Examining China’s triple-network convergence plan: Regulatory challenges and policy recommendations

Chun Liu *
School of Economics and Management, Southwest Jiaotong University, Sichuan, China

Abstract

Technological convergence has challenged the wisdom of regulators around the world for years, especially since the boom of the internet in the early 1990s. Different approaches have been proposed to replace the legacy “silo” regulatory model. This is now a compelling issue in China, the world’s largest developing country. The historical separation between telecommunications and television and the strict “silo” type of regulation have resulted in an asymmetric market where phone companies control the conduit and broadcasters dominate the content. However, the Chinese government has turned the convergence of telecommunication, television and internet into a national strategy. According to the State Council’s ambitious plan, the Chinese government aims to achieve a competitive converged information industry and an accompanying clear, scientific and efficient regulatory regime by 2015. Drawing on the theory of fragmented authoritarianism, this paper examines China’s uneven path to triple-network convergence. Theoretically, this paper complements the existing research on China’s information policy, which is mostly one-shot and sector-specific, with a complete treatment of convergence policy evolution that involves both telecommunications and television. Practically, this paper finds that there are two remarkable characteristics in China’s convergence policy-making, namely, the causal relationship between institutional and policy change and the consistent policy objectives, which will continue to shape to future to come. Based on the above findings, a sketch of the future regulatory regime and relevant policy recommendations are provided.

1. Introduction

Technological convergence has challenged the wisdom of regulators around the world for years, especially since the boom of the internet in the early 1990s. Different approaches have been proposed to replace the legacy “silo” regulatory model. However, unlike technological advancements, which progress in a revolutionary manner, regulatory regimes seem to react evolutionarily, if not passively, leaving most of the pioneering ideas confined within the academia. This is now a compelling issue in China, the world’s largest developing country. The historical separation between telecommunications and television and the strict “silo” type of regulation have resulted in an asymmetric market where phone companies control the conduit and broadcasters dominate the content. However, the Chinese government has turned the convergence of telecommunication, television and internet into a national strategy. According to the State Council’s ambitious plan, the Chinese government aims to achieve a competitive converged information industry and an accompanying clear, scientific and efficient regulatory regime by 2015 (Xinhua News Agency, 2010).

With its unique economic and political system, China’s effort to promote convergence raises many interesting questions. This paper explores how China has aimed to introduce convergence between telecommunications, cable and the internet historically and why those attempts have failed. Then, the suitable convergence regulatory model to China, where all the major players are owned by the state, is proposed and how the market will evolve under such a regulatory framework will be addressed.

2. Literature review

It is believed that Farber and Baran were the first to address the convergence issue in their 1977 Science article, “The Convergence of Computing and Telecommunications Systems” (Lind, 2004; Mueller, 1999). Almost simultaneously, Nicholas Negroponte, the founder of MIT’s Media Lab, illustrated his vision of convergence by three overlapping circles representing the joining or moving together of computing, printing and broadcasting (Brand, 1987). Since that time, scholars and analysts have invented various neologisms such as “compunications” and “telematique” to reflect the convergence of telecommunication,
information, and computing (Mueller, 1999). Lind, however, argued that most academic articles had taken this term as a given and applied it to different phenomena without defining and relating it to a theoretical framework (2004). Nevertheless, the rise of digital technology has made it possible for telecommunication, video, and data to be delivered on the same platform. However, those services were traditionally regulated separately based on different principles and with different levels and objectives (Blackman, 1998; Garcia-Murillo & Machnes, 2003). China is no exception.

The exponential growth in China’s telecommunications industry in the past two decades has generated a growing body of scholarly research on China’s telecommunications policy and regulation, which can be broadly divided into two strands. The majority of existing researches are exploratory and factual studies tracing the major milestones of the industry and specific policy issues. Others strove to understand the Chinese model of regulation and its objectives. Zhang (2002) argued that China’s telecommunications policy-making was identified with deep-rooted political involvement, frequent bureaucratic bargaining, and a weak legal institution. Gao and Lytinen (2000) found that macro-level political rearrangement had profound impact on China’s telecommunications transformation. In terms of policy objectives, it has been argued that the pursuit of economic growth promised by information technologies was the main reason the Communist Party gave the telecommunications sector preferential treatments. Keane (2001) also found that, unlike that in liberal civil societies, in which functional division of authority, creating an environment where no single institution could exert complete authority and where negotiations, bargaining, exchange, and consensus building were required to both formulate and implement policies (Lieberthal & Oksenberg, 1988). The fragmented authoritarianism model, China featured a fragmented bureaucratic structure of authority, in which consensus building was central and a policy process beyond. This study aims to offer a heuristic analysis and insights on the issue of China’s convergence regulatory model.

3. Theoretical framework and methodology

Policy process can be broadly conceptualized into two theoretical approaches: those that posit only incremental change in policies, and those that admit the possibility of radical change. However, when those theories that were mainly designed in the Western context were applied to the non-Western countries, such as China, it rarely fits well (Welch & Wilson, 1998).

Our analysis in China’s converging information policy process is informed by the theory of fragmented authoritarianism. The fragmented authoritarianism model, developed by Lieberthal and Oksenberg (1988), has remained the most robust theoretical framework, through which to study the Chinese policy process. According to the fragmented authoritarianism model, China featured a fragmented bureaucratic structure of authority, in which consensus building was central and a policy process was protracted, disjointed and incremental (Lieberthal & Oksenberg, 1988). Due to the decentralization of budgetary decision-making, encouragement for bureaucratic entrepreneurship, the reduced use of political coercion, and the decline in the use of political ideology in policy decisions since 1979 when Deng Xiaoping took the office, the fragmentation has occurred structurally in both the bureaucratic ranking system and the functional division of authority, creating an environment where no single institution could exert complete authority and where negotiations, bargaining, exchange, and consensus building were required to both formulate and implement policies (Lieberthal & Lampton, 1992). Extensive bargaining was found on both the policy formulation stage between
bureaucratic agencies and the policy implementation stage at all levels in which each stakeholder tried to distort policies in directions that were most favorable to them (Lampton, 1987). Recent research added that the policy-making process became pluralized and certain actors, such as peripheral officials, nongovernmental organizations, and the media, began to play important roles (Mertha, 2009). The framework has been applied to several sectors, such as wind energy policy (Lema & Ruby, 2007), automotive industrial policy (Huang, 2002), steel sector (Sun, 2007) and climate change (Marks, 2010). Essentially, the fragmented authoritarianism assumes that bureaucratic structure itself guides policy decisions, but institutions may compete for influence. Similar pattern has been observed in China’s information policy-making process as reviewed in the previous section.

This study relies on a single case study of China. The data collections consisted primarily of secondary sources, including scholarly articles, statistics, trade magazines, consulting research, newspaper reports, company annual reports, official speeches, and nongovernmental organizations. Using multiple sources of evidence increased not only the reliability and validity of the data in this study but also the confidence in findings. Information gathered from the secondary sources may be incomplete, obsolete, inconclusive, or inaccurate. We have tried to compensate for some of these concerns by carefully cross-checking the different empirical sources used as confirmation of one another. In addition, approximately 6 unstructured and informal interviews with senior executives of China’s telecommunications carriers and cable operators regarding the subject matter were carried out in order to complement the secondary resources. Most of the interviews were conducted in the form of face to face meeting between the author and the interviewee.

4. The evolution and regulatory arrangement of China’s information industry

4.1. The pre-convergence market structure of the triple-network

China’s three networks have some key commonalities and share a similar pattern in their evolution. The three networks have experienced explosive growth in the past 20 years, and efforts have been made to introduce market competition into each of them.

The current oligopolist market structure, in the form of three state-owned carriers competing with each other, is the result of a series of industrial and regulatory restructurings in the last decade. China Telecom and China Unicom are the dominant carriers in wireline market, while China Mobile controls the biggest market share in the wireless sector. By the end of 2010, China had 294 million wireline and 859 million wireless subscribers. The wireline and wireless penetration had reached 22.1 and 64.4, respectively, in terms of mainlines per 100 population. Telephone service has become a commodity in urban areas. While television stations have always been closely affiliated with the government, China’s cable systems have experienced some degree of commercialization. However, unlike telecommunications, which are traditionally operated in a top-down manner, the diverse ownership and the strict limitations on operational boundaries have hindered the commercialization of the cable industry. China still has some 1200 cable operators (Oba & Chan-Olmsted, 2005). By 2010, only 10 provinces had completed integration of their cable operators out of a total 31 regions. China also initiated a digital TV transition campaign in 2002, which planned to accommodate 30 million digital television subscribers by 2005 and finish the digital conversion nationwide by 2010. However, by the end of 2010, less than 47% of cable subscribers were digital. The dominant proportion of China’s internet backbone and access networks are controlled by telecommunications carriers. By the end of 2009, China had a total of 866,367 Mbps international outlet bandwidth, of which China Telecom’s share was 516,650 Mbps. Its closest competitor was China Unicom, which had 298,834 Mbps (CNNIC, 2010). The last mile, particularly the broadband access line, is also controlled by telecommunications carriers. It has been estimated that the telecommunications carriers’ market share in the broadband access market was approximately 97.6% (China Times, 2010). In 2009, China Telecom, China Unicom and China Mobile served 53%, 37% and 10% of broadband subscribers, respectively, according to Light Reading, a unit of Techweb (Peng, 2010). By the end of 2009, the total broadband lines controlled by the telecommunications carriers had exceeded 100 million.3

This brief historical review of China’s three networks reveals that China’s triple-network convergence plan essentially involves only two networks because China’s telecommunications carriers are also the dominant, if not only, internet service providers in terms of both backbone and subscriber lines. There is, essentially, no third and separate internet network. Thus, in the Chinese context, the triple-network convergence plan is better understood as a Chinese version of the conventional issue of reforming the traditional “silo” model in regulating telecommunications and cable.

4.2. Regulatory environment for China’s information industry

This quasi-federal arrangement of a political system has some important implications for China’s information policy-making. First, at the central level, policy-making appeared to be best labeled as inter-ministerial competition marked by deep-rooted political involvement, frequent bureaucratic bargaining and weak legal institutions (Liu & Jayakar, 2012; B. Zhang, 2002). Different ministries compete for resources from the State Council, which encourages them to make policies independently. Inter-ministry working groups or leading groups, which are usually led by a vice premier, are usually established to solve the conflicts among different ministries, particularly with respect to national important projects. Second, the bargaining power of the regulated state-owned enterprises (SOEs) cannot be neglected. Traditionally, SOEs have been assigned political ranks. Conventionally speaking, most centrally supervised SOEs are ranked at the vice-ministry level. This has created serious problems, particularly with respect to telecommunications regulation after the recent government restructurings in which the government units in charge of daily regulatory affairs were downgraded to a department in the Ministry of Industry and Information Technologies (MIIT), which ranks, ironically, one step lower than the major telecommunications carriers. Third, given the diverse ownership structure of the television industry, both cable operators and stations are more closely affiliated to local governments rather than the State Administration of Radio, Film and Television (SARFT). As the SARFT cannot give orders directly to the local governments, its power of regulation is largely neutralized by local interests. Fig. 1 illustrates the regulatory environment for China’s triple-network convergence policy plan.

4.2.1. The State Council (The National Triple-Network Convergence Leading Group)

The State Council sits at the top of a complex bureaucracy of commissions and ministries and is responsible for making sure party policy is implemented from the national to the local level. Theoretically, the State Council answers to the National People’s Congress, but more often, the State Council submits legislation and policies, which the NPC then approves. Generally speaking, the State Council formulates general guidelines and various ministries set up administrative orders for their own sectors. When handling issues that are given high priority or are likely to evoke conflicts among ministries, the State Council

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usually establishes a temporary leading group led by the premier or a vice premier to strike a balance among interested parties. The National Triple-Network Convergence Leading Group is specifically designated to promote and enact the triple-network plan.

The National Triple-Network Convergence Leading Group, led by Vice Premier Zhang Dejiang, comprises representatives from 10 government units ranging from administrative ministries to the Party’s departments. The 10 units can be broadly divided into four categories according to their functions. Government agencies in the Watchdog and Supportive categories are peripheral in the triple-network convergence policy-making. Agencies such as the CCP Propaganda Department, CCP International Communications Office and Ministry of Public Security are included to ensure that the convergence of the three networks does not threaten the government’s control over the propaganda outlets, which is unlikely to occur because of the dominant state ownership of the networks. The Ministry of Finance, Ministry of Technology and Administration of Quality Supervision, Inspection and Quarantine are grouped into the supportive category because their role in the triple-network convergence is advisory rather than decisive. For example, the Ministry of Science and Technology might have opinions on standards setting. However, given that the primary focus of the triple-network convergence is to promote cross-entry of cable and telecommunications, those supportive agencies that historically have not been involved in either cable or telecommunications policy-making have limited roles in triple-network convergence policy-making.

4.2.2. The MIIT and the SARFT

The MIIT and the SARFT regulate telecommunications and television respectively. The MIIT has 24 departments. Of those departments, it is the Bureau of Telecommunications Management (BTM) that is in charge of telecommunications regulation. Ironically, all of the big three state-owned carriers are ranked at the vice-ministry political level, which is one step higher than the BTM. Bearing in mind that the rule of thumb that units of the same rank cannot issue binding orders to each other, unlike the western system where private corporations are regulated by government agencies that are authorized by law to enact their regulatory policies, the Chinese style of telecommunications regulation primarily takes the form of negotiations between the BTM and SOEs.

Given its fragmentized ownership structure, China’s cable industry is regulated territorially. There is no national cable operator. The provincial and metropolitan cable industries are regulated by a local division of the SARFT. In China’s political system, each local division of the SARFT has to report to both the SARFT and the government of its territory. However, the arrangement that no ministry can issue a binding order to a province creates potential conflict between the vertical lines and the horizontal lines of authority. When conflicts occur, the horizontal line of authority was generally given higher priority (Lieberthal & Lampton, 1992). Under this political arrangement, generally speaking, local divisions of the SARFT often have a much closer relationship with their territorial government than with the SARFT. As the provinces may challenge, overrule, or ignore decisions made by a ministry, the effectiveness of the SARFT’s regulatory policies is largely impacted by the attitude of the provincial government.

4.2.3. The State-owned Assets Supervision and Administration Commission (SASAC)

The SASAC assumes the role of the state investor. As all Chinese telecommunications operators are state-owned enterprises, they are directly under the supervision of the SASAC. The SASAC does not manage and operate state-owned enterprises directly. Rather, it exercises its influence in two ways. First, the SASAC can directly “dispatch supervisory panels to some large enterprises on behalf of the state and take charge of daily management of the supervisory panels”; second, it can “appoint and remove top executives of enterprises, and evaluate their performances through legal procedure.”© There is another important mission of the

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SASAC, namely, to “supervise and administer the preservation and increment of the value of state-owned assets.” Thus, should market competition cause the SOEs to lose “the value of state-owned assets,” the SASAC can intervene to “preserve” and “increase” the “value of state-owned assets.” To that end, a natural alliance between the SASAC and the telecommunications carriers when competing for desirable regulatory policies is established. Arguably, the importance of state assets and profits from the telecommunications basic service enabled the SASAC to exert the primary influence over market actors and their businesses (Yeo, 2009).7,8

5. The review of China’s triple-network convergence

Triple-network convergence is not a new policy agenda. In the last decade, China made several attempts to converge its telecommunications and cable industries.

5.1. The 1998 governmental reform and the failure of the first convergence

Consistent with the global movement of reinventing government, the Chinese government initiated a bold revamping of its governmental system as part of its national efforts to reposition the economy in the face of increased global competition in 1998 (Worthley & King, 1999). The 1998 reform highlighted a streamlining of government, a removal of direct governmental control over profit-making enterprises, and an effort to move China in the direction of the “rule of law” (Lan, 1999). As Li (1998), the then Chairman of the Ninth National People’s Congress, stated, the reform was to “adjust and abolish those governmental departments which had a direct hand in the management of profit-related industries and enterprises, increase government’s macro-management capacity, and strengthen the legal and supervisory functions of the government.”

The reform downsized 40 ministries to 29, abolished 15 commissions and departments that had previously operated the state-owned enterprises directly, and downgraded some government agencies from commission and ministry status to departmental status. In telecommunications and television, the goal of this round of reform was to completely separate government and enterprise functions, eliminate monopolies and increase competition (Gao & Lyytinen, 2000). Specifically, the Ministry of Posts and Telecommunications (MPT) was dismissed, and the Ministry of Information Industry (MII) was established by merging the MPT and the Ministry of Electric Industry (MEI). The Ministry of Broadcasting, Television and Film was renamed to the State Administration of Radio, Film and Television (SARFT). Accordingly, the responsibilities of the MII and the SARFT were adjusted, among which the most significant was the transfer of responsibility for the planning, management and regulation (including standards setting) of the broadcasting (including cable) transmission network from the SARFT to the MII. Both of the newly established ministries were required to separate themselves from their once affiliated state-owned enterprises.9

The 1998 government reform has been regarded as the Chinese government’s attempt to initiate an institutional convergence to create a single regulator for its information industry (Gao & Lyytinen, 2000; Tan, 1999). However, it is often neglected that, even in the original plan that mandated the SARFT to transfer the “transmission” network to the MII, the SARFT reserved the right to regulate the “private” broadcasting network (General Office of the State Council, 1998). The lack of clear definitions of “transmission” and “private” left a blurry boundary between the MII and the SARFT and, thus, resulted in a yearlong debate between the two ministries. One year later, the State Council issued Decree 82, which defined the transmission network as the intercity optical backbone and the private network as the distribution medium (primarily coaxial cable networks) that connected a television station to end users (General Office of the State Council, 1999). In this decree, the State Council also bought the ideological argument of the SARFT. It declared that, as broadcasting was the essential platform for propaganda, any cable operators that planned to offer programming services must get the SARFT’s approval. More importantly, it clearly articulated that telecommunication carriers were not allowed to provide television services and that, likewise, the cable operators were prohibited from entering the telecommunications market. Thus, the first convergence officially failed.

5.2. The rise and fall of the market-driven convergence: IPTV vs. Digital Television

The peace that resulted from the ban on convergence did not last long. The 2002 division of China Telecom into two companies led to an oligopolistic market structure in the wireline sector in which both China Telecom and China Netcom, troubled by decreasing profit margins and increasing competition, aggressively rushed into the video market via IPTV technology. At first glance, IPTV appeared to have made some breakthroughs in the video market. In 2003, the SARFT issued an administrative order titled, “The Management Measures for Dissemination of Audio-Visual Programs on Internet,” which established a licensing regime for audio and video content transmitted over the internet (SARFT, 2003a). Subsequently, by the end of 2004, over 80 organizations obtained a 2-year permit to transmit audio-visual programs over the internet. However, the SARFT quickly withdrew from its relatively open position by exercising rigorous control over the IPTV in the middle of 2004. The SARFT issued Decree 39 with the same title as the one issued in 2003, but with a totally different regulation. In the decree of 2004, the SARFT specifically articulated that only television stations and other media companies under the SARFT’s umbrella were eligible to deliver IPTV service to regular television sets. Telecommunications operators were allowed to relay audio-visual content over their networks, but they were prohibited from integrating content with a conduit (SARFT, 2004).

The quick turnaround of the SARFT’s attitude toward the IPTV can be attributed to the increasingly strengthened position of telecommunications carriers and the slow progress made in the commercialization of its own cable business. Externally, the telecommunications industry had become a giant business with annual revenue of 572 billion RMB compared to television, radio and film’s 76 billion in the year 2004.10 The revenue from cable subscriptions was merely 12 billion RMB. More importantly, the establishment of the SASAC further strengthened the bargaining power of telecommunications carriers. With the creation of the SASAC, the ownership of the major telecommunications carriers was transferred from the MII to the SASAC. As noted before, one of the most important missions of the SASAC was to “supervise and administer the preservation and increment of the value of state-owned assets.” Thus, inherently, the SASAC has the imperative to stand on the side of telecommunications carriers should

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7 The National Development and Reform Commission (NDRC), often referred to as the "small State Council" among policy makers in Beijing, reviews all policy proposals and rules drafted by other ministries. One of its major responsibilities is to "formulate plans for the comprehensive restructuring of economic systems". Thus, technically speaking, other ministries need to consult with the NDRC before major policy changes and industry restructuring programs. However, the exact procedure remains largely mysterious to outsiders.

8 China’s legislative and judicial systems traditionally have limited, if any, impact on China’s telecommunications policy making. In fact, China is one of the few countries in the world without formal telecommunication legislation. The formal telecommunication regulations are the “People’s Republic of China Telecommunications Decree”, issued by the State Council in 2000.

9 An exception was that the SARFT was granted the direct control of the three national media outlets: China Central Television Station, The Central People’s Broadcasting Station and China International Broadcasting Station.

“vicious competition” occur between cable operators and the telecommunications carriers so as to prevent the loss of state-owned assets. It was argued that the foundation of the SASAC signifies that the primary objective of government regulation changed from creating a competitive market to strengthening the dominant telcos (Yeo, 2009). If telecommunications carriers were allowed to freely invest in the IPTV market, once they had reached critical mass, the SARFT would face great pressure from the SASAC to legitimize this service. Thus, the best strategy for the SARFT to maintain exclusive control over television is to take protective measures at the very beginning.

Despite the external competition, internally, the SARFT’s own efforts to modernize its cable business had confronted numerous problems. In 1999, when the State Council had closed the door on convergence, it also directed the SARFT to promote the commercialization of its cable sector. The State Council ordered that the cable operators must be consolidated and incorporated at the provincial level to reach a size that was comparable to that of the telecommunications carriers. Later, the SARFT adopted a policy called the “separation of transmission and programming,” which further divested the programming function from cable operators. The SARFT’s ambitious plan involved 3,000 cable operators being regrouped into 32 provincial companies and creating a national cable backbone network to connect them (Redl & Simons, 2002). It was expected that the regrouped cable system, which did not have any programming function and, thus, avoided the propaganda regulation, could get license from the MIIT and become a major competitor to telecommunication carriers.

One of the technical preconditions for the cable network to offer telecommunications service was the upgrading from a mono-directional medium to a bidirectional one, frequently referred to as digital conversion. In 2003, the SARFT announced an ambitious digital conversion timetable in which it declared that television networks should be digitalized in most of China by 2010 and that analog televisions would be phased out completely by 2015 (SARFT, 2003b). Initially, the digital conversion made little progress. By the end of 2005, the number of digital television subscribers was merely 5.35 million, much less than the 10 million expected by the SARFT (Digital TV Meets Cold Reception in China, 2005). Many problems, such as high monthly and installment fees,11,12 fragmented market structure13 and ambiguity in standards setting14 hindered the development of digital television. To protect its digital transition from competition, the SARFT raised the issue of propaganda control as an important rational for blocking IPTV. Wang Lian, a senior officer of the SARFT, asserted that, although the SARFT admitted that IPTV was a promising technology, it was not appropriate for telecommunications carriers to become involved because the IPTV network was interconnected with the public internet. This made it difficult for the SARFT to control the content being transmitted and brought potential threats to national security and culture integrity (Shun, 2005).

To date, the SARFT has granted only seven IPTV licenses to state broadcasters Such as CCTV and the Shanghai Media Group. China’s 4 million IPTV users, most of who are with China Telecom, were still on a “trial” basis for several years (Clark, 2010). On the other hand, the “China Cultural Industry Development Report 2010,” an annual report by the Chinese Social Science Research Institute (CSSRI),15 found that by the end of 2009, China was expected to have 62 million digital television subscribers.

This amounts to approximately 30% of all cable subscribers, of which only 7 million are paid users (X. Zhang, Hu, & Zhang, 2010). This means that, to date, both IPTV and digital television have grown less than expected in their confined markets.

5.3. The super-ministry reform: the regulatory atavism in convergence

In 2008, the People’s Congress approved another round of governmental reforms called “super-ministry restructuring.” The idea was to transform the government function from economic planning and controlling to public service (Yuan, 2010). The target for this round of government reshuffling was to streamline government department functions, to strengthen macroeconomic regulations, to maintain national security of the energy supplies and to integrate information development and industrialization16 in telecommunications, the MIIT was downgraded to the sub-ministerial level (Ma, 2009). The new MIIT absorbed all the functions of the MIIT and became a super regulator for China’s industrial sector. The 2008 institutional rearrangement has several immediate impacts on the information industry. The position of the SARFT was seemingly strengthened. The State Council issued a Decree titled “Several Policies on Encouraging the Development of Digital TV” in which it reiterated the SARFT’s digital TV transition timetable and gave several preferential policies to accelerate its deployment (General Office of the State Council, 2008). On the other hand, the MIIT finished its final show in telecommunications by consolidating China’s operators into the so-called big three, namely China Telecom, China Unicom and China Mobile.

The governmental reshuffle laid down the institutional foundation for the restarting of the stagnant convergence process. On January 13, 2010, it was reported Premier Wen held a general meeting of the State Council deciding to accelerate the advancement of convergence of the telecommunications, television and internet (Xinhua News Agency, 2010). On April 14, the State Council announced Decree 5, titled “The Overall Plan for Convergence” (State Council, 2010). In the plan, the government articulated technological, economical and political rationales for convergence. Technically speaking, the government admitted that convergence was a natural result of the advancement in information technologies. Economically, it was expected that convergence would satisfy consumers’ diverse production, living and service demands, promote domestic consumption, form new economic growth areas and become one of China’s strategic policies in response to the global financial crisis. Politically, convergence was beneficial for creating new ways of expanding the scope of propaganda to firmly control the mainstream public opinion and protect the national culture (State Council, 2010). The plan also set a timetable for the convergence. From year 2010 to 2012, selective trials would be conducted. From year 2013 to 2015, convergence would be extended to nationwide markets. Later on, following the rejection of five draft plans, the sixth version of the pilot program for the convergence was approved by the State Council on July 1, 2010, in which 12 cities were selected.17

In terms of regulation, the government intends to establish a regulatory regime that is logical, efficient and scientific. However, in the overall plan, the government reiterated that China would continue to take the “silo” approach. This means that the MIIT and the SARFT would regulate telecommunications and television, respectively (State Council, 2010). However, citing the slow progress made in the commercialization and upgrading of China’s cable business, the State Council gave preferential policies to the SARFT. First, the SARFT was given another 3 years to marketize and consolidate its thousands of local cable

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11 Usually, monthly subscription fees for digital television service are higher than that of regular cable service.
12 Initially, the users needed to purchase set-up boxes on their own. Later, with the subsidy of the government, operators usually provided the set-up boxes for free and charged higher monthly fees to recover the cost (Yan, 2010).
13 For example, China Development Bank, which had an agreement with the SARFT to finance the digital television transition project, told the press that it had difficulty evaluating applications from numerous operators and urged the SARFT to make a coherent national plan (CDB Falls Into Trouble in Making Loans to Cable TV Industry, 2005).
14 By the end of 2004, Europe’s DVB-T had gained 9 contracts in China, while the domestic Tsinghua University’s DMB-T had signed 7. Shanghai began a test trial of Shanghai Jiaotong University’s ADTB-T standard.
15 CSSRI is a government think tank.
16 One study has pointed out that the reform of the NDRC, which was the key to re-making the Chinese state into a macroeconomic regulator, was lacking in the 2008 reform (Yeo, 2009).
operators into competitive ones and finish the technical upgrades. Second, the SARFT was granted the authority to regulate the IPTV platform, which essentially did not change the status quo of this sector. While the overall effect of this newly government-driven convergence remains to be seen, there has been little change in the regulatory regime. The incompatibility between the old regulatory model and the expected new converged regulated industry has not yet been resolved.

6. A summary of China’s triple-network convergence discourse

The case presented in the previous section reveals that China’s triple-network convergence policy-making process is still largely captured by the fragmented authoritarianism framework. Policy-making is generally incremental, with primary policy objective in reality being consistent over time. Decisions are made in a number of different and only loosely coordinated agencies and inter-agency decision bodies. Policy change often follows administrative change. Thus, bureaucratic structure itself helps to guide policy decisions, but factions may compete for influence. The process is usually protracted, with most policies shaped over a long period and acquiring a considerable history.

China’s telecommunications were expected to play the role of a leading strategic economic sector and to deliver economic benefits to the Chinese people to legitimize the Communist Party’s leadership (Roseman, 2005). Thus, the major economic objective of telecommunications regulation was network development and maintenance of the industry as an important tax resource for the government (Zhang, 2002). Similarly, the goal of creating a competitive market environment for network building up and, thus, for expanding the national economy has been consistent during the convergence policy-making discourse. The government has constantly pushed for the corporatization of both the telecommunications and cable industries. In telecommunications, an oligopolistic but competitive market has been created, and the industry has experienced astonishing growth in the past 20 years. In cable, while little progress has been made in the realm of digital conversion due to complex reasons, the objective of modernizing the cable industry has not changed. The newest convergence plan reiterated the goal of consolidating China’s fragmented cable networks into a few major networks that are expected to compete face-to-face with telecommunications operators after a 3-year trial period. Indeed, as stated by the State Council, the objective of the new convergence plan was to create a new economic growth area, and convergence was regarded as one of China’s strategic policies in response to the global financial crisis (State Council, 2010).

While the main driving force for convergence stays the same, so do the disturbing factors. National security and ideological control are the most powerful arguments made on behalf of the SARFT. As the cable industry is traditionally affiliated with a television station, it is essentially an integrated part of China’s propaganda system. While the policy of separating cable networks from television stations was formulated as early as 1998 to bypass the sensitive propaganda issue, little headway has been made. Being regarded as one of the most important propaganda outlets, the cable industry could not generate sufficient revenue to make it self-sustainable due to the low subscription fee, which is set by the government to ensure that cable service is affordable to most Chinese families, thus ensuring that the Party’s voice could be effectively delivered to the mass audience. The business expectations of upgrading the cable industry to compete with the telecommunications carriers, which requires a considerable investment and a somewhat more light-handed regulation, often gives way to the political and ideological significance of this industry. In telecommunications, national security is also a strong position held by the government. Telecommunications is declared to be one of the key industry sectors that should be under the absolute control of state ownership. Thus, privatization has never been considered a viable method of reform.

In terms of the policy-making process, an early exploratory study by Gao and Lyttinen (2000) found that China’s telecommunications reform process could only be understood by reviewing the simultaneous changes at the macro-level. Informed by the theory of fragmented authoritarianism, our review of the long-term policy change in convergence reveals that the link between the institutional and policy changes is both linear and causal.

As shown in Fig. 2, at every point of the administrative change, policy change always follows. The 1998 governmental reform, which abolished the MPT and delinked the telecommunications carriers from government ministries, was followed by the attempt to establish a single regulator for the entire information industry. Sequentially, the establishment of the SASAC, which became the new supervisory body of telecommunications carriers and supposedly strengthened their negotiating positions to some extent, forced the SARFT to block the market-driven growth of IPTV in 2003. The 2008 super-ministry reform, which strove to streamline government functions and strengthen macroeconomic regulation, restarted the nearly stagnant convergence process from the top leadership. It is obvious that administrative and policy changes do not occur simultaneously. In fact, there is a consistent pattern that policy change often lags behind institutional change.

As a matter of fact, administrative change has been one of the major driving forces behind the policy changes. As all the major players in China’s information industry are state-owned enterprises and as they have inherently close connections to government ministries, the real regulatory power of both the MIT and the SARFT is rather limited. This is contrary to what is generally expected. Given the fragmented administrative arrangement, it is not surprising and only politically feasible to establish a new administrative settlement before initiating any major policy changes, and often the change is initiated and guided directly by the top leadership.

7. Policy recommendations

Technological convergence has profound impacts on information policies and regulations. Numerous studies have pointed out the inadequacy of a “silo” model in regulating converged services (European Commission, 1997; Frieden, 2002; Sicker, 2002; Werbach, 2002). Various alternatives to replace the “silo” model have been proposed.

7.1. International experiences

7.1.1. Layered model

The layered model is inspired by the prosperity and potential of the internet. Lessig (1999) argued that the internet’s shape and function were determined and regulated by those in control of its architecture. He developed this theory further in his book Future of Ideas and proposed the end-to-end principle of internet regulation, which he believed to be the key feature of internet architecture that allowed the internet to become an engine of innovation (Lessig, 2001). Building on Lessig’s theory, Solum and Chung (2003) developed the end-to-end principle to the layered principle, which was respecting the integrity of the layers model of internet architecture. They also developed two corollaries, layer separation and minimizing layer crossing. Based on these principles, different types of layered models have been proposed (Benkler, 2000; McTaggart, 2003; Werbach, 2002; Wu, 1999).

The discussion of the layered model is largely constrained within academia. Sicker and Mindel (2002) found that many of the details of the layered model and the concepts used to describe the model need to be clearly defined. Similarly, Marcus (2006) argued that the layered model provided surprisingly little useful guidance to the regulator. Interestingly, the paper by Whitt (2004), which probably presented the most complete policy proposal based on the layered model, has attracted the strongest criticism because its position strongly aligned with the policy desire of competitive local exchange carriers.
Nevertheless, even the opponents of the layered model agreed that the current “silos” regulatory regime was inadequate and that the concept of layering was an important analytical tool in the designing of the new policy framework (New Millennium Research Council, 2004).

### 7.2. Antitrust model

An antitrust model for telecommunications regulation would eliminate sector-specific regulation, leaving only the background rules of antitrust to police instances of market abuse. New Zealand was the first, if not the only, country to adopt such a model.

In the late 1980s, New Zealand decided to liberalize and privatize its telecommunications industry. Unlike most other countries that generally took gradual approaches, New Zealand decided not to create a regulatory agency to oversee telecommunications markets and, instead, to rely solely on competition policy to protect consumers (Lojkine, 1992). New Zealand’s model was described by Dordick as “testing the limits of deregulation” (Dordick, 1989, p. 29).

New Zealand seemed to make significant progress initially. However, dissatisfaction of the public and the government with the lengthy litigation of access and interconnection issues impelled the reversion of the regulations (Haucap & Marcus, 2005). The passage of the 2001 New Zealand Telecommunications Act, in which the Commerce Commission was mandated to regulate ex-ante certain services, indicates that New Zealand had, to some extent, reverted to a traditional, though comparatively light-handed, regulatory regime.

### 7.2.1. Institutional design: a simplified layered approach

Although the 2008 convergence plan followed the super-ministry reform, the administrative structure that had hindered the convergence in the last two decades was not streamlined. While the Chinese government has acknowledged the problems of the traditional “silos” model in regulating converging services, it continues to leave telecommunications and cable to different regulators.

To be politically viable, any proposed institutional design should not touch the Party’s baseline of propaganda control. In order to streamline the regulatory process for converging information industry, a likely administrative rearrangement is to establish a new independent regulator to supervise both telecommunications and cable. Essentially, the idea is not a new one; rather, it is a reconfirmation of the objective of the 1998 government reform. China has been very resistant to the phrase “independent regulator.” Apparently, there is a common misunderstanding in China that an “independent regulator” is some renegade agency outside the control of the state and the Party. It is a concept that is inconsistent with their culture and their guiding governmental policies (Taylor & Zhang, 2005). Ironically, one of the primary objectives of the formation of the former MII was to separate the government from the telecommunications carriers, which, to some extent, was the effort made by the Chinese government to meet its WTO commitment. As the MIIT does not share any interest with any specific carrier, at least on the surface, the MIIT meets the WTO’s definition of independent regulator in telecommunications. On the cable side, the SARFT does not own any cable operators. At issue is the inherently close connection between the cable operators and television stations. Similar to the idea of an “independent” regulator, the separation of cable and television is an old idea that has been on the SARFT’s policy agenda for a many years. As all the cable operators are also state-owned, it is politically feasible to officially transfer the ownership to the SASAC. With both telecommunications carriers and cable operations completely delinked from their respective mother ministries, it is possible to establish an independent regulator to cover the two.

There are some issues that need to be carefully addressed for the proposed independent regulator to function properly. First, the Chinese government must position the cable industry as a profit-seeking commercial business instead of the Party’s propaganda outlet. Certainly, the government could impose regulations, such as “must-carry” or “must-be-state-owned” rules to maintain strict control on what cable would be permitted to carry. However, there should be a metaphorical change from viewing cable as the Party’s private property to viewing it as a public enterprise. Second, the Chinese government has to properly fit the proposed independent regulator into the existing Chinese administrative system, particularly with the presence of the SASAC. Traditionally, the Party often establishes a super-ministry working group to deal with complex inter-ministry issues. For example, the 2008 triple-network convergence plan is led by the leading group chaired by Vice Premier Zhang. However, those leading groups are temporary. A possible solution is to place the independent regulator under the direct leadership of the State Council.
7.2.2. Competition policy: manageable competition

In his study of the development of China's 3G service, Xia (2011) argued that the unique institutional environment qualifies the Chinese telecommunications industry as an interesting test field where industry performance may be achieved through administered competition among SOEs. Since economic growth has the highest priority in China’s convergence policy and SOEs continue to dominate this sector, it is likely the Chinese government will continue its effort to promote facility-based and manageable competition in the convergence era.

To have a facility-based competitive market structure, the Chinese government is likely to initiate a new wave of mergers, particularly in the cable market. Although the loose relationship between cable operators and the SARFT brings dynamics into this sector, it also leads to ineffective regulation, especially at the local level. In addition, fragmented cable operators could not compete with the already consolidated and centrally managed telecommunications carriers. In fact, consolidating the fragmented cable network to compete with telecommunications carriers has been clearly stated in the “Overall Convergence Plan.” Certainly, there are other policy alternatives for introducing competition such as unbundling the network element, which lowers barrier to entry and might lead to competition more quickly. However, forming a competitive market structure itself is not the primary concern of the Chinese government, and unbundling is often criticized for discouraging facility-based investments. Thus, unbundling is unlikely to be a policy choice in China. In addition, if competition takes place among a handful of major state-owned companies, it makes itself more manageable and, thus, desirable to the Chinese government. To this end, privatization is also unlikely to occur, and private investment will be discouraged. The government is likely to continue to retain absolute ownership of essential information infrastructures. As expressed in a famous Chinese slogan, the principle is “competing internally (domestically) and being united externally (in the international competition).”

To avoid wastefully repetitive construction and to assure network integrity, the focus of the Chinese government’s competition policy should turn to the issue of interconnection. First, cross-entry of cable and telecommunications should be allowed. As evidenced in the U.S., the cable industry has grown into the biggest competitor of the telephone industry in the broadband access market. While content is likely to be controlled by the government, it is feasible to open the conduit for competition. Second, the interface between the conduit and the content provider should not be infringed and the vertical integration between the two layers should be prohibited. Politically, structural separation is in line with the Party’s pursuit of absolute propaganda control; thus, it is viable. Economically, it ensures a fair playing field for both telecommunications and cable carriers. Based on the above-mentioned principles, a double-asymmetric competition policy shall be taken to facilitate the convergence plan. At the conduit level, preferential measures should be given to cable operators to strengthen their capability to compete with telecommunications carriers. At the content level, on the other hand, the openness of the interface should be emphasized and cable operators should be further delinked from the television stations. Fig. 3 illustrates the regulatory regime discussed in this section.

8. Concluding remarks

Drawing on the theory of fragmented authoritarianism, this paper examines China’s uneven path to convergence. Theoretically, this paper complements the existing research on China’s information policy, which is mostly one-shot and sector-specific, with a complete treatment of convergence policy evolution that involves both telecommunications and cable. Practically, this paper finds that there are two remarkable characteristics in China’s convergence policy-making, namely, the causal relationship between administrative and policy change and the consistent policy objectives, which will continue to shape the future to come. Based on the above findings, a sketch of the future regulatory regime and relevant policy recommendations are provided.

Regulatory models vary from country to country, and there is no simple “best practice.” However, facing the convergence of technologies, regulators around the world have reached the consensus that the traditional “silo model” is no longer adequate. While the Chinese policy makers should be open minded and learn from foreign experiences, it is important to bear in mind that all regulatory measures should be made in accordance with China’s social, economic and political conditions, particularly the objectives of the Chinese government. Given state ownership and strict propaganda control as two prerequisites for convergence, China will provide a unique case for the rest of the world in the design of a convergent regulatory regime.

This paper opens at least two lines of inquiry for future research. Information policy-making in China involves many institutional players, and the direction of convergence policy will largely depend on the changing relative strengths of those institutions. This paper has not tried to provide an exhaustive list of players in this arena, some of which, such as consumer demand and technological innovation, may play increasingly important roles in the future. Thus, it is believed that the analytical model presented in this paper needs to be continuously refined. Second, given China’s unique economic and political system, it
is interesting to conduct comparative studies, particularly between China and other countries. Particularly, China has undoubtedly led other developing countries in telecommunications, at least in terms of network development, over the past 20 years. Whether the Chinese model will continue to succeed in the convergence arena remains to be seen.

Acknowledgments
This project is supported by the Major Program of the National Natural Science Foundation of China (71090402), China's Ministry of Education Innovative Research Team (IRT0860) and the Fundamental Research Funds for the Central Universities (SWJTU11CX092 and SWJTU11ZT32).

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