto atheist*. Very low probability, but short of zero. "I don't know for certain, but I think God is very improbable, and I live my life on the assumption that he is not there."
7. *Strong atheist*. "I know there is no God, with the same conviction as Jung knows there is one."

The Research Problem

Despite the diversity of personal beliefs (Zuckerman, 2007), social scientists have been able to successfully predict the broad religious orientation of individuals based on variables such as social status, gender, race, region and city size, family structure, and family denominational affiliation (Sherkat, 2008; Wilson, 2002). Cognitive structure might impact religiosity, too (Aarnio & Lindeman, 2007). Noting that cognitive style, social context, and demographic antecedents might largely predict the religious orientation of an individual, the present researchers argue that religious orientation can, in turn, predict the decision-making styles of managers. In other words: *Since religious beliefs are largely based on gut feelings, could managers who are religious be more prone to the use of similar gut feelings for managerial decision making, too? Are non-religious managers more likely to adopt information based decision strategies?*

The support for this comes from the research by Shenhav, Rand, and Greene (2012) which posits that belief in God is intuitive and that the extent to which one believes in God may be influenced by one's more general tendency to rely on intuition. In order to enrich the study, we also bring in the research by Ma-Kellams and Blascovich (2013), according to whom even merely thinking about the scientific method can make people to behave morally. This could mean that decision makers following the scientific method might make morally superior decisions. Reliance on intuition or gut feelings is linked to the trust one gives to fake news, observes Garrett & Weeks (2017). Poor understanding of the physical world and paranormal beliefs go together (Lindeman & Svedholm-Häkkinen, 2016). According to Saribay & Yilmaz (2017), religiosity is predicted by a special kind of analytic cognitive style: religion is related to quick and intuitive thinking processes and religious people tend to be less reflective. These authors also state that religiosity is co-positioned with low cognitive ability and low IQ levels.

In the light of the above discussion, the following relationships are proposed for empirical examination:

- I. Theist managers prefer to employ intuition based managerial decision-making style.
- II. Atheist managers prefer to employ information based managerial decision-making style.
- III. Atheist managers tend to articulate logically sound explanations of the moral correctness of their managerial decisions.
- IV. Theist managers tend to articulate faith bound explanations of the moral correctness of their managerial decisions.

Method

The study employed a mixed method of research to understand the managerial decision-making styles of the participants chosen for the study and how the decision-making styles are related with aspects of religiosity. Data collection involved the use of a self-administered questionnaire. Item statements included in the questionnaire measured the religious orientation of the respondents. The questionnaire also included four mini case studies presented as critical incident narrations with the need to make decisions. Two colleagues of the researchers examined the cases for face validity and agreed that the cases showed a good range of decision complexity and the presence of decision support information. Responses to these case studies coupled with an understanding of the religiosity of the respondents would help the researchers better understand how the use of reason Vs intuition in managerial decisions are related to the religious orientation of the respondents. Data was collected from Chinese business executives during 2011 and 2015. The 2011 sample consisted of 25 mid and senior level software development executives working in the Dalian Software Park, Liaoning Province, China. The 2015 data came from 17 engineering managers in various industries located in the Zhengzhou High-tech Industrial Development Zone, Henan Province, China.

The following classificatory scheme was used in the questionnaire to identify the religious orientation of each participant:

<i>I do not believe</i> any god exists BUT <i>I do not claim to know</i> that no god exists.	Agnostic atheist
<i>I do not believe</i> any god exists AND <i>I do claim to know</i> that no god exists.	Gnostic atheist
<i>I believe</i> a god exists BUT <i>I do not claim to know</i> this belief is true.	Agnostic theist
<i>I believe</i> a god exists AND <i>I do claim to know</i> this belief is true.	Gnostic theist

Table 1. Classificatory scheme of religiosity orientation

The critical incidents were case studies describing relatively simple managerial decision-making situations. The respondents were asked to make decisions and also to briefly indicate how they arrived at their solutions. The responses were qualitatively analyzed following the guidelines established for content analysis and then contrasted with the respondents’ religiosity orientation. The final question in the questionnaire asked the respondents to explain qualitatively the moral correctness of the decisions they made.

Analysis and Discussion

Out of the 37 managers who participated in the study, 14 reported they were agnostic atheists. Of the remaining, 9 were gnostic atheists, 8 were agnostic theists, and the remaining 6 were gnostic theists. In terms of education, 2 had research degrees, 6 had a masters degree, 19 had an undergraduate degree, and the remaining ones were at least high school graduates (with additional vocational training). Males were 23 in number and the rest of them were females. In terms of age, 16 were in the age group of 35-50, 7 were between 20-35, and the rest of them were above 50 years.

Preliminary analysis indicates that, while religiosity per se is not a significant

predictor of managerial decision style, agnosticism component indeed is. Agnostic managers were more likely to depend upon intuition, irrespective of whether they are theists or atheists. This is amenable to the post-hoc interpretation that agnosticism is "I cannot know" and hence I adopt a decision style that taps into intuition. It must however be noted that while it could be true that agnostic managers tap more into intuition, it is not right to claim that they make qualitatively superior decisions (in the light of the prevalent popular notion that intuition is superior to reason).

More than particular factors in isolation, their interaction ([Agnosticism – Gnosticism] X [Theism – Atheism]) helps us better predict decision styles. It was observed that gnostic theists tended to feel more deterministic about the consequences of their decisions. They trusted in the divinity and even when presented with ambiguous decision situations, they were confident about the quality of their decisions. They rationalized their decisions, despite the lack of sufficient data. When presented with ambiguous decision situations, they did not quickly recognize ambiguity or state that as a stumbling block. Gnostic atheists felt it important to solve a problem step by step, following a logical process. They tended to think that the use of relevant data and good decision processes alone ensured reliable outcomes. They did not offer solutions to some of our sample problems, for want of details. Among all the groups, agnostic theists made the most of leap of faith decisions. They did not feel the need to rationalize decision making because the consequences were unknowable anyway. Yet, they trusted in the greater powers of their intuition to yield superior quality outcomes. Only reluctantly did the agnostic atheists offer solutions to some of the ambiguous problems that we presented to them. Unlike gnostic atheists, however, they were not adamant for data because anyway these problems were not deterministically solvable. They made intuitive decisions, but exhibited the least amount of trust in their solutions.

The moral correctness of the decisions was explained differently by respondents of different religious orientation, too. Knowledge Vs belief made significant differences in the explanations. Gnostic theists and gnostic atheists were both certain about moral consequences of their decisions. Some gnostic atheists admitted that their decisions were not morally correct; nevertheless, the point to be stressed is that they knew the moral incorrectness of their decisions. Agnostic theists assumed moral correctness because they felt their decisions were going to do good for others; generally, they did not attempt to rationalize the moral correctness.

As noted in a few paragraphs above, agnostic theists made intuitive decisions but did not trust the value of their decisions. However, when it came to judgements on the moral correctness of their decisions, they were more singular in their opinions despite them being agnostics. Their belief made them all believe that their decisions were morally correct. In other words, belief thumped over knowledge when it came to the determination of moral correctness.

Conclusion

This research reveals some interesting differences in the use of intuition among managers holding different religiosity views. Many authors in the "spiritual turn of management" school uphold that spiritual practices of managers improve their abilities of

intuition which in turn helps them make superior decisions (Drive, 2007; Dyck, 2014). While this study does not raise a counter view against the burgeoning literature on spirituality and management, it questions the view that religiosity or the spirituality perspectives held by the decision makers will make their decisions superior.

The strengths of each approach should be optimally used by the decision maker concerned. The findings of this study call for a more sympathetic and integrative understanding of decision style diversity. The authors of this research wish to reiterate that any attempt to classify religious people as less intelligent be resisted. We do not yet have that evidence. There are numerous world class scientists and thinkers who believe in divine forces. What the findings indicate are that certain managerial decisionmakers have a greater tendency to simplify the realities surrounding their decision situations and make decisions in a manner that conserves cognitive effort. We should also note that this study is inconclusive on whether religiosity or intuition precedes the other. Some of the atheist respondents in this study did make intuitive decisions: so, there is also the probability that even atheists would make swift and instinctive decisions while pressed for time or while the negative consequences of a wrong decision are not considered to be critical for their businesses. Since we used imaginary case studies as critical incidents, this is a real possibility and hence is also a limitation of this study.

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