

5-2012

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Recommended Citation

Zhang, Zhang; Hongyan, Yang; and Minghui, Qian, "A Contextual Analysis of China's Central Government Information Industry Policies" (2012). *CONF-IRM 2012 Proceedings*. 3.
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A Contextual Analysis of China's Central Government Information Industry Policies

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*Project "Research on Policy and Management for China's Information Resource Industry Development (71133006)" supported by NSFC

Abstract:

It is significant for China's economy and society to develop information industry. However, there is little research on the entire status quo and trend of policies for China's information industry. With contextual analysis, the authors explored the effect hierarchy, targets, instruments, development trends and emphasis of policies for information industry released by China's central government. It is found that policy strength of China's information industry is decreased; policies prefer to industry regulation, rather than adjustment and guidance, and prefer to realizing quick commercial interests, rather than developing a sustainable and prosperous industry. This may lead to detrimental effects on policies for China's information industry. Yet the adjustment on the key sub-industries of policies in the recent years may conduce to the industry upgrading and long-term development.

Key words:

information policy; information industry; contextual analysis; policy instrument; policy effects

1 China's Information Industry: Begin to Face Transformation?

The general view holds that information policy can facilitate the development of a society, yet for countries like China which endeavor to reach developmental goals within a comparatively shorter period of time, greater significance is attached to informatization --- it is believed that informatization is the only way that developing countries, China included, can achieve 'overtaking at the turn' (Zhang,1998). This view, together with a tradition of government-led development (developmental administration) brings about two prominent features of China's information policy: 1) an emphasis on the economic value of information where information is resource parallel to products like apples or automobiles, and 2) an emphasis on the policy-driven part of the industry, namely, the government and public policies play a key role in the development of the information industry¹.

¹ As concerned, Moore's analysis of East Asian Countries' information policies is accurate. (Nick Moore, The Information Policy

These two features have virtually led to the fact that the scope of China's information policy in practice is narrower than what is defined in theory². In fact, China's government prefers to emphasize 'information resource policies'³.

The debate aroused by China's 'information resource policy' is quite understandable: supporters of market-led policies find it utterly unacceptable, and for those who value civil knowing rights, this policy-driven approach seems to avoid the very core of information issues. However, for people who have an adequate understanding of China's modern history, especially the part where China was invaded and exploited by stronger foreign powers, they find it natural that the China's government as well as its people should share intense longings for 'quicker development' and that they resort to collective actions to achieve their developmental goals. In the past 30 years, China's information industry has developed quickly in every aspect⁴, which has partly justified the information policies enforced in this country.

Historically, in China's public policy area, information industry is not a new issue. From 1950s on China's central government had implemented sporadic information resource industry policies. Nowadays, the development of China's information resource industry policies can be grossly divided into 4 stages:

The first stage is from 1950s to the early in 1980s. Strictly speaking, the period didn't see the information resource industry, but some fields of the industry, such as library and scientific information. The main of *The 20 Years' Perspective Plan for the Development of Sciences and Technologies* which China made in 1956 can be regarded as a information industry policies. *Notice on Libraries, Archives, and Museums' Purchasing Books and Journals According to Business Demands* which the Ministry of Culture made in 1962 was considered by many people as the first regulation on information industry in China. In general, the information industry policies in this stage is neither systematic, nor conscious.

The second stage is from 1980s to the middle of 1990s. The national information industry policies were focused on the policies of sciences and technologies. Our primary statistics shows that all over 1980s, laws and regulations on sciences and technologies made every year covered 50% of that on information. Besides, the most laws and regulations on intellectual property protection were made in this period.

The third stage is form the late in 1990s to 2008, which is the fast development phase of China's information industry policies. The central government extracted informatization from the economic administration in 1996 and set up the State Leading Team on Informatization. A vice premier of the State was appointed as the team leader, and the team was responsible for making the strategy promote the national informatization. The Ministry of Information Industry was set up in 1998 and specially in charge of making and implementing information industry policies. *The Tenth Five-year*

Agenda in East Asia [J]. *Journal of Information Science*, 1997(2)).

² Weingarten F W. *Federal Information Policy Development: the Congressional perspective*[M]//McClure C, Hemon P,Relyea H. *United States Government information policies: views and perspectives*.

Norwood, NJ: Ablex, 1989; Galvin T J. *Rights in conflict: public policy in an information age* [M]// *New worlds in information and documentation: Proceedings of the 46th FID Conference and Congress*. The Hague, The Netherlands:FID, 1994: 59-66

³ A document released in 2004, which hierarchy of the policy effect is very high, requires to 'greatly develop information industry'. (See *development and utilization of information resource*, the General Office of Central Committee of Communist Party of China and the General office of the State Council.)

⁴ For example, by the end of 2009 China's electronic information manufacturing industry realized 5130.5 billion RMB Yuan income, 179.1 billion RMB Yuan profit, 2893.2 billion RMB Yuan delivery value of exports, and hired 7.55 million people, which occupied 9% of all industry staff and workers. In 2009 national software industry realized 951.3 billion RMB Yuan business income; telecommunication realized 2568 billion RMB Yuan business, 870.73 billion RMB Yuan operation income. (China National Information Center, *China Information Yearbook 2010*, editor department of China Information Yearbook, 2010(12))

Special Plan on Informatization made in 2001 put forward implementing market mechanism to develop information industry. *Some Opinions on Strengthening the development and use work on information resource* made in 2004 clearly proposed the requirement on the development, use and services of information resource. *National Development Strategy on Informatization in Year 2006* made in 2006, *Some Opinions on Accelerating the Development of Service Industries* made in 2007 by the State, and *Implementation Opinions on the Policies and Actions of Accelerating the Development of Service Industries* made in 2008 by the General Office of the State, and etc.

Nevertheless, questions below are still needed to be answered:

- What policies have been implemented for information industry in China?
- Which organizations promoted these policies?
- Which sub-industries are the main focuses?
- Which policy instruments are used?
- What about the trend for its future development (are we looking at more policy-led development or less)?

only by investigating policies for information industry, people may be brought back to the reality. 本研究是这方面的一个尝试。With contextual analysis, this research tries to study closely the main policies for information industry implemented in China during 1998 to 2010 and answer the question mentioned above.

2 Research Methodology and Research Design

Contextual analysis has been in existence as a form of literature review for a long time⁵. Thanks to the U. S. A General Accounting Office (GAO), contextual analysis is widely accepted for policy assessment in public policy field. A report written by GAO in March, 1989, *Content Analysis: a Methodology for Structuring and Analyzing Written Material*, points out that contextual analysis is suitable for the systematic analysis of any written material due to its ability to transform nonstructural information in the material to structural information. In the report, GAO also specifies the main procedures of contextual analysis, including: 1) Deciding to use content analysis; 2) Determining what material should be included; 3) Selecting units of analysis; 4) Coding the material; 5) Analyzing and interpreting the results; 6) Writing the report, etc.(The U. S. A General Accounting Office, 1989).

With the analysis module provided by GAO, the researchers visited <http://www.lib.ruc.edu.cn>, <http://cnki.net> and related government websites and gathered all the information policy documents released by China's central government from 1998 to 2010. Among all the data available on these websites, 806 pieces of policy documents were selected as the sample, based on correlation degree between the information and policy, policy makers' authoritativeness, and the completeness of the policies (with clear goals, targets and implementation specifications). Each policy document was used as an analytical unit, with the analysis conducted on 4 dimensions including policy effect

⁵ Common contextual analysis includes text analysis, content analysis and discourse analysis. (See TU Duan-wu, Education Policy Text Analysis and Its Application [J], *Fudan Education Forum*. 2009. Vol.7, No.5, pp22-26). This research stresses on content analysis.

hierarchy, policy targets (groups, sub-industries, industrial sectors and industrial activities), policy instruments, and time of policy release. More specifically, factors below were analyzed:

1) Policy effect hierarchy involves both the hierarchy of the policy maker and the hierarchy of the policy itself:

- The hierarchy of the policy maker which can be divided into 3 categories of state organs, comprehensive ministries and various functional ministries;
- And types of the policies which can be divided into 3 categories of laws and regulations, normative documents and special measures, indicating the hierarchical effectiveness of the policy.

2) Policy targets include:

- Sub-industries: electronic communication, computer & internet, press & publication, and radio, film & television. (Note: Some policies cross several sub-industries in nature).
- Target groups: enterprises, industrial parks, academic institutions and local governments.
- Industrial sectors: facilities & equipments, software, information contents and information services (Note: Some policies are trans-sector in nature).
- Industrial activities: design, production, service and consumption.

3) Policy instruments include;

- Improvement instruments (on the supply side): information support, technical infrastructures construction, and capital investment;
- Environmental instruments: public services, object plan, financial support, tax preference, regulatory control, and strategic actions;
- Promotion instruments (on the demand side): government procurement, outsourcing, and trade restrictions.

3 Analysis of information industry Policies

3.1 Analysis of the policy effect hierarchy

The effect hierarchy of China's information industry policies is revealed in following two aspects:

Level of the policy maker. Among China's policy makers, the level of the state organs is the highest, that of the comprehensive ministries is the second highest, and that of the functional ministries is less high. The state organ refer to the organs such as the National People's Congress and its Standing Committee, the General Office of Central Committee of Communist Party of China, the State Council and its General Office. The comprehensive ministries usually refer to the National Development and Reform Commission. The functional ministries can be divided into two kinds: one kind of functional ministries is responsible for policies, plans, strategies and administration in one or more specific industries or sub-industries, such as the Ministry of Industry and Information Technology, and General Administration of Press and Publication. The other kind of functional ministries takes charge of strategies, plans, and laws of a specific national administrative function, which may go through all the industries and sub-industries, such as the Ministries of Finance, State Administration for Industry and Commerce. In the 806-piece policy sample, the state organs

released 27 pieces of policies for information industry, which takes up 3.3%, and its percentage is the lowest; functional ministries independently released 747 pieces of policies, which covers 92.7%; and comprehensive ministries released some policies independently or with other ministries. In the recent 5 years, the policy makers' level for information industry tends to be lowered. The quantity of policies released by functional ministries has been increased year by year, and that by the state organs was reduced slightly.

Type of the policy. The type of policies which has the highest policy effect hierarchy is laws & regulations, the second highest type is normative documents, and the third one is special measures. Laws & regulations usually refer to the documents released by the National People's Congress and its Standing Committee, the State Council and its compositional ministries and directly subordinate agencies. Normative documents usually refer to the documents which have a universal restraining force released by the functional ministries. Special measures usually refer to a policy for a very concrete aspect formulated by a department of national level according to its responsibility. As figure 1 shows, laws & regulations only cover 20.6% of the 806-piece policy sample. In fact, most of laws & regulations are regulations, and few information industry policies became laws. The percentage of normative documents is the largest, which is 55.7%, and among the policies target for all the sub-industries, groups, industrial sectors and activities, normative documents are the most released type.

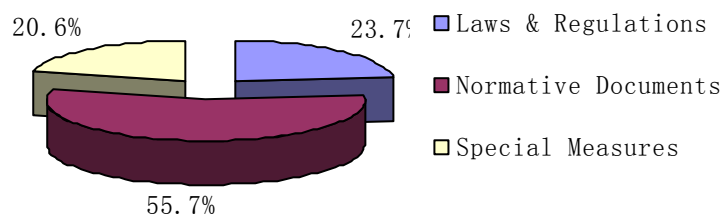


Figure 1: Analysis of Types of China's Information industry Policies

Shown from analysis above, most policies for China's information industry were released in the type of low effect hierarchy, such as normative documents and special measures; Laws & regulations, which have highest policy effective hierarchy, take up the least percentage. This situation reflects a consistent tradition and culture of China's public policy that the policies are usually released as macroscopic and obscure documents, not as micro and clear laws.

3.2 Analysis of the sub-industries policies targeted and the policy makers

The sub-industries covered by China's information industry policies include electronic communication, computer & internet, press & publication, and radio, film & television. The number of policies for electronic communication is the most, which is over 300 pieces, taking up 39.0% of the 806-piece policy sample; those for other three sub-industries, about 130 to 150 pieces each in the same period, are obviously less than that for electronic communication. It is indicated that electronic communication receives closer attention by China's central government than the other sub-industries

of information industry. In addition, China's government released 58 pieces of policies which crossed several sub-industries basing on the overall demand for the information industry development, taking up 7.2% of the 806-piece policy sample.

Policies for different sub-industries are formulated and released by different functional ministries. Table 1 shows that Ministry of Information Industry, Ministry of Industry and Information Technology, State Administration of Radio, Film and Television, and General Administration of Press and Publication emphasized 1 or 2 information sub-industries respectively according their own functions. And the National Development and Reform Commission, Ministry of Finance, State Administration of Taxation, State Administration for Industry and Commerce, and General Administration of Customs participated in formulating relevant policies. The ministries listed in Table 1 are the ones who released a lot of policies. The ministries include both functional ministries responsible for specific industries or sub-industries; and comprehensive ministries in charge of a specific national administrative function. These 9 ministries release 604 pieces of policies independently, covering 74.9% of the 806-piece policy sample.

Table 1: Main China's Government Ministries Releasing Information Industry Policies

Government ministries	Content of policies	Policies released independently	Policies released with other ministries	Total
Ministry of Information Industry ⁶	Electronic & Communication; Computer & Internet ; information industry development	265	106	371
Ministry of Industry and Information Technology	Electronic & Communication; Computer & Internet ; information industry development	27	2	29
State Administration of Radio, Film and Television	Radio, Film and Television; Computer & Internet	128	13	141
General Administration of Press and Publication	Press and &Publication ; Computer & Internet;	135	4	139
State Administration of Taxation	Industry and Tax	36	44	80
Ministry of Finance	Capital Investment and Fees	8	47	55
State Administration for Industry and	Regulations of enterprises and market	0	15	15

⁶ Ministry of Information Industry was subsumed into new Ministry of Industry and Information Technology in 2008.

commerce				
General Administration of Customs	Import and export of information products or services	1	13	14
National Development and Reform Commission	Capital Investment and trans-ministry problems	4	9	13

One important feature of China's information industry is cross-ministry cooperation on formulating and releasing policies. Beside the government ministries above, according to issues involved in the information industry development, over 20 other government ministries (see the appendix), such as Ministry of Public Security, Ministry of Culture, General Administration of Quality Supervision, Inspection and Quarantine also draft and release policies on information industry development, with other government ministries' cooperation. Cross-ministry policies take up 18.7% of the 806-piece policy sample, which are 151 pieces.

3.3 Analysis of the groups, industrial sectors and industrial activities policy targeted

The groups policy targeted. Policies that target local government focus on industry administration and coordination; policies that target enterprises focus on economy promotion and market development; policies that target industrial parks and academic institutions generally focus on industrial innovation and developmental foundation. During 1998 to 2010, the policies for information industry mainly focus on local government and enterprises, policies that target industrial parks and academic institutions are obvious scarce. Figure 2 demonstrates that policies for China's information industry take commercial interests as direct goals. Comparatively, it is the second goal to guide and explore healthy and sustainable development of policies for information industry. Besides, another feature of China's information industry is that there is a lot of comprehensive policies (trans-target groups), which take up 84.3% of the 806-piece sample. This demonstrates that policies for China's information industry is relatively scattered, not systematic.

The industrial sectors policy targeted. Generally speaking, the sectors engaging in production and manufacture of facilities and equipment are the low links of information industry chain, which also involve in the issues of resources savings and environment protection; Sectors providing software, information contents and information services belong to the high links of information industry development, acquiring more emphasis which would benefit the upgrading of information industry. Figure 2 demonstrates that policies for China's information industry involve in sectors of facilities & equipment, software, information content and comprehensive industrial development. Among them, most are policies targeting the sectors of information contents and information services, followed by facilities & equipment. There are relative a few policies aiming at software and comprehensive industrial development.

The industrial activities policy targeted. The design activities of China's information industry refer to innovative research and creation of all kinds of information products and services. The production activities refer to processing information materials and producing information products

that satisfy customers' demand. The service activities refer to the process satisfying customers' information demand with information equipments, technologies and contents. The consumption activities refer to purchase and utilization of information products and contents. Figure 2 demonstrates that the number of policies aiming at information service activities is the largest, that aiming at design and production is relatively less, and that aiming at information consumption is almost absent.

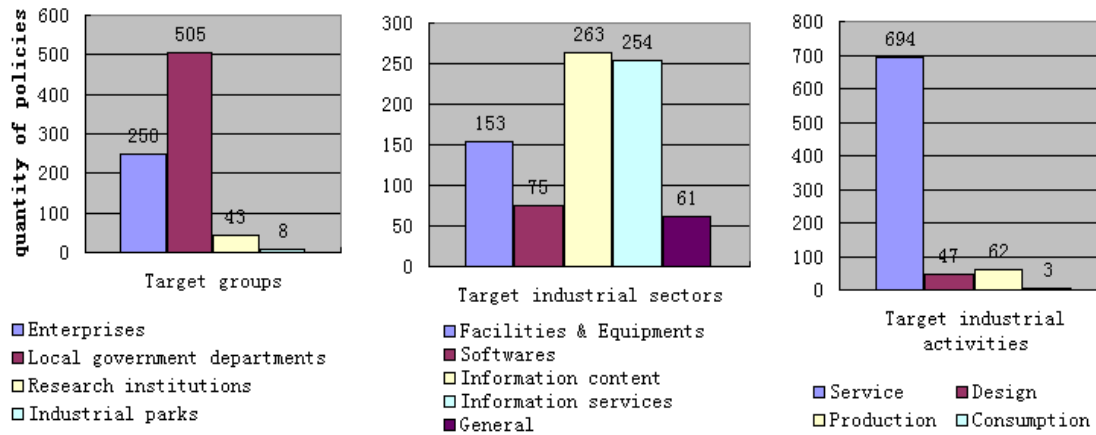


Figure 2: Analysis of Target Groups, Sectors & Activities of China's information industry Policies

3.4 Analysis of the policy instruments

As Figure 3 shows, the most utilized policy instrument in China's information industry during 1998 to 2010 is regulatory control, the second is public services, then strategic actions, object plan, tax preference; by contrast, policy instruments, such as capital investment, technical infrastructures construction, government procurement, financial support, trade restrictions, information support, are used little.

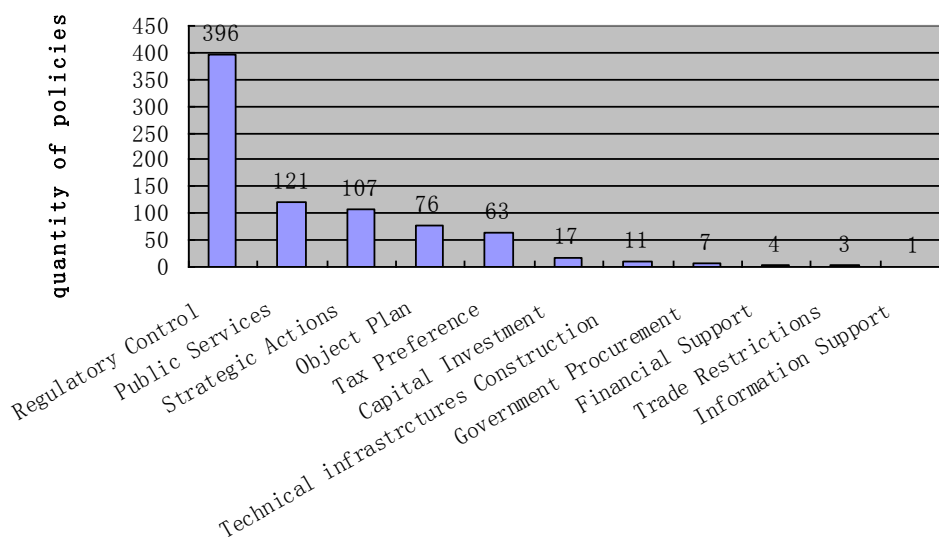


Figure 3: Analysis of Policy Instruments of China's Information Industry

It can be found by classifying the policy instruments that:

Firstly, China's policies of information industry stress regulatory instruments, but ignore to use the instruments such as government outsourcing, government procurement, financial support, and trade restrictions, which are important in guiding and adjusting the market and economy (Bernstein, 1993). Such approach of using policy instrument is likely to limit enterprises' development vitality in the information industry, demonstrating fatal deficiency of China's information industry policies, which does harm to the industry's long-term development.

Secondly, government procurement, trade restrictions and outsourcing, etc. facilitate the demand for information industry; technical infrastructures construction, capital investment, and information support, etc. enhance the supply of information industry; and the rest regulatory control and strategic actions tend to form a beneficial developing environment for information industry. Literature analysis indicates that utilization of policy instruments on China's information industry mainly aims at forming a beneficial development environment for information industry. On the other hand, policy instruments were insufficient to increase the demand and supply of the industry. Thus the industry may lose its sustainable development dynamics.

In addition, different policy instruments are used in different sub-industries of the information industry. Electronic communication sub-industry puts an importance on technical infrastructures construction; tax preference is not special tailored for press & publication sub-industry during 1998 to 2010 because the sub-industry has a long-term tax favored support; and except electronic communication and computer & internet, other sub-industries haven't used the policy instrument of government procurement.

3.5 Analysis of the policy development trends and emphasis

The development of China's information industry policies underwent three phases, as Figure 4 shows: 1) a slow rising period from year 1998 to 2001; 2) a stable developing period from year 2002 to 2006; 3) a fluctuation period from 2007 to 2010, in which year 2008 saw a peak of policy release. The quantity fluctuation of policies released clearly shows the extent how China's central government pays attention to information industry development.

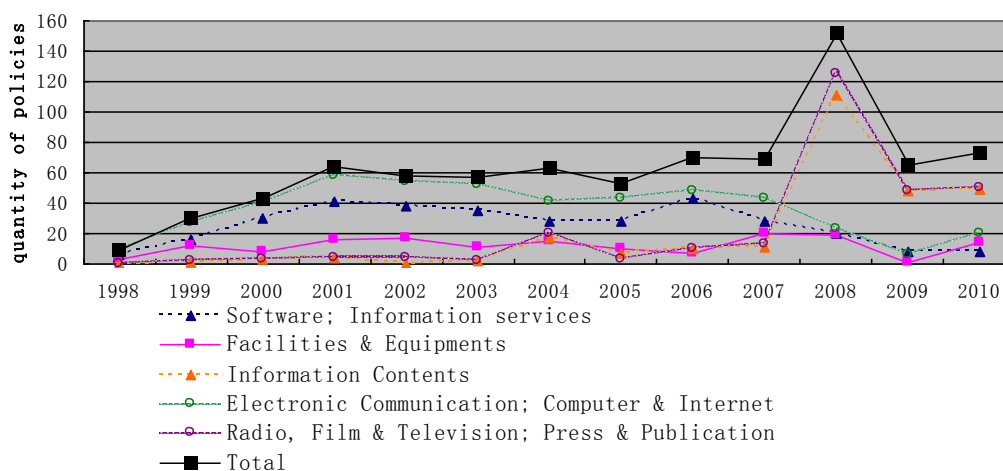


Figure 4: Trends and Emphasis of China's Information Industry Policies

A fact should be clearly pointed out that policies for electronic communication, computer & internet has been reduced in recent 5 years; on the contrary, policies for press & publication, radio, film & television development increased obviously in 2008. And policies for software and information services development were decreasing, those for facilities & equipment development are stable, and those for information contents development are increasing notably. This indicates that there is a distinct change on the emphasis of China's central government to information industry development.

4 Conclusions

Basing on the analysis above, we can come to the conclusions on China's information industry policies as follows:

First of all, the development of China's information industry policies has been to the peak period, and the government's zest is cooling, which is reflected in the quantity reduction of policies during 2009-2010 and the lowering of the policy effect hierarchy. This indicates that China's central government's attitude to information industry changed; even it may have a doubt of the development prospect for the information industry.

Secondly, China's central government's current policy instruments for information industry are mainly regulatory and quick commercial purpose oriented, lack of necessary economic regulatory means, and also lack of support and guidance for the research and exploration on the fundamental issues of the industry development. This leads to such a weak foundation for the industry development that it is difficult to make any innovation and progress, which is the distinct character of information industry. And it tends to distort the development of information market and enterprises and is not good for the healthy, long-term development of China's information industry.

Thirdly, China's central government adjusted the key sub-industries in the policies for information industry to information-content-emphasized fields, such as radio, film & television and press & publication, etc not only brings out a positive influence to the development of information industry, but also produces a beneficial impetus to improve the structure of information industry, even to transform the structure of China's economy to a greener and sustainable one.

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Appendix: Government ministries releasing information industry policies

Central Civilization Office of Communist Party of China
 China Certification & Accreditation Institute
 China Securities Regulatory Commission
 General Administration of Customs
 General Administration of Press and Publication (National Copyright Administration)
 General Administration of Quality Supervision, Inspection and Quarantine
 General Administration of Sport
 Ministry of Civil Affairs of the People's Republic of China
 Ministry of Construction of the People's Republic of China
 Ministry of Culture of the People's Republic of China
 Ministry of Education of the People's Republic of China

Ministry of Electronic Industry of the People's Republic of China
Ministry of Finance of the People's Republic of China
Ministry of Foreign Trade And Economic Cooperation of the People's Republic of China
Ministry of Industry and Information Technology of the People's Republic of China
Ministry of Labor and Social Security of the People's Republic of China
Ministry of information Industry of the People's Republic of China
Ministry of Personnel of the People's Republic of China
Ministry of Public Security of the People's Republic of China
Ministry of Science and Technology of the People's Republic of China
National Development and Reform Commission of the People's Republic of China
State Administration for Industry and Commerce
State Administration of Radio, Film and Television
State Administration of Taxation
State Archives Bureau
State Bureau of Surveying and Mapping (under the Ministry of Land and Resources)
State Development and Planning Commission
State Economic and Trade Commission (under National People's Congress)
State Environmental Protection Agency
State Post Bureau