Master's Thesis

China's Industrial Policies on Internet (Service) Industry

중국의 인터넷 (서비스) 산업 정책

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Graduate School of Seoul National University

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International Area Studies Major

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국제학석사학위논문

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Abstract

China's Industrial Policies on Internet (Service) Industry

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The aim of this thesis is to conduct an industrial policies review and analysis of the Internet industries in the China. The role of Chinese government has always been in promoting the economic development of a nation. Especially, the Internet industry has become a sizeable driving force for China's economic development. The research was composed in two parts of industrial policy analysis to explore the performance of government intervention: (1) Conduct the industrial policy review of the Chinese government on Internet industry from 1999 to 2016. (2) Assess the performance of industrial policy by using descriptive analysis, case study and country comparison. The result show that Chinese government's industrial policy on Internet industry was a long-term planning project with a series of complicated legislation process and coordination between bureaucracies. The policies gradually converge from general infrastructure building to specific sector and company support. Also, subsidies and a preferential tax policy are the main instruments of government, where tax policy has more significant effect on the companies. Furthermore, law, regulation and licensing were to be the other important indirect way for creating national champions. Direct interventions from the government are still more frequently practiced in China in comparison to other countries.

Keywords: Industrial Policy; Internet Industry; Economic Development; China

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국문 초록
중국의 인터넷 (서비스) 산업 정책

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본 논문은 중국의 인터넷 산업에 대한 산업 정책 검토와 분석을 수행하는 것을 목적으로 한다. 중국 정부의 역할은 지속적으로 모국의 경제 발전을 촉진하는 데 있다. 특히, 인터넷 산업은 중국 경제 발전의 중요한 원동력이 되었다. 본 논문의 연구는 정부 개입의 성과를 탐구하기 위한 산업 정책 분석으로 총 두 부분으로 구성되었다. 첫 번째 부분은 1999 년부터 2016 년까지의 중국정부의 인터넷 산업정책을 검토하고자 한다. 두 번째 부분은 기술 분석, 사례 연구 및 국가 비교를 기반하여 산업 정책의 성과를 평가하고자 한다. 결과적으로 중국 정부의 인터넷 산업에 대한 산업 정책은 일련의 복잡한 법률 절차와 관료 조직 간의 조정을 통한 장기 계획 프로젝트임을 보여 준다. 정책은 일반적인 사회 기반 시설 형성에서 특정 분야와 회사의 지원으로 서서히 통합된다. 또한, 보조금과 세제 특혜 정책은 세금 정책으로 인해 더 큰 영향을 받는 기업들에 미치는 정부의 주요 수단이다. 더불어, 법, 규제 그리고 허가는 국가의 옹호자를 만들기 위한 또 다른 중요한 간접적인 방법으로 이용되었다. 그러나 여전히 중국에서는 타국에 비해 정부의 직접 개입이 더 흔히 행해지고 있다.

연관 주요어: 산업 정책;인터넷 산업;경제 발전;중국

학번: 2016-25673

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1 Introduction

China's information service (软件与信息产业) industry has been greatly developed since 2000 and has given massive contributions to China's economic development. Especially, the Internet (Service) industry (hereafter Internet industry) burgeons in an accelerated speed. From the first season in 2017, it generated 6929 hundred million RMB, an increase of 19.1% compared to 2016 (National Bureau of Statistics, PRC, 2017). The growth of Internet industry in China undoubtedly reached a promising achievement in the recent 10 years. In 2016, the top 100 Internet companies generated 1069.6 billion RMB and led to an overall information consumption increase of 8.73%. Behind this dazzling record, the Chinese government always played an important role in the political economic development without a doubt.

This thesis is especially intrigued by the role and attitude of government in the flourishing Internet industry of China. Therefore, we attempt to answer the question: "in what means did the

government engage to support the industry?" and "how is the performance or influence of government's policies?"

To answer these questions, this thesis is organized as follows: the background section firstly provided definitions on Internet industry and industrial policy, anchoring the core research objects of this research. In the literature review section, we briefly review the past theories and Chinese case studies. The analysis is separated into two parts. In the Part I of the analysis, we review the industrial policies related to the Internet industry starting from 1999 to 2016. It would allow us to have an overview of policy progress and to identify different kinds of policies. In Part II, we will use companies as case analyses to study the policy influence in depth. Cases from other countries would also be taken into consideration. In the last part, we conclude with a summary and comment on the result of our findings.

2 Background

To understand and analyze Chinese government's industrial policies on Internet industry, we should be familiar with the two crucial elements first before getting into the topic: *industrial policy* and *Internet industry*.

2.1 Internet Industry in China

As an emerging industry, few literatures have discussed and provided the definition of Internet industry (互联网产业). In the trend of numerous fast developed Internet companies, the Internet Industry has already been widely recognized by the government as well as the public.

A clear definition and explanation of Internet industry is important to this research, in order to clarify what the industrial policy is applied on.

From the "*China's Internet Industry Development Research Report*" (中国互联网产业发展研究报告, 2008) edited by Second National Economic Census Leading Group Office of State Council and China

Internet Network Information Center (CNNIC), the report firstly defined Internet industry as

"*Corporates which businesses covered organizations and individual websites creating, providing access to the Internet, producing and living relied on using Internet, the Internet industry is composed of these corporates*."

In *Industrial Classification for National Economic Activities* (GB/T 4754—2017) published by National Bureau of Statistics of the People's of Republic of China, Internet industry can be closely related to category I-64 *Internet and Related Service* as shown in Appendix A. The category I-64 covers and explain the businesses involved in Internet industry. However, one might be confused by the category I-65 *Software and Information Technology Service* as shown in Appendix B. The similar business scopes and description may lead to the consideration that it could be also be categorized as Internet industry. Accordingly, distinct examples or references would help us in finding the correct target of analysis in this research.

The Ministry of Industry and Information Technology of China, in coordination with the Internet Society of China, released a list of *top 100 Chinese Internet corporates* since 2013. Companies on the list were evaluated based on six core indicators including corporate size, profitability, innovation, growth, influence and social responsibility. Through the list, vouched for by officials, we can observe the industrial characters of the leading companies and analyse whether these national champions are the beneficiaries of industrial policies. Throughout the lists available from recent five years, this research selects the recent "*2017 Top 100 Chinese Internet corporates"* list, and shows the top 20 in Table 1.

From the list, the top 5 corporate businesses mainly covered e-commerce, online-gaming, online-video and web portal service (revenue mostly from online marketing). Especially, a major part of the Internet business revenue concentrated on the top five companies, which accounted for 62% of Internet business revenue and 88.3% of operating revenues amongst the hundred corporations. Tencent and Alibaba, the top 2 companies, even took 28% and 73.2% of the Internet business revenue and operating revenues respectively.

Overall, we could observe that the characters of the companies in the list were more inclined toward service-oriented businesses using Internet as an access. On the nature of Internet industry in China, this research defines Internet industry in a broad way as

"an Internet technology-based company, provide and sell services or product to customers through Internet or using web/online platform, and gain profits."

In this sense, the industry should primarily be categorized as the service sector of industry rather than secondary industrial sectors such as software and ICT manufacturers.

Table 1: 2017 Top 100 Chinese Internet corporates (Ministry of Industry and Information Technology of China & Internet Society of China, 2017)

2017 Top 100 Chinese Internet corporates		
Rank	Corporate	Main Brand/Product
1	Tencent Holdings Ltd	Wechat, QQ, Tencent Games, QQ.com
2	Alibaba Group Holding Ltd	Taobao, Tmall, Youku, Tudou
3	Baidu, Inc.	Baidu, iQIYI
4	JD.com, Inc.	JD.com, JD Finance
5	NetEase, Inc.	NetEase, Youdao
6	Sina	Sina, Weibo
7	Sohu, Inc.	Sohu, Sogou, ChangYiu
8	Meituan-Dianping	Meituan, Dianping
9	Ctrip	Ctrip, Toursforfun
10	Qihoo 360 Technology Co. Ltd.	360 Total Security
11	Xiaomi Inc.	Xiaomi, MIUI, Mi.com, Mijia
12	Suning Holdings Group	Suning.com, FinanceSN, Suning Media and Entertainment
13	Dr.Peng Group	Great Wall Broadband Network Service, Damai
14	Wangsu Science & Technology Co., Ltd.	Wangsu
15	Yonyou Software Co., Ltd	Yonyou
16	Shanghai Oriental Pearl Media	BesTV, SiTV
17	Xinhuanet	Xinhuanet
18	37Games	37 Games, 37.com
19	Ele.me	Ele.me, Fengniao
20	Neusoft Corporation	Neusoft, Xikang

2.2 Definition of Industrial Policy

Industrial policy appearing as a collected jargon or a broad term, as shown in the literature, therefore a clear definition or explanation has to be given first in this piece. Many literatures have addressed on industrial policy. The traditional aspect of industrial policy is categorized as either ‘vertical’ or ‘sector-specific’ category. For

example, from the US International Trade Commission's definition, industrial policy referred to

"*coordinated government action aimed at directing production resources to domestic producers in certain industries to help them become more competitive*" (Tyson, 1992)

More narrow definitions of selective industrial policy were also given from Patrick (1997)[1] or Chang (2006)[2]. Both of them share the commonalities of industrial policy where the state intentionally uses a certain policy to make a targeted industry operate efficientlly, further affecting the whole economy.

As the debates and research continues, instead of targeting specific sector or industry, industrial policy could also be interpreted in

[1] Industrial policy is defined as "*anything involving direct or indirect government intervention in the market place typically by a range of policy instruments, in order to achieve a different allocation of resources to specifically defined priority industries at any point in time than would occur through the normal operation of the marketplace*." (Patrick, 1997: xiii)

[2] A narrow definition of industrial policy was given by Chang (2006) as "*a policy aimed at affecting particular industries (and firms as their components) to achieve the outcomes that are perceived by the state to be efficient for the economy as a whole.*"

contrast to be ‘horizontal’ or ‘neutral’ on the contrary. The policies are more generally targeting on reshaping of the allocation and whole economic structure by focusing on public goods like infrastructure development, education or tax cut (Pinder, 1982; Stiglitz, Lin, & Monga, 2013). In the recent report of European Commission (2007), it was stated that

“*The main role of industrial policy at EU level is to proactively provide the right framework conditions for enterprise development and innovation in order to make the EU an attractive place for industrial investment and job creation, taking account of the fact that most businesses are small and medium-sized enterprises (SMEs).*”

Despite the dichotomy between the definition of horizontal or vertical industrial policies, this research considered that the law and policy formulated from the practitioners must ultimately have their intention on affecting certain industries and reaching expected result. Both general and selective types of policies are essential to the targeted industry and we will review both of them in a later section. Therefore, this research adopts the two types of definition of industrial policy, and tries to find the core components from the previous literature. We follow parts of the past definition and interpret it as

"*A specifically defined priority industries which government directly and indirectly intervenes through different policy instruments and support them to become competitive*."

3 Literature Reviews

Substantial studies and books had been published which discussed on how states intervened its economic development to catch up those developed countries, and the rapid growth of economies in East Asia are the remarkable cases to show the outcome of industrial policies (Johnson, 1982; Amsden, 1989; Wade, 1990; World Bank, 1993). They tried to understand the economics evolution in developed countries and how would the developing countries could follow certain patterns and catching up the leading countries. A lot of impediments for economic development, like market failure or outdated business environment, would typically occur in a developing country. Government becomes a crucial role to decide whether to step in the market or not. Industrial policy is the most intuitive government direct intervention which many theories and debates has been conducted by scholars and policymakers. Government intervention could be relatively categorized by three point of views in the following: Neoclassical, Revisionist and Market-friendly (Liu, 2005).

Neoclassical supporters think that minimalist state with less government intervention is better for economic growth. Government should only focuses on providing public goods and building the suitable environment for business. And the ultimate goal is to let economy operate by market itself, promote free trade, export-orientation and privatisation of SOE. Scholar like Balassa.B (1988) is the representative of this view who considered that countries with less government distortion in market and following the comparative advantage to execute export-oriented policy are the reason of fast economic development in East Asian countries.

Revisionist views that strategic government could accelerate development and overcome the market failure. A strong government could lead the market, allocate the resources either on industrial sectors with comparative advantage (Wade, 1990) or potential infant industries which need long-term establishment.

Market-friendly point of view brought out by (World Bank, 1991; 1993) stands in the middle position between the two points of views above. This point of view suggests that government only steps in the

market until it demonstrably malfunctions and cannot work by itself. This 'selective/reluctant intervention' from government should also be simple, transparent and subject to rules.

In 2016, Chinese scholars Zhang Weiying and Lin Yifu had the remarkable debate on necessity of using industrial policy in China' context[3]. Once again, this long-standing issue was heated up in public attention and discussion. Proponent of industrial policy like Lin argued that the government implements different kinds of industrial policies through tariff, trade protections, preferential tax measure, industrial bases, or subsidies based on the comparative advantage, and further boosting the whole economy. In Lin's perspective, a facilitating state (有为政府) is the crucial element which could redirect firm, industry or sector effectively using the resource, and exploiting the comparative advantage (Lin, 2009).

Conversely, Zhang thought that industrial policies should be abolished. A free market, healthy patent and intellectual property (IP) regulation and entrepreneurship are enough for a normal economy.

[3]四度交手 林毅夫张维迎激辩产业政策— 2016/11/10 新京报
http://www.xinhuanet.com/fortune/2016-11/10/c_1119883356.htm

Since 1980s, there have been countless failed industrial policy cases and only very few of them succeeded. The bureaucrats only have limited vision on the uncertainty of creativity and new industry. The discrimination of industrial policy which only favoring certain company would aggravate the rent seeking behavior between the government and entrepreneurs.

Among all the different views, industrial policy in China has been applied since the PRC foundation in 1949. Scholars have done numerous studies on government's role and policy in theories (Bramall, 2000; Harvie, 2000; Xia, 2000; Lo & Li, 2011; Lo D. a., 2014). Also, several case studies on different sectors of industrial policy have been done like steel (Pei, 2005), automobile (Huang, 2002; Lee & Eun, 2002) and aircraft (Goldstein, 2006; Crane et al, 2014). However, Internet industry/company as a fast emerging industry in China, there is very few literatures researched about the government's policies targeting on this service-oriented industry.

4 Part I: Industrial Policy Reviews

Industrial policy has been a long historical product in China's economic development soon after the foundation of PRC government. Benchmarked from Soviet Union's Five-Year Plan started from 1928, China announced its First Five-Year Plan from 1953 to 1957. The Great Leap Forward started from 1958 to 1962 could be seen as the first large scale of planned economy with characters of industrial policies in China. Until now, China is still following the pattern of planned economy with intensively government intervention through different measures. For example, each Five-Year Plan drafted the direction of China' development, and the contents of it has been systematically analyzed by scholars to see the effect between industrial policy and development. However, the policymaking mechanism of industrial policy has also shifted and become more institutionalized through different authorities. To analyze the industrial policy on Internet industry, it is important to understand how does the policy-making mechanism work first.

Ahrens (2013) had analyzed the industrial policy-making process of Chinese government. The idea or concept of policy would come first

and could be proposed by different levels from central government, ministries, research institutions, business association and individual. And then, the policy would be collaboratively drafted by several ministries assigned by State Council or the National People's Congress (NPC). After, specific Leading Small Group related to the area of policy would hold several forums and seminars, collect comments and finalize the bill. For most of the science and technology policies, they were later approved by State Council as an "administrative regulation". In addition, the State Council would also present the policies to NPC for legislation. Normally, the law includes with vague language and general principles which needs further interpretation and implementation from State Council's release of 'decision' and "opinion." The decision and opinion further setup specific target and guideline but the further details of implementation still depend on lower level bureaucrats. Ahren also sorted out the tools at government disposal which we would later examine in the Part II includes fiscal incentives, grants, financial supports, foreign direct investment, government procurement, standards, human resources and infrastructure projects.

Chen and Naughton (2016) further provided a good theoretical framework for analyzing Chinese government's policy-making process, and also showing the shifted approach of industrial policy. In China's context, Chen and Naughton categorized the process into four phase framework -- policy fermentation, policy formulation, policy specification and policy implementation. Policy-making is usually in a bottom-up process which gathering comments and idea from local, and eventually support for the top-level decision. Then, implementation reversely moves down from a broad idea of politicians to specific measures from bureaucracies. Especially in the policy specification phase, a key formal documents would be issued by State Council or Communist Party Politburo after the long process of consultation. Although the key document tends to draft in a broad and vague tone, but it is the cornerstone to deliver the idea and confirmation of the top leaders and serving as an official guideline for lower bureaucrats. The beginning of the top-down implementation process starts after the key document released.

After we are familiar with the long and complex policy-making process in China, this research collates documents and announcement

from 1999 to 2017 which related to Internet industry in general or specific from apex governmental organization, especially from State Council and NDRC. Also, in order to evaluate the performance of different policies, we consider the policy formulation phase to be the starting point which government actually implements measures to support the industry. The key documents is the cornerstone between policy making and implementation, therefore, we use them as the mark in each period. The details of each policy this research collected could be seen in Appendix C.

Basic Infrastructure Building 1999 ~ 2004

Starting from 1999, NDRC and Ministry of Science and Technology coordinately issued the "Guide of Priority for the Development of High-tech Industrialization Key Areas (1999)."[4] It listed out the key high-tech industries to serve as a guideline that every level of government should pay attention on. Sectors in the Guide have kept being updated and renewed after several years until now. On the list, hardware manufacture improvement and R&D are the main focus in

[4] 当前优先发展的高技术产业化重点领域指南 (1999)
http://www.ndrc.gov.cn/zcfb/zcfbqt/200506/t20050614_7441.html

Information industry, information service related sectors were later shown on the list in 2001 version. The iconic document in this period on supporting high-tech industry would be the "The decision of the CPC Central Committee and the State Council on strengthening technological innovation, developing high technology, and realizing industrialization"[5] issued in August, 1999. The document declared government's intention on industrial reform and its dedication on high-tech industry development. Several measures were outlined in the document and still being applied until now. The continuous project, "Tenth Five-Year Plan", which projected the development from 2001-2005. In this period, government's measures were mainly supporting on the umbrella term of high-tech industries without any specific sector under it.

Informationization was heavily mentioned and promoted by government at all level of country from basic infrastructure, technology innovation to social and service sectors. Especially highlighted by premier Zhu Rongji in the Explanation for Tenth Five-Year Plan Recommendation, transforming industrialized country to

[5]中共中央、国务院关于加强技术创新、发展高科技、实现产业化的决定 http://www.most.gov.cn/gxjscykfq/wj/200203/t20020315_9009.htm

informationization is an historical opportunity for industrial structure upgrading. However, in the stage, the policies still focused on infrastructure construction, software and information technology importation. Even the idea of IT technology development was still in the early stage without any industrial specification. The idea of Internet industry had not come to the view of bureaucrats.

The main measures included high-tech imported products were exempted from custom duties and import VAT, public financing basic IT infrastructure such as construction of broadband systems and application, public database platforms, and information technology development. This period could be seen as the starting point of Chinese government's role stepping in information technology development and put it in national agenda. But we have to notice that the infrastructure building was not limited in this period, Chinese government's plan on R&D and infrastructure construction kept increasing and continuing until now.

General high-tech industries and companies 2004~2010

Since 2004, Information value-added service which related to Internet industry was firstly put into list of key industrial

development. In this period, Chinese government started off many guidelines from apex and specific measures from ministries and local governments on supporting general high-tech industries and companies. The measures in this stage included:

- Preferential Fiscal Policies
    - Preferential Tax
    - Tax holiday
- Government subsidies
- Government fund setting to support high-tech start up
- Commercial banks provided credit support
- Construction of high-tech industrial bases

Resources and budget were massively allocated on high-tech industry through many different laws and administration order, but the focusing sectors were still too general without specific targets. However, we can notice that e-commerce as one of the most important businesses for Internet companies were specially raised and broadly mentioned in many documents. The key document would be "Opinion on Accelerating the Development of Electronic Commerce"[6] issued by General Office of State Council in 2005

[6]国务院办公厅关于加快电子商务发展若干意见—国办发〔2005〕2 号

which could serve as a guideline for promoting e-commerce. Even policies did not specify on Internet industry in this period, many Internet companies have started to gain benefits in this period which we will show and analyze in the later part. In 2007, the State Council further announced "Eleventh Five-Year Plan for Electronic Commerce Development" with more details instructions and different expected target like GDP, consumption, revenue targeted indicators in it.

Seven Strategic emerging industries 2010~2015

The focuses on infrastructure and manufacture level moved on to next level in the "State Council's Decision on Accelerating the Cultivation and Development of Strategic Emerging Industries"[7] in 2010 and "Twelfth Five-Year Plan"[8] in 2011. In *the 2010* key document, Next generation IT was highlighted in one of the seven strategic emerging industries. Also, plans and targets were clearly made in the document as we summarized in the following:

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http://www.gov.cn/gongbao/content/2005/content_63341.htm

[7]国务院关于加快培育和发展战略性新兴产业的决定—国发〔2010〕32 号 http://www.gov.cn/zwgk/2010-10/18/content_1724848.htm

[8]中华人民共和国国民经济和社会发展第十二个五年规划纲要 http://www.ndrc.gov.cn/fzgggz/fzgh/ghwb/gjjh/201109/P020110919592208575015.pdf

- Chinese government targeted to increase the productions of the strategic emerging industries to 8% of GNP.
- Cultivate a batch of strategic emerging cadre of companies and demonstration bases.
- Establish specific funds and industrial investment fund, and expanding government investment for developing emerging strategic industries.
- Utilize multi-level capital market financing function
- Use financial compensation policies such as risk compensation
- Encourage financial institutions to increase credit support

As the characters and methods of selective industrial policies classified by Chang (2010), compared with last stage, we can see same selective industrial policies were initiated by Chinese government but stepping further on the seven targeted industries. Here, we observe that instead of drafting vague and broad guideline, government started to put actual targeted number of indicators for strategic emerging industry or IT related industries in the documents.

“Internet +” Action Plan 2015~

The beginning of policy targeting on Internet industry firstly appeared in 2015 Government Working Report addressed by premier Li Keqian[9] in the Third Session of the Ninth National People's Congress on March 5th. In the fourth part related to promoting stable growth of economy and structure optimizing, besides issuing the Made in China 2025 strategic plan, Internet+ (互联网+) Action Plan was formally proposed in official document in central government level. The idea was to combine field of Internet like mobile Internet, cloud computing, big data, with traditional manufacturing industry. And most importantly, the technology and Internet development was pivoted to service sector by promoting e-commerce, industrial Internet, and Internet finance as mentioned in the Report.

Later in the same year, State council formally announced the “State Council's Opinions on Developing E-Commerce and Accelerating

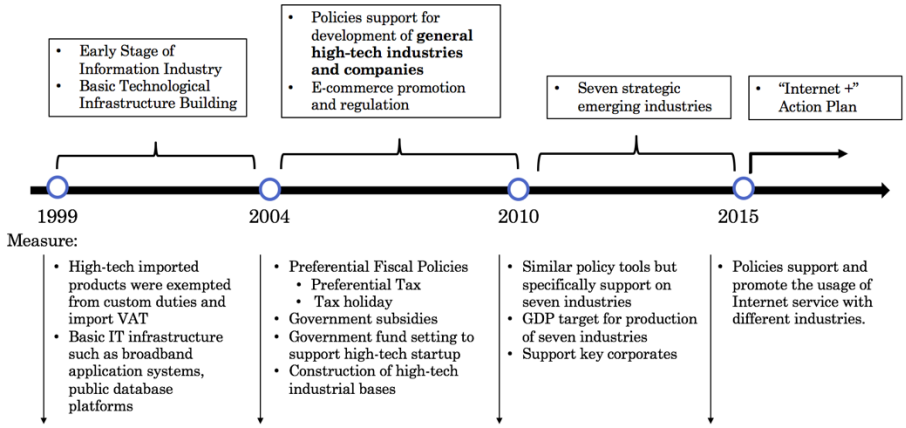
[9] 政府工作报告 (2015) 第十二届全国人民代表大会第三次会议 -- 国务院总理 李克强
http://www.gov.cn/guowuyuan/2015-03/16/content_2835101.htm

the Cultivation of New Economic Drivers" [10] on in May and "Implementation Opinions of the State Council on Actively Rolling out the Internet plus Initiative"[11] on July 4th. The Opinions could be regarded as the industrial policy which Chinese government comprehensively promoting development of Internet industry. Here, we will closely look at the document, and see what types of policies were adopted in government's strategies.

Over 15 years of high-tech and Internet industry development, Chinese government has adopted numerous industrial policies as we listed in Appendix C. In summary, we further simply present the overall evolution of policies in each period as shown in Table 2. After we understand the history of industrial policies, we would like to move on to the core questions, how is the performance of industrial policy, and how much does industrial policy help the companies or whole industry. Also, the timeline here would also be used in next section as a reference for policy analysis.

[10] 国务院关于大力发展电子商务加快培育经济新动力的意见
http://www.ndrc.gov.cn/zcfb/zcfbqt/201505/t20150508_692482.html
[11] 国务院关于积极推进"互联网+"行动的指导意见
http://www.gov.cn/zhengce/content/2015-07/04/content_10002.htm

Table 2: Timeline of Internet Industrial Policies



5 Part II: Fast Growing Internet Industry, How?

The industrial policy seems inevitable in the development of country learning from the literature. General and selective industrial policies more or less would be used by the governments. Particularly, the feature of political economy in country like China, government has strong position in intervening the nation's development for a long history even until now. The debate should be moved on to how can we analyze the performance of industrial policy? First step of policy analysis should be concentrate on what performance indicators should be selected for which industries?

Compared with performance measures in the East Asian countries back in 1990s, the four tigers were export-oriented countries at that time. Therefore, export performance indicators could be the evaluation of the industrial policy, while this is not able to apply on Internet industry which is more domestic demand driven. Here, we did not deny the importance of export performance for a developing country, but concerning the incremental GDP contribution of Internet industry in recent 10 years, the characters of the Internet industry should be considered in selecting the indicators. Therefore, we will

apply different indicators on analyzing general and selective industrial policies separately.

The Internet companies could be supported by different kind of policies. In this section, we divide the policies into two categories, general and selective, for assessment.

5.1 General Industrial Policy

The general industrial policy could have great influence on a certain industry, however, the effect would be hard to measure and beyond the scope of this research. In this section, we still consider that it is important to mention the general policies on infrastructure building, education or country's expenditure on R&A. Here, we provide the descriptive data to illustrate government input in science and technology which is related to Internet industry under this umbrella sector. And we would also look at the number of higher institutions, IT researcher and Internet users which served as the outcome of the policy. Especially, the number of Internet users is the most significant factor for the whole Internet industry.

Government Input and Investment

From 1999 until now, Chinese government started off numerous projects and policies on developing science and technology. Looking the data from OECD, China's Gross domestic expenditure on R&D (GERD) as a percentage of GDP increased every year from 0.89% in 2000 to 2.12% in 2016. In Figure 1, using data from National Bureau of Statistic between 2007 to 2016, government expenditure on S&T increased every year in national, central and local levels. Looking deeper of the data in Table 3, China maintained around 4% of total national expenditure on S&T, and central government spent 8% of central expenditure on S&T, compared with local governments which spent only around 3%. This could be interpreted that S&T development projects might be mostly directed or subsidies by central level. To sum up, refer to the timeline we have in part I, Chinese government has put increasing resources and budget either on R&D or other S&T development.

Figure 1: Government Expenditure on Science and Technology

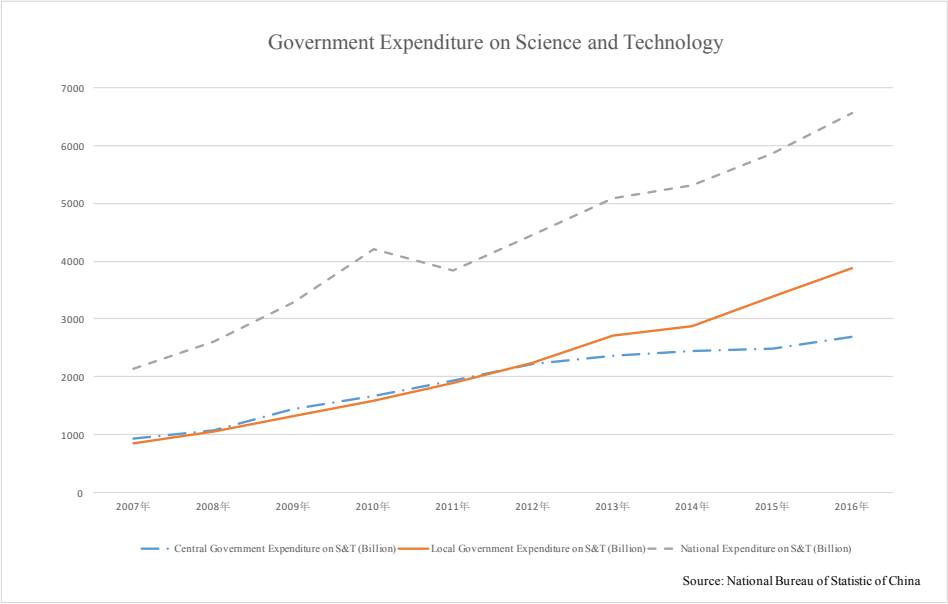


Table 3: Government Expenditure on S&T

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Central S&T Expenditure Ratio	8.08%	8.07%	9.40%	10.39%	11.76%	11.78%	11.57%	10.80%	9.70%	9.80%
Local S&T Expenditure Ratio	2.24%	2.14%	2.15%	2.15%	2.03%	2.09%	2.27%	2.23%	2.25%	2.42%
Nation S&T Expenditure Ratio	4.29%	4.17%	4.29%	4.67%	3.50%	3.54%	3.63%	3.50%	3.33%	3.50%

So, what are the outcomes of these measures? The R&D strength and output could be the outcome of government spending on S&T development. Table 4. shows the number of China's high-tech export volume, R&D institutes and personnel. Within the almost 20 years of development from 2000 to 2016, the dramatic growth of four

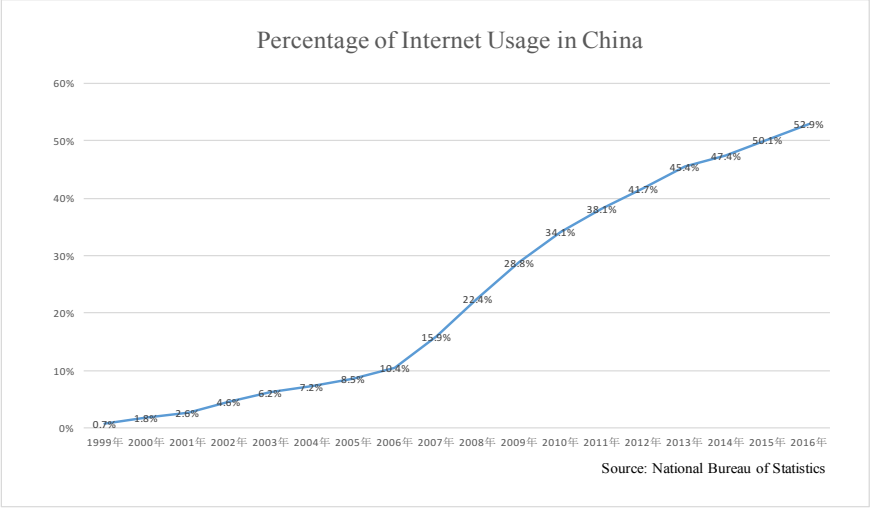
indicators, especially the research institutions and personnel, symbolize the country has basic foundation and R&D strength.

Table 4: Output of Government Spending on S&T Development

	High-tech Products Export volume (Billion dollar)	Full-time R&D personnel (Million people/year)	Number of R&D Institutions in Colleges and Universities	R&D personnel in higher education institution (million people)
1997 年	163.1	83.12	3306	
1998 年	202.51	75.52	3241	
1999 年	247.04	82.17	3124	
2000 年	370.43	92.2	3735	
2001 年	464.52	95.65	3481	
2002 年	679	103.51	3702	
2003 年	1103	109.48	3145	
2004 年	1654	115.26	3681	
2005 年	2182.48	136.48	3936	38.7
2006 年	2814.5	150.25	4154	42.1
2007 年	3478	173.62	4502	44.8
2008 年	4156.06	196.54	5159	47.8
2009 年	3769.3	229.13	6082	50.9
2010 年	4923.79	255.4	7833	59.36
2011 年	5488	288.3	8630	63.17
2012 年	6011.7	324.7	9225	67.78
2013 年	6603	353.3	9842	71.51
2014 年	6605	371.06	10632	76.3
2015 年	6552.97	375.88	11732	83.88
2016 年	6041.74	387.81	13062	85.18

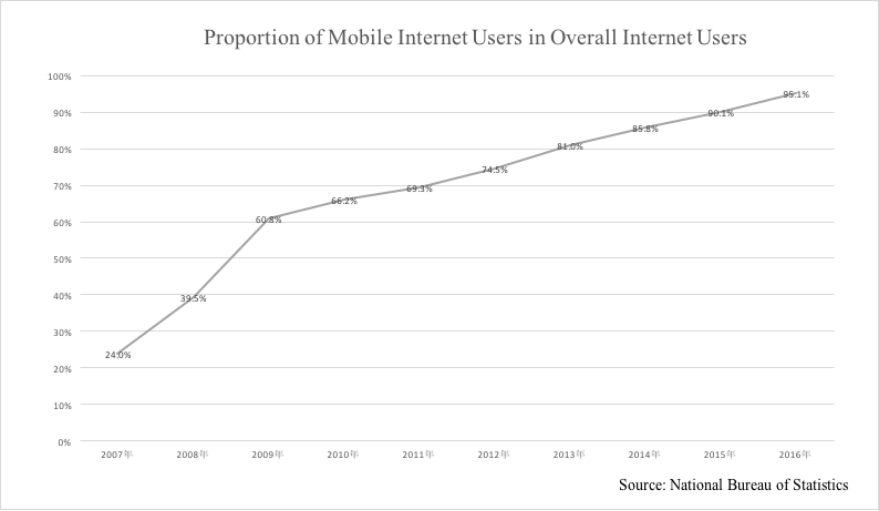
Besides the R&D strength, the most important factor for Internet industry would be the number of Internet users, and this could also symbolize the outcome of infrastructure construction. In Figure 2, we present the percentage of Internet users in the total population of China from 1999 to 2016. In 1999, there was only 0.7% of total population had access to Internet. And it took 7 years to slowly grew over 10% in 2006. After the turning point in 2006, the Internet usage accelerated every year and reached over 50% in 2015. This means that within 16 years, there are over 7 hundred million people have access to Internet, compared with the year 1999 only 13 million people could use Internet.

Figure 2: Percentage of Internet Usage in China



Exploring the data in depth, we further look into the mobile Internet users among the total Internet users in Figure 3. Mobile Internet users rapidly grew from 24% in 2007 to 60% in 2009 among all the Internet users. In 2016, the percentage of mobile users reached 95% of all the Internet users. The high mobile Internet penetration would certainly be a great help for the growth of Internet companies which three of the leading companies all mentioned that the Internet users and infrastructure are crucial to their businesses.

Figure 3: Proportion of Mobile Internet Users in Overall Internet Users



5.2 Selective Industrial Policy – Case Analysis

5.2.1 Sample Companies

From the past studies, industrial policy mostly supports on two types of corporates, small startup business and old traditional industries which need to be transformed. The nation's champions would get benefits and be intentionally cultivated under government's preferential policy. So, the leading companies in the industry would be our sample of analysis and the companies' performance and its development could serve as the indicators for us to assess the government's policies.

As we discussed in the background section, MIIT released the list of Top 100 Chinese Internet corporates. The well-known three giants of Internet industry BAT, Baidu, Alibaba and Tencent, always ranked top three in the report since 2013. Especially, Tencent and Alibaba, the top 2 companies, even took 28% and 73.2% of the Internet business revenue and operating revenues among the hundred companies. Thus, we select the three national champions as our samples for analysis. Here, we firstly brief introduce the business cover of the three companies. Their type of business, major business

area, established time, and stock listed time are important to understand what kind of policies would affect and support them.

Baidu

Baidu is now the biggest searching engine in China, especially known for cooperating with government's cyber censorship. Baidu was founded by Robin Li (李彦宏) in Beijing's silicon valley, Zhongguancun, in 2000. Baidu's business now covers finance, travel, real estate, health and other fields through M&A and investment. In August, 2005, it was listed on NASDAQ.

Alibaba

Alibaba was founded by Jack Ma (马云) in 1999. It provides the well-known service 'Taobao' online shopping platform and also the third-party payment system, Alipay (支付宝). It dedicated to integrate online and offline logistics business. Combining with autonomous distribution system in their own warehouse, it could deal with millions of orders from all of the world every day. Its Gross Merchandise Value reached 3.76 hundred billion in 2017. Same as Baidu, it also covers many field of businesses, but it mainly focuses

on e-commerce industry. Alibaba.com was listed on Hong Kong Stock Exchange (HKEX) in November 2007. It withdraws the listing on HKEX for privatisation plan in June 2012. Later in September 2014, Alibaba Group turned to list on NYSE which priced its initial public offering (IPO) at $68 a share, becoming the largest IPO worldwide.

Tencent

The famous product of Tencent could be the instant messaging App 'Wechat' and 'QQ'. Ma Huateng (马化腾) founded Tencent with other four partners in 1998 earlier than other two giants. Tencent is one of the biggest comprehensive Internet service providers in China. Beside SNS business, gaming industry is also another primary investment of Tencent. It was listed on HKEX in June 2014. Its main business income are from Internet value-added services like online/mobile games and social media, followed by online advertising and e-commerce.

Now we have already known the business types of three companies. In summary, the three companies' business belong to Internet service

providers which could be categorized into e-commerce, online entertainment/marketing and social media. In order to understand whether the success of the three companies were supported by government's industrial policy, we analyze the annual financial statements and prospectus from three companies. The financial statements give us abundant information to analyze, on the other way, the different level of information disclosure from the companies is also the limitation of this research.

5.2.2 Case Analysis

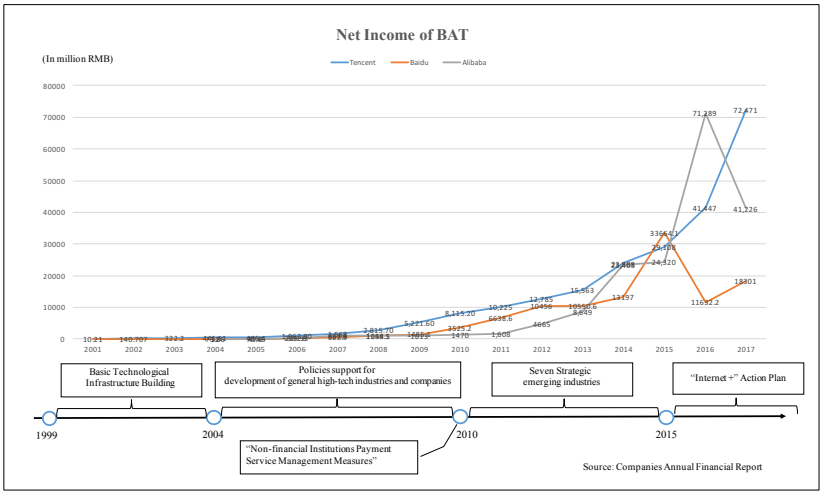
In this section, combining with government policies we have in part I, the data of the companies' financial reports would shed some light and serving as a reference for our policy assessment. On account of different time and level of disclosure these companies given, we will use the data from financial reports of Tencent and Baidu from 2001 to 2017 were listed on stock exchange early in 2004 and 2005. Alibaba was later listed on Hong Kong in 2007. The information of Alibaba we can access is from 2004 to 2017. The details of individual items in each company's report would be separately mentioned in the

different following parts. (Alibaba Group Holding Limited, 2004-2017; Baidu, Inc., 2001-2017; Tencent Holdings Limited, 2001-2017)

5.2.3 Preliminary Assessment

To inspect the performance of the three companies, we use the companies' profitability to be the indicator instead of stock price on account of the three companies were listed on stock exchange in different time and condition. For preliminary assessment, we simply use companies' net profit to see their performance from 1999 to 2017, and referring to the policy timeline we made in part I as shown in Figure 4. From the Figure, it could be observed that the three companies started to grow rapidly around 2009~2010. The period roughly corresponded to the end of government supports on general high-tech companies. And online payment was also legalized and regulated around the same year. Except for Baidu, the other two companies performed even better after 2015.

Figure 4: Net Income of BAT



Now, we moved on to discuss the selective industrial policies through analyzing the three leading Internet companies, BAT. We use the companies' performance as the outcome to assess whether the government measures were effective or not. Reviewing the information in financial reports of each company, we firstly present the company's performance by introducing Return of Equity (ROE) and Return of Asset (ROA) as the indicators. Then we categorize three main selective industrial policies which specific type of companies would benefit from and introducing in the following 1) Government subsidies 2) Preferential tax/Special tax holiday 3) Law and regulation support.

5.2.4 Leading Companies Performance

ROE and ROA are two of the common indicators for assessing a company's performance on how they use their equity and asset to make profits. In Table 5 and 6, we calculate the ROE and ROA of three companies from 2001 to 2017. Except the net income loss of Baidu from 2001 to 2003 and scope of information disclosure of Alibaba, the numbers of three companies' ROA are over 10% to 15% in average, and even over 20% and 30% in some years. Likewise, their numbers of ROE are also over 20% in average. Especially in the period between 2007 to 2010, the numbers are over 30%. Overall, the three national champions of the Internet industry presented remarkable ROA and ROE performance since 2004, especially Tencent and Alibaba.

Table 5: BAT's Return on Asset (ROA)

ROA	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Tencent	15.58%	65.86%	55.97%	15.41%	14.16%	22.87%	22.64%	28.57%	29.83%	22.65%	18.00%	16.99%	14.51%	13.96%	9.49%	10.47%	13.07%
Baidu	Net income loss	Net income loss	Net income loss	4.58%	4.19%	18.09%	23.68%	26.62%	24.12%	31.91%	28.44%	22.90%	14.86%	13.24%	22.77%	6.39%	7.27%
Alibaba	-	-	-	11.8%	4.8%	10.76%	15.99%	14.59%	10.71%	11.57%	4.25%	9.88%	13.56%	20.98%	9.52%	19.57%	8.13%

Table 6: BAT's Return on Equity (ROE)

ROE	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Tencent	21%	71%	68%	17%	17%	29%	30%	40%	42%	37%	35%	30%	27%	29%	24%	22%	26%
Baidu	Net income loss	Net income loss	Net income loss	deficit	5%	22%	31%	34%	31%	42%	43%	40%	28%	26%	42%	13%	16%
Alibaba	-	-	-	62%	35%	151%	31%	36%	20%	25%	6%	14%	Delisted	77%	15%	29%	13%

Here, we would further turn back to our topic, how much influence does the government's policy have on the performance of companies? In the next part, we will separately inspect government subsidies and preferential tax these two main measures which would directly affect the net income and number of ROE and ROA.

(Note: Before 2012, Alibaba's financial report only disclosed the information of Alibaba.com Limited. Alibaba's financial reports present the performance as an entire group after delisting on Hong Kong Stock Exchange in 2013, and seeking for IPO in NYSE in 2014. But this would not affect our assessment of company performance.)

Government Subsidies

Since 2004 until now, central and local government of China directly subsidized general high-tech companies which belonged to the

certain sectors of government recognized key industries. The Three companies received government subsidies both from central and local governments mostly from their subsidiaries under the name of high-tech R&D development. As shown in Table 7, the amount of subsidies are volatile but basically increase each year. Calculating the ratio with net income, the subsidies only takes around 1~3% of net income in average for three companies. This shows that subsidies might not take a significant part of overall companies' performance. However, as the money were given for high-tech R&D and software development, it might be still helpful for support the early-stage investment of new products. Especially since 2009 and 2010, the subsidies that all three companies substantially increased. (Note: Baidu's data of subsidies from 2015~2017 is not able to present because of the change in recording method.) Correspond with the period when Chinese government promoted e-commerce, for Alibaba which main e-commerce business was strongly supported by government. It received more amount of subsidies and the subsidies taking higher percentage of net income, compared with other two companies.

Table 7 :Percentage of Subsidies to Net Income

Subsidies	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Tencent	0	0	0	7.2	9.75	15.23	33.16	64.82	28.33	96.54	101.40	226.14	368	392	331	380	3,971
Subsidies/Net Profit Ratio				2%	2%	1%	2%	2%	1%	1%	1%	2%	2%	2%	1%	1%	5%
Baidu	-	-	0	0	0.24	6.65	14.6	22.72	42.5	49.14	78.23	454.27	186.02	260.55	-	-	-
Subsidies/Net Profit Ratio					1%	2%	2%	2%	3%	1%	1%	4%	2%	2%	-	-	-
Alibaba	-	-	-	-	-	13.5	17.21	102.8	113.5	84	79.6	200	338	252	327	401	451
Subsidies/Net Profit Ratio						6%	2%	9%	11%	6%	5%	4%	4%	1%	1%	1%	1%

Effect of Preferential Tax

Instead of directly giving money to companies which might be controversial, preferential tax is another way to support certain industry. The Internet companies enjoys three types of government fiscal policies including tax exemption, very low preferential income tax (7~15% in average), R&D expense for tax deduction. We present the relevant preferential tax law and regulation which the Internet companies could apply to in Table 8.

Table 8: Preferential Tax on High-tech Companies

Law	Tax Rate
1991 Enterprise Income Tax Laws of the PRC	**General Income Tax Rate:** Domestic and Foreign: **33%** (Central 30% + Local 3%)
About Policies to Encourage the Development of Software Industry and Integrated Circuit Industry GuoFa [2000] No. 18[12]	**Preferential enterprise income tax rate for key software companies: 10% deduction** Software companies established in China can enjoy preferential corporate income tax. **After the newly established software company is confirmed, it will enjoy the preferential policy of "two years exemptions and three years half reductions" for corporate income tax from the profit-making year: 33% → (Central 15% + Local 0%)** To "**new or high-technology enterprise**" and "**registered and operates in a specified high-tech zone**" **Local Tax Incentive in Special Zone** Shenzhen: One-year tax exemption and 50% tax reduction for the next two years from the first profitable year (**0% first year, 7.5% the next two years**) Beijing:

[12] 国务院关于印发鼓励软件产业和集成电路产业发展若干政策的通知 http://www.gov.cn/gongbao/content/2000/content_60310.htm

	Two/Three years tax exemption from the first commercial operation year, 50% tax reduction for the next three years (**0% for the first two/three year, 7.5% for the next two years**)
2007 Enterprise Income Tax Laws of the PRC	**General Income Tax Rate:** Domestic and Foreign: **25%**
Announcement on Implementation of Corporate Income Tax Transition Preferential Policies Guofa [2007] No. 39[13]	From 2008 to 2012, the income tax gradually increased each year from **18%, 20%, 22%, 24% to 25%**.
Notice of the State Administration of Taxation on Several Issues Concerning the Implementation of Preferential Policies on Enterprise Income Tax GuoShui [2009] No.69[14] & [2010] No.157[15]	new or high-technology enterprise could enjoy 15% corporate income tax preferential tax rate or choose two years exemption and three years corporate reduction income tax plan. (**15%** or 50% reduction of transitional income tax: **9%, 10%, 11%, 12%, 12.5%)** Companies within the "**List of Key Software Companies Within the National Planning**": **10%**

[13]关于实施企业所得税过渡优惠政策的通知
http://www.chinatax.gov.cn/n810341/n810765/n812176/n812748/c1193033/content.html
[14]关于执行企业所得税优惠政策若干问题的通知
http://www.chinatax.gov.cn/n810341/n810765/n812166/n812637/c1188884/content.html
[15] 关于进一步明确企业所得税过渡期优惠政策执行口径问题的通知
http://www.chinatax.gov.cn/n810341/n810765/n812161/n812569/c1085601/content.html

Measures for Pre-tax Deduction of Research and Development Expenses of Enterprises Guofa [2008] No.116[16]	• If R&D expenses are included in the current profits and losses and no intangible assets are formed, **50% of the actual amount of R&D expenses in the current year could be used for tax deduction.** • If the R&D expenses form intangible assets, **150% of the cost of the intangible assets is amortized before tax.**

Before the income tax reform in 2007, the three companies were subject to the preferential tax benefits according to "About Policies to Encourage the Development of Software Industry and Integrated Circuit Industry." The three companies separately owned several subsidiaries involving in different types of Internet businesses. Through those many subsidiaries under the groups, they all enjoy different level of preferential tax policies. They mostly gained benefits from government's fiscal policies on income tax.

In Table 9, we combined the total effect number of preferential tax from 2003 to 2017 and again calculate the effect ratio with net income.

[16]关于印发《企业研究开发费用税前扣除管理办法（试行）》的通知 http://www.chinatax.gov.cn/n810341/n810765/n812171/n812675/c1190645/content.html

Because of the limited of report, we can only access the data of Tencent and Alibaba separately started from 2003 and 2006. And Baidu was still in Net income lost until 2003. In the Table 9, it shows that the effect number of preferential tax rate takes a large percentage of the net income. The effect of tax takes above 15% of net income in average, and over 40~50% in some year, which would greatly affect the overall ROA and ROE as well.

Table 9: Percentage of Tax Effect to Net Income

Preferential Tax	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Tencent	71.23	113.34	38.02	152.59	281	392.02	793.58	1,160.98	1,565.63	2,445.61	2,099	4,866	4,297	6799	11,182
Tax/Profit Ratio	22%	26%	8%	14%	18%	14%	15%	14%	15%	19%	13%	20%	15%	16%	15%
Baidu		8.6	23.6	95.38	223.23	223.82	223.23	556.72	821.85	1644.3	2449.88	2435.48	2315.24	2577.22	
Tax/Profit Ratio		72%	50%	32%	35%	21%	15%	16%	12%	16%	23%	18%	7%	22%	
Alibaba				59.42	252.85	167.54	211.97	292.78	295.12	1848	4037	6897	6977	7885	12201
Tax/Profit Ratio				27%	26%	15%	21%	20%	18%	40%	47%	29%	29%	11%	30%

Law and regulation support

In China's context, government attitude often decided whether the certain industry could be thriving or not. Law and regulation are the embodiment of government's attitude and a double-edged sword for Internet companies. In terms of upsides of regulation, Chinese government started to promote E-commerce in "Notice on

Organizing and Implementing Special Items for Electronic Commerce" since 2005. The regulation encouraged enterprise to adopt E-commerce service, construction, and planning to start several pilot projects. The most profound one which affected the whole industry is People's Bank of China introduced the "Non-financial Institutions Payment Service Management Measures"[17] in 2010. Third-party payment and online payment these indispensable elements for business activities of Internet companies were officially regulated and supervised by government through licensing. However, there is also downsides of regulation for Internet companies if they step into the government's red zone. Started from 1999, Chinese government issued "Computer Information Network and International Network Security Protection Management Measures (1999)"[18] and "Regulation on Internet Information Service of the People's Republic of China (2000)"[19] to regulated on public opinion and forum online. And later more and more laws came out to regulate

[17]中国人民银行令〔2010〕第 2 号—《非金融机构支付服务管理办法》
http://www.gov.cn/flfg/2010-06/21/content_1632796.htm
[18]计算机信息网络国际联网安全保护管理办法（公安部令第 33 号）
http://www.mps.gov.cn/n2254314/n2254409/n2254443/n2254451/c4113546/content.html
[19]中华人民共和国国务院令 第 292 号—《互联网信息服务管理办法》
http://www.gov.cn/gongbao/content/2000/content_60531.htm

different kind of online activities. As the potential risks mentioned in Baidu's financial report, the growth of Baidu shows the negative effect of regulation. On account of the business type of Baidu, the searching engine, website and online forum were under Chinese government's gradually restricting censorship. Many of the website and forum were forcibly shut down if they touched the sensitive issues. In this way, it strongly affects the number of users using its service and this in turn affect its main commercial advertising revenue. After 2015, the Internet companies should get benefits from the government policies on Internet industry, however, Baidu became the exception which revenue significantly dropped in 2016 and having a big gap compared with the other two giants. As online advertising takes over 90% of Baidu's revenue, in 2016, the government launched the new "Interim Measures for the Administration of Internet Advertising" which enhancing the regulatory intensity on Internet advertising after the "Wei ZeXi incident", the controversial and misleading ads showing on the searching option. But generally, government held a positive attitude toward Internet companies, except some special businesses which have high restriction from the government.

5.3 Country Comparison

After reviewing the policies and financial reports, Chinese government did support Internet industry and general high-tech industry through direct intervention of different policy tools. However, as country being the main actor in this study, there is a need of references from other countries. Therefore, we select three representative companies from Japan and Taiwan as two countries were renowned for using industrial policies back in 1980s to 1990s.

For Japanese companies, we choose Yahoo! Japan and Rakuten as examples, which are both biggest web portal and e-commerce company with long history in Japan. We review the time range of two companies' reports as possible as we can from 2001 to 2016 for Yahoo! Japan and from 2005 to 2015 for Rakuten. (Yahoo! Japan, 2001~2016; Rakuten, 2005~2015) For Taiwanese companies, we select PChome as the company which are one of the leading e-commerce business company in Taiwan, and the range of reports is selected from 2002 to 2016 (PChome, 2002~2016). We will focus on the subsidies and tax in the financial reports in the following parts.

Companies' Performance

First, we present the three companies ROA and ROE in following Tables to see their overall performance as well, and also show the three Chinese companies as comparison.

As shown in Table 10 and 11, the three leading companies in Japan and Taiwan also have good performance in average, but there was also ups and downs in some of the years. Yahoo! Japan's ROA and ROE maintained above 20~30% averagely from 2001 to 2016 which is fairly high number for a company. Rakuten started to gain profits since 2005, but experienced net income loss in 2008 and 2011. Its ROA is comparatively lower than other five companies, but also has high ROE performance. For PChome, besides the net income loss in 2001~2002 and 2006~2007, it also has good ROA and ROE numbers after 2010.

Comparing the companies from three countries, Chinese companies have more stable performance than Japanese and Taiwanese companies. Next, we will further look into the financial reports of

Japanese and Taiwanese companies to see whether their governments using any policy tools to support them.

Table 11: Comparison of Return on Asset (ROA)

ROA	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Yahoo! Japan	10.62%	20.08%	25.32%	38.1%	34.3%	29.3%	22.8%	18.2%	21.9%	22.9%	20.7%	19.5%	17.6%	26.1%	22.4%%	19.3%
PChome	Net Income Loss	Net Income Loss	7.26%	6.52%	2.44%	Net Income Loss	Net Income Loss	5.71%	6%	15.16%	14.29%	12.65%	14.48%	16.11%	12.78%	9.78%
Rakuten	Net Income Loss	Net Income Loss	Net Income Loss	Net Income Loss	1.17%	0.21%	3.18%	Net Income Loss	3.04%	1.79%	Net Income Loss	0.92%	1.35%	1.93%	1.04%	-
Tencent	15.58%	65.86%	55.97%	15.41%	14.16%	22.87%	22.64%	28.57%	29.83%	22.65%	18.00%	16.99%	14.51%	13.96%	9.49%	10.47%
Baidu	Net income loss	Net income loss	Net income loss	4.58%	4.19%	18.09%	23.68%	26.62%	24.12%	31.91%	28.44%	22.90%	14.86%	13.24%	22.77%	6.39%
Alibaba	-	-	-	11.8%	4.8%	10.76%	15.99%	14.59%	10.71%	11.57%	4.25%	9.88%	13.56%	20.98%	9.52%	19.57%

Table 10: Comparison of Return on Equity (ROE)

ROE	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Yahoo! Japan	22.20%	30.20%	47.70%	55%	46.9%	39.5%	34.8%	28.5%	31%	30.7%	26.6%	23.7%	22.8%	22.2%	19.8%	21.9%
PChome	Net Income Loss	Net Income Loss	9.25%	9.88%	4.66%	Net Income Loss	Net Income Loss	19.67%	19.56%	42.47%	35.56%	28.36%	31.57%	35.21%	21.84%	14.96%
Rakuten	Net Income Loss	Net Income Loss	Net Income Loss	Net Income Loss	31.8%	1.60%	17.80%	Net Income Loss	26.40%	8%	Net Income Loss	11.5%	9.6%	17.8%	8.2%	-
Tencent	21%	71%	68%	17%	17%	29%	30%	40%	42%	37%	35%	30%	27%	29%	24%	22%
Baidu	Net income loss	Net income loss	Net income loss	deficit	5%	22%	31%	34%	31%	42%	43%	40%	28%	26%	42%	13%
Alibaba	-	-	-	62%	35%	151%	31%	36%	20%	25%	6%	14%	Delisted	77%	15%	29%

Government Subsidies & Preferential Tax

Reviewing the three companies' financial reports, although the ROA and ROE performance of three companies are quite well, there is no any government direct subsidies shown in all of the financial reports. Also, three companies' actual effect of tax rate on the reports are close to the statutory tax rate in each year without any preferential

tax policy for tax deduction. Two of the Japanese companies were levied around 40% of income tax, and the Taiwanese company was levied around 20% of income tax without any preferential tax policy as well.

Here, we have to point out the limitation on government direct subsidy in this research on account of public opinion and World Trade Organization (WTO) agreement. The government's policies which are favored and benefit to certain company is always sensitive on public opinion. Also, as the developed countries are more aware of the Agreement on Subsidies and Countervailing Measures (hereafter SCM Agreement) of WTO. According to SCM Agreement 3.1.a, the preferential tax policies or government subsidies would violate the agreement if they are applied to exported commodity of service industry. Otherwise, under Article XV of General Agreement on Trade in Services (GATS), these is still no consensus and clear definition on government subsidies on service sector. On one way, it is hard to get the real and consistent data on government subsidies. On the other way, although the company might receive subsidies from government project, we still need to concern that the reports

might not explicitly show the amount of subsidies from the governments that they list it in the other income.

However, we still can find direct subsidies program which did not show on the financial report. For Taiwanese case, we could find the program "Constructing 4G Wisdom Broadband Applications in Urban and Rural Areas - Smart Life, Starting with Pi"[20] which the government subsidized 5.3 million to the PChome.

But overall, the government subsidies on both Taiwanese and Japanese cases could not show a consistent and big scale of subsidies plan like Chinese government did. Also, there is no any specific preferential tax policy targeting on Internet companies as shown in law and financial reports.

	Government Subsidies	Preferential Tax	Tax Rate
Yahoo! Japan	✖	✖	Around 40% actual effective tax rate
Rakuten	✖	✖	
PChome	✖	✖	Around 20%

[20] "Constructing 4G Wisdom Broadband Applications in Urban and Rural Areas" Industrial Development Bureau, Ministry of Economic Affairs https://www.moeaidb.gov.tw/ctlr?PRO=filepath.DownloadFile&f=executive&t=f&id=10238

6. Conclusion

Since the level of development in China has come to a certain level, this might be a turning point for the Chinese government's policy direction. After China entered the WTO in 2001 and the current international and domestic economic situations are no longer same as they were in the past ten or twenty years, government intervention on certain industry would be more controversial and would be targeted by other countries. This dissertation tries to contribute more analysis for the emerging Internet industry which very few other studies had previously touched upon.

To understand what kinds of measures the Chinese government has implement on the industry, we firstly review the government policies from 1999 to 2016 as the first part of analysis. Chinese government's industrial policy on Internet industry was a long-term planning project with a series of complicated legislation processes and coordination between bureaucracies. The policies in different periods gradually converge from general infrastructure building to directly supporting specific sectors and companies as the policy timeline has shown. For the service sector like Internet industry which is not under

the regulation of WTO, the Chinese government intensively used several measures to interfere with the industry.

To evaluate the influence of this policy, we looked at several indicators as the outcome of general industrial policy. Especially, the number of Internet users and mobile Internet users dramatically increased around 2006 which was directly beneficiary to the Internet companies. This study considered that it is a positive outcome resulting from the general industrial policy on infrastructure building. Next, in terms of selective industrial policy, we use the three leading Internet companies as case analyses to evaluate the policy influence. By reviewing the financial reports of each company from 2001 to 2016, it was determined that subsidies and preferential tax policies were the two main instruments deployed by the government. Both the tax effect and subsidies would determine the net income, and further affect the performance of companies' ROA and ROE. As the result shows from the ratio of tax effect and subsidies in net income, we found that tax policy has a very significant effect on the companies' profits and development. In addition, law and regulations are other important 'indirect' mean of creating national champions.

To determine influence and performance, we introduced companies from other countries to compare the role of governments in different countries. From the Japanese and Taiwanese cases where countries also had a record of heavily intervening in the industry in the past, there is not much evidence or policies showing that these two countries were directly supporting the Internet industry in the recent ten years. China has used more direct intervention and is still publicly applying the industrial policies until now, in comparison with other countries.

However, this study also recognized its limitations on analyzing the performance of industrial policy and lack of consistent data availability. The R&D capability and users of Internet might only be part of the outcome from general industrial policy which would not directly link the relationship between them. This study is also not able to quantify the effect of law and regulation into numerical values for evaluation. Regarding the subsides data, we are able only to acquire them through similar as previous literature, therefore, this study lacks coherent data from both government and companies. We fully relied

on companies' data where there was no secondary sources allowing us to cross-reference verification purpose. This study attempts to touch on parts of the picture in this new industry, however it is a long-debated topic which too few literatures have touched upon. Overall, the government's policies have great influence and looked successful in this case. A further research could be completed if more data is available, in addition, more indicators could be taken into account in accessing policy performance.

APPENDIX A

Category				Category Name	Explanation
I	64			Internet and Related Service	In addition to basic telecom operators, services based on the basic transmission network for storing data, data processing and related activities, providing access to Internet related facilities.
		641	6410	Internet Connection and Related Services	
		642		Internet Information Services	In addition to basic telecom operators, they provides online information, email, data retrieval, online games, online news, online music and other information services via internet; does not include the internet payment, internet fund sales, internet insurance, internet trust and internet consumer finance, related content is included in the corresponding financial industry
			6421	Internet Searching Service	
			6422	Internet Gaming Service	Including Internet eSport service
			6429	Internet Other Information Service	
		643		Internet Platform	
			6431	Internet Production Service Platform	Refers exclusively to internet activities that provides third-party service platforms for production services, including internet commodity trading platforms, mutual internet cargo transportation platform, etc.
			6432	Internet Life Service Platform	Refers to internet activities that provides third-party service platforms for residential life services, including internet sales platform, internet car renting service platform, internet travel travel service platform, internet sports platform, etc.

			6433	Internet Technology Innovation Platform	Refers to internet activities that provide third-party service platforms for technology innovation, startup etc., including the network crowd-startup platform, network crowdsourcing platform, network public assistance platform, technology innovation network platform, technology transaction network platform, scientific and technological achievements promotion platform, and intellectual property rights trading platform, open source community platform, etc.
			6434	Internet Public Service Platform	Refers to internet activities that provides third-party service platforms for public services
			6439	Other Internet Platform	
		644	6440	Internet Security Service	Including network security monitoring, as well as network service quality, reliability and safety assessment and evaluation.
		645	6450	Internet Data Service	Refers to internet technology-based big data processing, cloud storage, storage, cloud computing, cloud processing and other services
		649	6490	Other Internet Service	Refers to other unlisted internet services except basic telecom operator services, internet connection and related services, and internet information services

APPENDIX B

Category				Category Name	Explanation
I	65			Software and Information Service industry	Refers to technical problems or technical requirements services arising from information transmission, information production, information provision and the reception process.
		651		Software Development	
			6511	Basic Software Development	Refers to software that can schedule and manage hardware resources and provide operational support for application software, including operating systems, databases, middleware, various types of firmware, etc.
			6512	Support Software Development	Refers to tools, integrated environments, testing tools, etc. that support software development used in the software development process.
			6513	Application Software Development	Refers to software and solution software that is sold independently for application needs, including general software, industrial software, industrial software, embedded application software, etc.
			6519	Other Software Development	Refers to unspecified software development, such as platform software, information security software, etc.
		652	6520	IC Design	
		653		Information System Integration and Internet of Things Technology Services	
			6531	Information System Integration Services	Refers to information system requirements analysis and system design based on demand side business requirements, and integrates separate devices, functions, and information into interrelated and unified systems and the coordinated system through structured integrated cabling systems, computer network technologies, and software technologies. And providing support services for the normal operation of information systems, including information system design, integration implementation, operation and maintenance, etc.

			6532	Internet of Thing Technology Service Platform	Provides various Internet of Things technical support services.
		654	6540	Operation and Maintenance Service	Refers to basic environment operation and maintenance, network operation and maintenance, software operation and maintenance, hardware operation and maintenance, and other operation and maintenance services.
		655	6550	Information Processing and Storage Support Services	
		656	6560	Information Technology Consulting Service	Refers to the management or technical consulting assessment services provided to demanders in the development and utilization of information resources, project construction, personnel training, management system construction, and technical support; including informationization planning, information technology management consulting, information system engineering supervision, and test evaluation, and information technology training, etc.
		657		Digital Content Service	Refers to the processing of digital content, that is, the services using digital technology for the processing, integration and application of information content such as pictures, text, video, and audio.
			6571	Geographic Remote Sensing Information Service	Refers to Internet map service software, geographic information system software, mapping software, remote sensing software, navigation and location service software, map mapping software, and geographic information processing and processing (including navigation and electronic map production, remote sensing image processing, etc.), geographic information system engineering services, navigation and location services, etc.
			6572	Anime, Game Digital Content Service	

			6579	Other Digital Content Service	Includes digital cultural and digital sports content services
		659			
			6591	Call Center	Refers to the call center system and database technology that are connected to the public telephone network or the Internet and is entrusted by enterprises and institutions to establish information bases through information collection, processing, and storage by fixed networks, mobile networks, the Internet or the public communication networks, providing users the services such as business consulting, information consultation and data inquiry related to the enterprises and institutions.
			6599	Other Unlisted Information Technology Services	

APPENDIX C

Issued Date	Policy	Issue Body	Contents and Highlights
June, 1999	**Guide of Priority for the Development of High-tech Industrialization Key Areas (1999)**	**NDRC, Ministry of Science and Technology**	• **Listing the key high-tech industries to serve as a policy guide for every level of governments.** • **Hardware manufacture improvement and R&D are the main focus in Information industry.**
August, 1999	**The decision of the CPC Central Committee and the State Council on strengthening technological innovation, developing high technology, and realizing industrialization**	**State Council**	•
June, 2000	**About Policies to Encourage the Development of Software Industry and Integrated Circuit Industry**	**State Council**	• **Encourages the development of production software products in China. For VAT general taxpayers selling software products developed and produced by themselves, the value-added tax shall be levied at a statutory rate of**

			17% before 2010, and the portion exceeding 3% of the actual tax rate shall be refunded immediately. The company shall use it for research and development of software products and expand reproduction • **For key software companies within the country's planning, if the company did not enjoy the tax exemption of that year, it can enjoy the 10% reduction rate of corporate income tax.** • **Software companies established in China can enjoy preferential corporate income tax. After the newly established software company is confirmed, it will enjoy the preferential policy of "two years exemptions and three years reductions" for corporate income tax from the profit-making year.** • **The list of key software companies within**

			the national planning is jointly determined by the State Planning Commission, the Ministry of Information Industry, the Ministry of Foreign Trade and Economic Cooperation and the State Administration of Taxation.
July 27, 2000	**Catalogue of Industries, Products, and Technologies Currently Focused on Development by the State**	**State Council**	• **Imported products which belong to the 28 strategic industries were exempted from customs duties and import value-added tax** • **Tax-exemption products in information industry of the list focused on basic information infrastructure and high-tech manufacturing equipment**
September, 2000	Regulation on Internet Information Service of the People's Republic of China	State Council	• Regulate on Internet information and activities
March, 2001	**Tenth Five-Year Plan**	**State Council, NDRC, National People's Congress**	• **Starting point of information technology development in national agenda** • **Focusing on infrastructure construction,**

			software and information technology importation • **Abstract target. No specific IT technology sectors or project were mentioned in the documents.**
November, 2001	Guide of Priority for the Development of High-tech Industrialization Key Areas (2001)	NDRC, Ministry of Science and Technology	• Edited the 1999 version. • E-commerce, e-government, application and software and information security products and systems were newly added in the information industry section.
December 2001	the Provisions on Administration of Foreign Invested Telecommunications Enterprises, or FITE Provisions		• Detailed requirements for capitalization, investor qualifications and application and approval procedures in connection with the establishment of a foreign invested telecommunications enterprise. • The ultimate foreign equity ownership in a value-added telecommunications services provider must not exceed 50%

February, 2002	Notice on Organizing and Implementing High-tech Industrialization Information Network Special Projects in 2002	NDRC	• The information network specialization focused on supporting the industrialization of broadband application systems, public database platforms, and Internet information services.
June, 2002	Notice on Strengthening the Management of Network Culture Market	Ministry of Culture	• Regulate the business of Internet cafe
April, 2004	Guide of Priority for the Development of High-tech Industrialization Key Areas (2004)	NDRC, Ministry of Science and Technology, Ministry of Commerce	• Edited the 2001 version • Information value-added services which related to Internet industry was newly added in the list.
January 1, 2005	Industry Guidance Catalogue for Foreign Investment	NDRC, the Ministry of Commerce	• foreign investors may own up to 50% of the equity interest in a company that operates a value-added telecommunications business listed in China • Strict Requirements • foreign investors that meet these requirements must obtain approvals from the Ministry of Information Industry and the Ministry of

			Commerce or their authorized local counterparts
January 8, 2005	**Opinion on Accelerating the Development of Electronic Commerce by General Office of State Council**	**General Office of the State Council**	• **Actively launch e-commerce pilot project** • **Promote the legislation of e-commerce laws and regulations** • **Formulate taxation and preferential policies for e-commerce**
February, 2005	Notice on Organizing and Implementing Special Items for Electronic Commerce	NDRC	• Promote the construction of e-commerce for backbone enterprises and guide the promotion and application of e-commerce • Developing third-party e-commerce transactions and services
September, 2005	Self-disciplinary Convention on the Network Copyright on the Internet of China	Internet Society of China	•
December, 2005	Provisional Regulations for the Adjustment of Industrial Structure	State Council	• Official industrial structure adjustment regulations formulated and implemented based on the Planning

			objective of Eleventh Five-Year Plan
February, 2006	**Interim Measures for the Management of National High-tech Industry Development Projects**	**NDRC**	• **NDRC and local government grants subsidies to eligible corporate investment projects.** • **The maximum amount of funds allocated by the NDRC to individual high-tech projects will not exceed 200 million yuan in principle.** • **If the NDRC allocates funds for the national high-tech projects from local governments to 30 million yuan or less, it shall be managed in the form of investment subsidies or interest subsidies.**
March, 2006	**National Informatization Development Strategy from 2006 to 2020**	**State Council**	• **Utilize information technology to renovate and upgrade traditional products and accelerate informationizatio n of service industry** • **Implementing e-government** • **Improve comprehensive**

			information infrastructure • **E-commerce, national information technology education training, key information technology independent innovation Action Plan**
September, 2006	**Notice on the Preferential Policies for Enterprise Income Tax on Technological Innovation of Enterprises**	**the State Administration of Taxation of the Ministry of Finance**	• **Starting from January 1, 2006, the newly established high-tech enterprises in the National High-tech Industrial Development Zone will be exempted from corporate income tax within two years from the profit-making year. After the expiration of the tax exemption, the corporate income tax will be levied at a reduced rate of 15%.**
January, 2007	Guide of Priority for the Development of High-tech Industrialization Key Areas (2007)	NDRC, Ministry of Science and Technology, Ministry of Commerce, State Intellectual Property Office	• Edited the 2004 version • No major change in the section of information industry.

February, 2007	Notice on Promoting Development of Startup and Venture Capital Enterprises Related to Tax Policy	State Administration of Taxation	• Venture capital invest in unlisted small and medium-sized high-tech enterprises for more than 2 years (including 2 years) by equity investment. Any company that meets the following conditions may deduct 70% of the investment amount of small and medium-sized high-tech enterprises against the venture capital's income tax. • Promote private funds invest on high-tech SMEs.
April, 2007	Notice on Printing and Distributing the Plan of Development of High-tech Industries in "Eleventh Five-Year Plan"	NDRC	• Specific plan and target for the high-tech development based on Eleventh Five-Year Plan. • Cultivate a batch of high-tech corporates which annual total revenue are over ten billion. • Until 2010, the production high-tech industries reach 10% of GDP.

June, 2007	**"Eleventh Five-Year Plan" for Electronic Commerce Development**	**State Council**	• **Target until 2010:** **1. Online procurement and sales accounted for more than 25% and 10% of the total purchases and sales.** **2. The level of popularization of e-commerce applications in small and medium-sized enterprises has increased substantially.** **3. Type of frequent-use e-commerce of SMEs have reached 30% of the total number of SMEs.** **4. Internet consumption has become an important consumption pattern** **5. Third-party e-commerce services are the mainstream development** • **Measures** **1. Establish online payment service specifications**

			and technical standards **2. Formulate and revise e-commerce-related laws and regulations like credit management, online payment, online transaction tax collection** **3. Government procurement e-commerce pilot project** **4. Mobile e-commerce pilot project for public utilities, transportation and tourism, employment, home economics, leisure and entertainment, market business, etc.**
October, 2007	About Policies on Supporting SMEs' Technological Innovation	NDRC, Ministry of Education, Ministry of Technology, Ministry of Finance, State Intellectual Property Office, People's Bank of China, General Administration	• SMEs that have been identified as high-tech enterprises by relevant state agencies may enjoy preferential tax policies according to the current policies. • Pre-tax deduction for technology development fee for SMEs

		of Customs, China Banking Regulatory Commission, Chinese Academy of Sciences	according to "Notice on Enterprise Technology Innovation Related to Corporate Income Tax Preferential Policy". • Commercial banks in accordance with national industrial policies and credit principles, actively provide credit support
February, 2008	Notice on the New Generation of Broadband and Network Communication Industrialization in 2008	NDRC	• Support focus 1. Key network equipment 2. Broadband communications key devices, chips 3. Broadband and network applications
December, 2008	Measures for Pre-tax Deduction of Research and Development Expenses of Enterprises		•
April, 2009	Electronic Information Industry Adjustment and Revitalization Plan	State Council	•

November, 2009	**Notice on the Implementation of Venture Capital Initiatives in Emerging Industries and the Implementation of the Pilot Work for the Venture Capital Fund by Shareholdings in Industrial Technology Research and Development Funds**	**NDRC, Ministry of Finance**	• **The funds that are set up to participate in shares must conform to the orientation of the high-tech industries encouraged by the state and have distinctive industrial features and regional advantages.** • **In principle, the size of each fund should be no less than 250 million yuan, and the proportion of state capital participation should not exceed 20% in principle.** • **The fund should invest in a proportion of early-middle-term companies, and encourage participation in the establishment of angel funds that invest mainly in start-up companies.**
November, 2009	**Let Technology Lead China's Sustainable Development**	**Prime Minister-Wen Jiabao**	• **Focusing on development five major strategic emerging industries**

December, 2009	Accelerating the Development of National High-tech Industry Bases	NDRC	• Intensify efforts to support the development of national high-tech industrial bases • The local government is required to research and establish special funds to support the construction of the high-tech industrial bases according to local financial resources and actual conditions.
May, 2010	**Notice of Promoting the Development of High-tech Service Industry**	**NDRC**	• **Focus on cultivating high-tech service industries such as information technology services, biotechnology services, digital content services, R&D and design services, intellectual property services, and scientific and technological achievement conversion services.**
June, 2010	**Non-financial Institutions Payment Service Management Measures**	**People's Bank of China**	• **Established third-party payment related supporting management measures and rules** • **Third-party payment agencies have started to be included in the**

			field of national financial supervision by reviewing and issuing third-party payment licenses.
October, 2010	**The State Council's Decision on Accelerating the Cultivation and Development of Strategic Emerging Industries**	**State Council**	• **By 2015, the strategic emerging industries will form the basic pattern of healthy development and coordinated advancement. The ratio of added value to GDP will reach around 8%.** • **Seven strategic emerging industries includes: energy conservation and environmental protection, new generation of information technology, biology, high-end equipment manufacturing industry new energy, new materials, new energy automotive industry** • **Major demonstration projects, guiding transformation of consumption pattern** • **Fiscal policy support**

			• **Tax incentive** • **Credit support from banking system**
January, 2011	**Notice of Further encouragement of Several Policies for the Development of Software Industry and the Integrated Circuit Industry**	**State Council**	• **Fiscal policy: Continue to implement software VAT incentives** • **The newly established integrated circuit design enterprises and qualified software enterprises in China will enjoy the "two exemptions, three reductions" preferential policy of corporate income tax from the profit-making year.** • **The country strongly supports the construction of important software and integrated circuit projects, providing proper support from central budget.**

March, 2011	**Twelfth Five-Year Plan**	**State Council, NDRC, National People's Congress**	• **Seven strategic emerging industries were raised in the document.** • **Next generation IT was highlighted in one of the seven strategic emerging industries.** • **Targeted to increase productions of the strategic emerging industries to 8% of GDP**
June, 2011	Guide of Priority for the Development of High-tech Industrialization Key Areas (2011)	NDRC, Ministry of Technology, MIIT, Ministry of Commerce, State Intellectual Property Office	•
September, 2011	Opinions on Promoting the International Development of Strategic Emerging Industries	NDRC, Ministry of Commerce, Ministry of Technology, Ministry of Finance, Ministry of Ecology and Environment, State Administration of Taxation, State Intellectual Property Office, General Administration of Customs, AQSIQ	• Build an international demonstration base • Actively use fiscal support policies • Encourage overseas students in Internet of Things and high-end software to return to China to start their own businesses • Make full use of domestic resources to develop high-end software service outsourcing, and promote high-end

			software and related information services to open up the international market
November, 2011	About the Approval of Beijing and Other 21 Cities to Establish a National E-Commerce Model City	NDRC, Ministry of Commerce, Ministry of Finance, State Administration of Taxation, General Administration of Customs, State Administration for Market Regulation, AQSIQ	• Promote the application of next-generation information technologies such as third-generation mobile communications networks, Internet of Things, cloud computing, mobile Internet, and next-generation Internet in the 21 model cities, and improve the e-commerce development environment
February, 2012	Notice on Promoting the Healthy and Rapid Development of Electronic Commerce	NDRC, Ministry of Finance, Ministry of Commerce, People's Bank of China, General Administration of Customs, State Administration of Taxation, State Administration for Market Regulation, AQSIQ	• Standardize electronic payment, promote financial IC card application • Establishing an E-commerce Credit Service System • Promote the standardization of electronic commerce • Strengthen the supervision of online commodity transactions

November, 2012	Notice on Organizing the Implementation of Special Projects for R&D and Industrialization of High-tech Service Industry in 2012	NDRC	• Target: 1. Incubating a number of key enterprises in R&D and design services, information technology services and related digital content services 2. The annual revenue growth of high-tech service industries in the top 3 areas in 2015 will exceed 20%.
February, 2013	Strategic Emerging Industries Key Product and Service Guidance and Catalog	NDRC	• 7 industries in strategic emerging industries, 125 sub-directions in 24 key development directions, and more than 3,100 subdivided products and services
August, 2013	**Several Opinions of the State Council on Promoting Information Consumption and Expanding Domestic Demand**	**State Council**	• **By 2015, the consumption of information will exceed 3.2 trillion yuan, with an average annual increase of more than 20%.** • **The new Internet-based information consumption scale reached 2.4 trillion yuan, an average annual increase of more than 30%.**

			• **Consumption based on information platforms such as e-commerce and cloud computing could rapid grow, e-commerce transaction volume exceeded 18 trillion yuan, and online retail transaction volume exceeded 3 trillion yuan.**
March 5th, 2015	**2015 Government Working Report**	**State Council**	• **Idea of Internet+ (互联网+) Action Plan**
March 31th, 2015	Guidelines for the issuance of special bonds for strategic emerging industries	NDRC	• Increase audit efficiency for debt issuance applications that are earmarked for strategic emerging industries. • Increase strategic issuance of special bonds to support emerging industry through establishment of multi-level guarantee system including financial contribution and social capital investment, as well as financial subsidies and other risk compensation preferential policies.
May, 2015	**State Council's Opinions on Developing E-Commerce and Accelerating the Cultivation of**	**State Council**	• **Reduced access threshold** **1. Simplify the overseas listing approval**

	New Economic Drivers		**process for domestic e-commerce companies and encourage cross-border RMB direct investment in e-commerce** **2. Ease the restrictions on the proportion of foreign ownership of foreign-invested e-commerce businesses** • **Reasonable tax reduction** **1. Enterprises engaged in e-commerce activities, which have been identified as high-tech enterprises, enjoy preferential policies for hi-tech enterprises in accordance with the law.** • **Promote transformation and upgrading** **1. Strengthen the Integration of Internet and Rural Development**

			2. Encourage large-scale retail enterprises to set up online shopping malls • Strengthen personnel training 1. Vocational Training Subsidy and Occupational Skill Examination Subsidy Policy
July 4th, 2015	State Council's Guiding Opinions on Actively Promoting "Internet +" Action	State Council	• Combining Internet with different aspects of society including manufacture, agriculture, business startup, energy, finance, government services, logistic, e-commerce, transportation, environment, AI • Accelerate the implementation of the "Broadband China" strategy • Accelerate the "Internet +" related legislative work
July, 2015	Guidelines on Promoting Healthy Development of Internet Finance	People's Bank of China, MIIT, Ministry of Finance, State Administration for Market Regulation, China	• Regulate on Internet financial activities like online payment, loan, crowdfunding

		Banking Regulatory Commission, China Securities Regulatory Commission, China Insurance Regulatory Commission, Ministry of Public Security	
March, 2016	**Thirteen Five-Year Plan**	**State Council, NDRC, National People's Congress**	• **By 2020, the production of strategic emerging industries increases to 15% of GDP** • **To form 5 new pillar industry with a scale of 10 trillion yuan** • **Five major areas: A new generation of information technology, biotechnology, green low-carbon, high-end equipment and materials, digital creativity** • **Rural broadband demonstration project, "Internet +" project, Big data development project**
December, 2016	**Interim Measures for the Administration of Internet Advertising**	**State Administration for Industry and Commerce**	• **Highly regulated the Internet advertisement**
December, 2016	**Notice of Provisional**	**NDRC**	• **The state supports the use of central**

	Administrative Measures for Central Budgetary Investment (Subsidy) of High-tech Industry Development Projects		**budget funds and interest subsidy as a free investment for the country.** • **The high-tech industry development projects referred to in this Measure:** **1. Innovation Building Project** **2. "Internet +" and Big Data Pilot Project** **3. Information Infrastructure Project** **4. Regional Industrial Cluster Project**
December, 2016	**Notice on Organizing and Implementing 2017 New Generation Information Infrastructure Construction Project and "Internet Plus" Major Project**	**NDRC**	• **Rural fiber network demonstration project** **1. Improve township fiber access network coverage** **2. Raise the access rate and popularity of broadband users in rural areas** • **"Internet +" major project** **1. Focus on supporting the backbone enterprises of manufacturing and internet industry to**

			build a cloud service support platform for industrial manufacturing
2005~2016	**List of Key Software Companies Within the National Planning**	**NDRC, MIIT, Ministry of Commerce, State Administration of Taxation**	• **Companies on the list could enjoy preferential fiscal policies.**

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