

Regulatory Incentive and Regulatory Governance: An Institutional Perspective on USO Regime in China

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Abstract. Three years after the execution of the VAP, Chinese government has managed to hoist its national village penetration to 98.9% at the end of 2006, which means about 99% of the total administrative villages nationwide have now been connected by at least two workable telephone lines. As part of the goal of its recent ideology of harmonious society and building “socialist new villages,” the Communist Party of China is now kicking off an even more ambitious goal to further promote telephone penetration as well as Internet diffusion in its vast rural areas. All of these have been done in the absence of what seems to be a sustainable universal service regime. The current regime has already demonstrated a number of drawbacks or problems, the most salient part of which has been its nature of uncertainty and inconsistency, both in terms of regulatory incentive and regulatory governance. Despite Universal Service Fund (USF) has long been promulgated by the industry regulator as an ideal solution to these problems, there also lack of sound warrant for this regime when taking into account the unique institutional endowment in China. This paper first revisits the objective of universal service obligations (USOs) in China which is closely followed by close examination of problems with current regime from an institutional perspective, then by discussion of the possible mode for China to better implement USOs under drastic socio-economic transition and political transformation. The paper concludes that there currently exists a pervasive “implicit law” or *Qian Gui Ze* permeating in almost every arena in China. This “implicit law” has been growing in importance and has become a secondary (sometimes primary) mechanism beyond standard market force in influencing private and public choices, the allocation of resources, and government’s role. Under this institutional endowment, USF regime is probably unable to serve the best interest of the public while a “non-subsidy” and “joint-commission” regime may serve the goal better where “explicit law” can dominate.

Keywords. Universal service obligations (USOs); Regulation; Economics of Institution, Transitional economy, China.

JEL classification code: L51, L96, L98, O17, P31, I38.

I. Introduction

One of the consequences of telecommunication deregulation faced by Chinese government is the issue of universal service provision which has since become, among others, a spotlight and pressing issue of public policy drawing extensive public attention both domestic and abroad.¹ Due to the end of the era of internal

[†] This article is primarily based on one of my recent published works. Taking an institutional perspective, issues regarding the problems as well as policy prescription are expanded in this article. See, Jun Xia, 2007, “Towards a Sustainable Institutional Arrangement for USOs in China: Current Status, Support Mechanisms, and Regulatory Governance” 3 I/S: A Journal of Law and Policy for the Information Society, 147-181.

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¹ See, e.g., Jun Xia & Tingjie Lu, 2005, “Universal Service Policy in China: Building Digital Bridge for Rural Community”, The 33rd Telecommunications Policy Research Conference, Arlington, VA, USA.

cross-subsidy universal service support mechanism within a monopolistic telecom system in 1998, Chinese government now faces the challenge in finding a new solution to the USO issue under drastic changes took place over the past decade in terms of both regulatory transition, industry consolidation, and general economic and socio-cultural conditions. Nonetheless, it seems not easy a task for China to work out an optimal policy prescription in a short period of time, particularly when the economy is still in the process of transition.

Given this context, Chinese government started to launch a Village Access Project (“VAP”) in 2004 as an interim regulatory arrangement to address the pressing issue of rural communications in the hope of eventually connecting all the administrative villages nationwide to basic telephone services. Three years after the execution of the VAP, Chinese government has managed to hoist its national village penetration to 98.9% at the end of 2006, which means about 99% of the total administrative villages nationwide have now been connected by at least two workable telephone lines.² In so doing, the six carriers who are assigned VAP tasks have spent totally RMB 0.54 billions in building network infrastructure to extend their networks to rural areas.³ On the accomplishment of the goal of the first phase of the Project, China is now considering to expand the scope of universal service efforts. As part of the goal of its recent ideology of harmonious society and building “Socialist New Villages,” the Communist Party of China (CPC) is now kicking off an even more ambitious goal to further promote telephone penetration as well as Internet diffusion in its vast rural areas.

The objective of this drive can be briefly summarized as including “telephony to village and broadband to township”, which means, by the end of the 11th Five Year Planning (“FYP”), each administrative village is to be connected to telephone service and each township connected to broadband Internet service. Echoing the CPC’s Central Committee and the State Council on “The Promotion of the Establishment of Socialist New Villages”⁴ for the 11th FYP, in early 2006 MII promulgated the “Suggestions on the Promotion of the Establishment of Socialist New Villages”⁵ (hereinafter “Suggestions”). The “Suggestions” marks a new level of effort to address the “Three Agrarian Issues,” part of which include connecting all those natural villages with more than twenty households and with available parallel power infrastructure by the end of 2010.⁶ The “Suggestions” loosely outline the significance, guiding principles, objectives, implementation, and administrative measures of the ICT sector’s participation in the nationwide “Socialist New Villages” drive.

In the absence of an explicit universal service regime, the VAP has been serving as a useful platform since its inauguration for implementing USOs in China. While administration of the VAP is primarily the MII’s responsibility, participation from local government is also expected. There is a division of responsibilities between the MII and provincial communications bureaus (“PCBs”) in this regard. Under the

² Ministry of Information Industry, 2007, *Briefing on the VAP*, No1 of 2007, available at http://www.mii.gov.cn/art/2007/03/21/art_990_29438.html

³ *Ibid.*

⁴ CPC Central Committee & State Council, “*Suggestions on the Promotion of the Establishment of Socialist New Villages*” (official document, the 5th Session of the CPC’s 16th Congregation, 5th sess., 2005), http://www.gov.cn/jrzq/2006-02/21/content_205958.htm (in Chinese).

⁵ Ministry of Information Industry (MII), Notice, *Suggestions on the Promotion of the Establishment of Socialist New Villages*, No. 229 (2006), http://www.mii.gov.cn/art/2006/04/14/art_541_10682.html (in Chinese).

⁶ See, e.g., Ministry of Information Industry, *Briefing on the VAP*, No 2 of 2007, available at <http://www.mii.gov.cn/module/download/down1.jsp?filepath=http://www.mii.gov.cn/attach/0/070612161844798.doc>

direct supervision of a deputy minister of the MII, the Department of Telecommunications Regulation (“DTR”) of the MII acts as the specific acting body. The PCBs take charge of daily supervision and evaluation of developments in the VAP programs, within their jurisdictions, as well as leveraging other local government agencies for assistance in terms of capital investment and supportive taxation policy.⁷

Technologically, carriers are encouraged to first consider the expansion of their existing networks. If proven indispensable, the application of wireless technologies, including satellite, will also be permitted by the MII.⁸ Where wireless technologies are proven to be necessary, the MII would encourage the use of those with domestic proprietary intellectual property. The MII also provides privileges to those carriers who are, or will be, supplying services to rural areas for the use of radio spectrum unless the same spectrum is applied to a more important entity.⁹ To ensure affordability of telephone services to already connected areas, the MII exercises a price cap regulation on the pricing of rural services. Tariffs on rural services should not be higher than the carriers’ existing tariff schemes.¹⁰ Carriers are supposed to secure interconnection of the VAP programs with existing networks. These carriers are prohibited by rule from dismantling or disconnecting rural telephones for any excuse, including unpaid tariffs.

The fact that all of these have been achieved in the absence of what seems to be a sustainable universal service regime does not necessarily mean that the current institutional arrangement regarding USOs can also serve the long term goal. The current regime has already demonstrated a number of drawbacks or problems, the most salient part of which has been its nature of uncertainty and inconsistency, both in terms of regulatory incentive and regulatory governance. Despite universal service fund (“USF”) has long been promulgated by the industry regulator as an ultimate ideal solution to these problems,¹¹ it is still questionable whether the USF regime is fully warranted when taking into account the unique institutional endowment in China.

If viewed through the lens of new institutional economics, the legislation and enforcement of universal service regulation involves contracting problems among various stakeholders in question. Nonetheless, current institutional environment in China seems to be characterized by the existence of pervasive “implicit law”, or *Qian Gui Ze* (“QGZ”) in Chinese language.¹² This QGZ permeates in almost every arena in China and is growing in importance and has become a secondary (sometimes

⁷ Ministry of Information Industry (MII), Notice, *On the Full Rollout of the Village Access Project in the Year of 2005*, No. 55 (2005), http://www.mii.gov.cn/art/2005/12/29/art_992_4081_2.html (in Chinese).

⁸ *Ibid.*

⁹ Ministry of Information Industry (MII), Notice, *On the Full Rollout of the Village Access Project*, *supra* note 61; Xi, Speech, *supra* note 33.

¹⁰ Ministry of Information Industry (MII), Notice, *Rural Communications Universal Service*, *supra* note 54.

¹¹ The Ministry of Information Industry has been in the process of formulating the “Administration of the Universal Service Fund”. See, e.g., CWW.COM.CN, “*The Ministry of Finance Has Initiated the Work on the Universal Service Fund*”, available at http://www.cww.com.cn/news2/news/htm2004/20040527_20J2L.htm. The establishment of the USF is actually part of the “Planning on Telecommunications’ System Reform” issued by the central government. See, State Council of China, *The Planning on Telecommunications’ System Reform*, State Council Order No. 36, Dec. 11, 2002.

¹² See Jun Xia, 2007, “*Market Force or Qian Gui Ze? Interpreting Market Behavior in Chinese Telecommunication Industry*”, the 35th Telecommunications Policy Research Conference, Arlington, VA, USA

primary) mechanism beyond standard market force in influencing private and public choices, the allocation of resources, and government's role. The uniqueness of this institutional endowment would inevitably exert influence on the designing of the USO policy model. The objective of this paper is to revisit the current USO regime in China from institutional perspective and trying to gauge what seems to be the key institutional constraints in designing regulatory incentive and governance as well as the possible solutions to address these constraints.

To this end, the rest part of this paper is structure into three subtopics. Next part (*Part II*) first revisit the objective of USO in China, which is right followed by the discussion of what seems to be the sustainable institutional arrangement for fulfilling this objective. In so doing, *Part III* of the paper first examines the possible problems embedded in the current USO regulatory regime based on the understanding of the possible effect of current institutional endowment, both at economy level and industry level, on the legislation and implementation of universal service policy in China. Based on findings in previous part, *Part IV* looks specifically at the possible mode for China to better implement the USOs under this drastic socio-economic transition and political transformation. Experiences of countries elsewhere such as the USF will be compared with China's unique circumstances in order to identify a suitable policy solution for China, in which both regulatory incentive and governance issues are to be addressed, particularly regarding support mechanisms. *Part V* concludes this article.

II. The Objective of the USOs in China Revisited

The deployment of telecommunications can stimulate, as well as be an indicator of, development. The construction of telecommunications networks in rural China has contributed remarkably to economic growth and social development. This justifies the argument that the diffusion of telecommunications is not only a mere trade-off between equity and efficiency, but also complementary to the two goals. In China, public attention to, and debate on, universal service issues is a recent event.¹³ While consensus has been achieved on the necessity to provide universal service under a deregulated market, arguments are mainly focused on issues about the objectives, support mechanisms, and regulatory governance. To facilitate the policy goal, certain scientific decision-making processes need to be followed by China when formulating its USO programs. These processes may include steps of defining objectives, identifying barriers, developing alternative solutions, evaluating and deciding, and implementing and controlling.

Although countries may differ from one another in the specific objectives of their USOs, one common mission faced by all is to properly define the scope of universal services. Too broad of a scope may lead to much distortion while too narrow a scope cannot ensure the goal of maximum equity (and efficiency). For most of the 20th century, universal service meant voice grade access to the Public Switched Telephone Network ("PSTN"), including access to emergency and operator services, and directory assistance.¹⁴ However, the emergence of advanced technologies and technological convergence in the end of last century has led to worldwide rethinking of universal service policy. The newly rethought policy would include most recent services, such as broadband and internet access. In defining the scope of basic services, the two major considerations are the status of socio-economic development

¹³ See e.g., Xiang Cai, *Costing of Universal Service and Its Implementation Under Competition* (in Chinese), report of Soft-Science Research Program Sponsored by the Ministry of Information Industry of China (1998), as referred to in Jun Xia & Ting-jie Lu, "Universal Service Policy in China: Building Digital Bridge for Rural Community", The 33rd Telecommunications Policy Research Conference, Arlington, VA, USA; Jun Xia, "Telecommunications Universal Service Policy: China vs Western Countries" (in Chinese), 14(4) *World Telecommunications (Shi Jie Dian Xin)* (Beijing: 2001), 3-9.

¹⁴ See, e.g., Colin R. Blackman, "Universal Service: Obligation or Opportunity?," *Telecommunications Policy*, no. 3 (1995): 171.

and the national informization strategy. This definition must also follow technological and economic principles. Technologically, services that come under USOs do not have to be the most advanced ones; instead, the scope should demonstrate a basic level of service that also responds to regional differences and uniqueness. Economically, the scope of services should be limited only to those services where market forces fail, when firms as profit-maximizers do not voluntarily opt to supply the services.

In China rural communications have become the primary focus of the universal service effort.¹⁵ The degree of severity in the deprivation of telecommunications service from rural areas ascends from eastern, central, to western regions. Thus, priorities need to be placed accordingly. To summarize, the rationale for emphasis on rural access in China is multifold:

- *Politically*, the CPC put forward in the Sixteenth Congress the goal of establishing an equitable and harmonious society with a comfortable standard of living. The “Three Agrarian Issues” is supposed to be a focal point, a goal which has recently been expanded to a larger concept of building “Socialist New Villages.” To achieve this goal, the improvement of rural communications, among other things, was intended as a sign of the Party’s drive to address these issues.¹⁶
- *Economically*, the growth of the agricultural industry is far behind other sectors in China largely due to insufficient technological innovation as well as inadequate infrastructure. This has become a major impediment to overall economic growth.¹⁷ Rural economic growth responds heavily to infrastructure investments including telecommunications that have been regarded as an important engine for rural growth and development.
- *Additionally*, the development of urban and rural areas is interdependent, as a harmonious society and healthy economy can only be achieved through simultaneous development in both urban and rural communities.

In this context, the basic goal for China in its USO policy at its current stage is to ensure universal access to every rural community, which would mean accessibility of basic services to every “administrative” village rather than every “natural” village. The warranty for the concept of community access rather than per-hundred-inhabitant penetration at this point is reasonable when technology and market demand is considered, though political and ideological forces are now inclined to go even further to advocate a new round of large scale crusades to eventually deploy most ICT services to every corner of rural China.¹⁸ It is conceivable that local loops are also

¹⁵ Ministry of Information Industry (MII), Notice, *Rural Communications Universal Service—A Guideline to the Implementation of the Rural Access Project*, Jan. 16, 2004, http://www.mii.gov.cn/art/2005/12/29/art_992_4083.html (in Chinese).

¹⁶ *Ibid.*

¹⁷ During the 10th FYP, GDP growth per annum averaged about 9.5% while the same indicator for the agricultural sector is below 5%. According to the National Bureau of Statistics of China, value-added from primary industry (agriculture) in 2005 only accounts for 12.4% of the total economy, while the secondary and tertiary sectors accounts for 47.3% and 40.3%, respectively. See *See, e.g.*, National Bureau of Statistics of China, “*China Statistical Yearbook 2005*,” http://www.stats.gov.cn/tjgb/ndtjgb/qgndtjgb/t20060227_402307796.htm, and <http://www.stats.gov.cn/tjsj/ndsj/2005/indexeh.htm> (in Chinese, accessed Nov. 23, 2006).

¹⁸ Ministry of Information Industries (MII), *The MII Sets Forth New Goal for the VAP in 2006*, http://www.mii.gov.cn/art/2006/02/23/art_990_7047.html (in Chinese, accessed July 1, 2006).

bottlenecks of universal service for rural region and there is a lack of both economic feasibility and political urgency for the government to take on household penetration as a current objective. In this sense, the objective (but not necessarily the regulatory regime) of the VAP has been pragmatic from the very beginning.

Emphasis on the concept of community access does not necessarily mean to overshadow the significance of nationwide informization objectives. The goal of community access can serve as a preliminary foundation, based on which more ambitious universal service efforts may be initiated. The concept of community access in China should last for a long time in the foreseeable future; this means that the definition of universality would be a community-based concept, whether it be through the servicing of plain-old telephone or Internet applications currently defined as advanced services. In its 11th FYP, China's government set forth the objective of telephone access to every village of no less than fifty households and Internet access to every township.¹⁹ This objective is both pragmatic and feasible based on current conditions as well as possible future changes in the market and future economic development. Putting aside possible future political dynamics, individual access to either telephone or Internet service in the near future (ten years or even beyond) in China should not be covered under regular USO programs, particularly if account is taken of the stage of general market development.

The adoption of the community access concept does not mean that regional differences should be neglected. Conversely, the definition of universality should respond to regional differences, primarily in terms of income. Therefore, in most western and central regions, the recent goal of USOs is probably to ensure every administrative village has at least one working telephone line.²⁰ While this is actually the current focus of universal service efforts, in relatively affluent areas, such as those in eastern China, the USO goal may also include household penetration and Internet diffusion, even though voice grade access should still be the focus. The responsibility of the central government should be limited to only the nationwide provisioning of a basic level of services. Advanced services (such as Internet access) should be the responsibility of the local government. The central government has issued a list of poverty-stricken counties in twelve central and western provinces that need urgent attention in poverty alleviation.²¹ The listed counties coincidentally cover most of the unconnected villages, which the current USO programs should target.

In summary, the implementation of universal service in China in the foreseeable future should be primarily based on the community access concept even though, in the process, associated political dynamics (e.g., the "Three Agrarian Issues" or "Socialist New Villages") may lead to the advocacy of even more ambitious goals. Based on China's condition, a two-phase concept can be identified in defining basic services. The short-term objective is to make voice grade access to PSTN available, either through wireline or wireless, at a reasonable quality and rate to all communities no matter their geographical locations, socio-economic standing, and profitability. The long-run objective should be the promotion of household penetration and the deployment of Internet access.

III. Problems with Current Regime: An Institutional Interpretation

¹⁹ *Ibid.*

²⁰ Ministry of Information Industry (MII), Notice, *Rural Communications Universal Service*, *supra* note 15.

²¹ The most recent version of the list has been expanded to include more provinces. See, e.g., State Council Leading Group Office of Poverty Alleviation and Development, *List of Poverty-Stricken Counties Determined by Provinces*, http://www.cpad.org.cn/data/2006/0303/article_312.htm (accessed Nov. 23, 2006).

1. Problems with Current Regime: A Review

Although it is generally unrealistic to expect China to adopt the kind of policy solution that would be characteristically imbedded in a market economy, there still exists some room for possible improvement in the present regime. As an interim arrangement, the VAP serves the government's short-term objective well, however, problems remain. In addition to the absence of a long-run objective and an explicit support mechanism, the present regime has demonstrated a number of other drawbacks or deficiencies in terms of its unsustainability, inconsistency, fragmented governance, and unattended agency problems; all of these drawbacks have been compromising the execution of the Project itself. For example, without funding, carriers are used to choosing a wait-and-see strategy toward their assigned tasks. This strategy was applied until substantial bureaucratic interventions began around the middle of 2005, a time when the deadline was closely approaching.

The VAP was devised and launched in the absence of an expressly defined universal service regulatory regime. Due to the possibility of both incentive incompatibility and ineffective governance, there is no sustainable guarantee for the objectives of universal service. In some areas where connections have been made, there is a tendency to fall back to disconnection because of alleged business loss. Meanwhile, the current method of assigning VAP tasks through the conventional governmental command chain is most likely causing hidden problems for the future implementation of USOs in China. For one thing, the approach currently used in task distribution may be creating rigidity instead of flexibility in the patterns of USO award mechanisms. Such rigidity would be detrimental to the possible competitive supply of universal service in the future. In addition, the government's role is not clearly defined, and the carriers' obligations are not strictly binding.

Central-local relations in terms of infrastructure investment in China have long been subtle. Although participation from governments and carriers at both central and local levels are expected for the VAP, an effective institutional approach for coordination remains nonexistent. As divisions of provincial governments, PCBs report directly to MII. Much of the local assistance, such as the supportive taxation policy and the use of land and power, however, is supposed to be from other divisions of the local governments beyond the PCBs' reach. Meanwhile, the division of responsibilities between the central offices of the carriers and their provincial subsidiaries, with regard to USOs, are ambiguous. The VAP tasks were assigned to the central offices and, in turn, further distributed by the central offices to their provincial branches, based not on measurable variables such as revenues but mostly on geographical adjacency. Therefore, disproportionate burdens arise among the branches of the GSOEs, which has been one of the practical reasons for delay. The central-local conflicts are further fueled by the absence of an explicit support mechanism, for which the government cannot even provide a timetable. The enforcement of the VAP received resistance at the very beginning from carriers whose branches avowed a funding deficiency.

Without incentive compatibility and participation constraints, opportunistic behaviors such as suspension occurred among most carriers in the early stage of the VAP. For those provincial telecom branches who had been assigned the VAP tasks, one paradox faced by them was that the less developed the areas in which they were located, the more burdens they were forced to bear. This is because the VAP tasks are located mostly in relatively deprived areas but the distribution mechanism is based on geographical adjacency. Without funding in sight, the optimal strategy for these branches is simply to wait. Meanwhile, even though the MII is the primary agency responsible for the fulfillment of the village-penetration goal, cooperation and assistance are also expected from other central government departments. However, due to pervasive, unattended agency problems within China's bureaucratic government, the attention has not been adequate.

Government-business relations in China have long been ambiguous. This ambiguity is unlikely to dissipate with the rollout of the VAP. The current institutional arrangement toward USOs lacks long-run sustainability in the course of market reform. Neither is the regime compatible with competition. This can lead to a number of hidden problems for emerging policy, particularly when there has existed a legacy of complicated interpersonal relations between regulatory officials and industry executives. In the meantime, the current six carriers are government dominated firms where ownership is highly concentrated. For this reason, among others, a business culture featuring entrepreneurship and professionalism remains elusive in this conventionally government-run industry. In addition to network externalities, unattended agency problems within SOEs can sometimes make necessary cooperation between carriers difficult to happen, even if it accords with the interests of all sides involved and society in general. The ownership system in China is not only impeding the future progress of market reform in the long-term, but it is also impairing the market-oriented execution of current rural access programs in the short-run.

While the difficulties described above only scratch the surface of the deficiencies underlying the present regime from a technical point of view, the fundamental causes are arguably rooted in the political foundation, and consequently, the legal and economic system. The VAP is implemented in the absence of general competition policy and sector-specific regulatory law. Hence, given China's unique condition, it is reasonable to forecast that there is a need for an integrated, rather than hodgepodge, approach in considering an emerging universal service regime. To this end, an institutional perspective may just serve the purpose.

2. *Institutional Foundation of USO Regulation*

One-sided economic liberalization with fundamental political regime untouched in China has resulted in a specious market economy and a skewed institutional environment in which firms, often government-dominated, are supposed to compete under confused roles and forces.²² In the case of telecommunications in China, the incumbent operators, which are all government-dominated SOEs, have demonstrated somehow peculiar behaviors toward not only arenas as market entry, price rivalry, infrastructure investment, network interconnection, and universal service obligations. Despite possible variance in underlying incentives, one common characteristic of these behaviors is that they all seem to be influenced by an "implicit law" or the QGZ which is imbedded in current socio-economic system. Unlike regular explicit system of rules and laws which are relatively easier to understand, this "implicit law" is difficult to fathom.

In another parallel work, this author constructed a two-tiered analytic model based on which how the implicit law is evolving as a major force in resource allocation in general and a major determinant in telecom industry performance in particular is carefully investigated. First, the general status of enforcement of institutions at economy-level is determined by treating the institutions of an economy as comprising of two general dimensions, i.e., *political* and *cultural*, hence gauging the relative level to which the formal and informal institutions are enforced. Second, sector-specific institutions is treated as comprising of four basic elements, i.e., regulatory regime, corporate governance, industry norms, and vested interest which interact intricately with each other as well as interact externally with economy-level institutional endowment.

²² See, Xia, 2007, "Market Force or *Qian Gui Ze*", *supra* note 12.

By means of this two-tiered analytic model, it is proved that the general enforcement status of institutions in China is leaned toward informal or *cultural* dimension while the enforcement of formal or *political* dimension is highly compromised due to the absence of a clearly defined institutional objective as well as a self-enforcement mechanism, thus leaving much room for undesirable part of cultural legacy to permeate the general institutional system and sometimes disable the functioning of the formal mechanisms. In a typical situation where “public power” is privatized as “private power”, leadership of businesses or public organizations become “insiders” who actually control over the process of economic activities as well as proceeding of policy making. This situation is further aggravated to be even more anti-productive when this economy is basically still rooted in a “subject society” in which the “rule of will power” makes the winners (insiders) take all. Consequently, formal rules are usually not adequately observed, instead, individuals or organizations often follow certain kind of QGZ.

Given this context, the enforcement status of institutions at industry level not only seems to mirror that at economy level but also is further complicated by sector-specific institutional endowment which has been brewing confused multiple-roles for firms who are to behave under confused multiple-forces. Currently, the roles played by Chinese telecom firms include:

- *Rivals* as market participants,
- *Siblings* as state-dominated SOEs,
- *Partners* as network operators, and
- *Factionist* as inside-controlled SOEs.

All of these roles are also supposed to be influenced by four distinct industry-level forces which include:

- *Regulatory force*: Primarily from the MII’s execution of regulatory rules, and also possibly from the SDRC’s role as macro-economic administrator (pricing in particular) and the initiatives of other government departments at the central government’s discretion.
- *Administrative force*: Primarily from the SASAC’s execution of power as the representative of the state-assets, and also possibly from initiatives of other departments at the central government’s discretion.
- *Market force*: Primarily from the private incentive of firms and individuals to maximize private preference.
- *QGZ (informal force)*: Taking the form as industry norms and customs that are determined by fundamental assumptions and values held by members or groups of members who take an interest in the industry.

These forces and roles interact with each other, and some force reinforces a role (such as market force can reinforce a carrier’s role of being a market player) while another weakens a role (such as administrative force can weaken a carrier’s role of being market player), and vice versa. Based on this sector-specific institutional endowment characterized by the existence of these confused roles and forces, behavioral dimension of Chinese telecom market can be further decomposed into basic situations (*Table 1*). Every shaded grid In *Table 1* can be treated as a basic situation in which a carrier play a given role under a given force, notwithstanding in

real world a carrier may be encountered by a hybrid of these basic situations. The thickened grids represent those who are in accordance with the goal of neo-classic efficiency while the rest grids represent either weakening the goal or a vague effect. If super-simply suppose that each grid turns up with an identical probability (1/16), then it can be predicted that Chinese telecom industry is at most 3/16 (three out of sixteen) neo-classic market-driven.

Table 1. Interactions of Forces and Roles

	Market	Regulatory	Administrative	QGZ
Market Player	R	R	W	W
Sibling	W	W	R	R/W
Partner	W	R	R/W	R/W
Factionist	W	W	R*	R

Source: See, Xia, 2007, “Market Force or *Qian Gui Ze?* *supra* note 12.

Note: (1) “R” denotes “reinforce”, “W” denotes “weaken”, “R/W” means the effects of “reinforce” or “weaken” is not that black and white. (2) Whether administrative force reinforces factionist role depends on the goal of the state asset administrator, or specifically in Chinese case, the SASAC. It has been an unequivocal fact that over the years the SASAC has seemed to be happy with its position to quench rather than foster competition.

As a matter of fact, regulatory efforts over the past decade failed almost in every aspect of industrial regulation in telecommunications in China. These efforts include, among others: (1) *Market entry* (as the case of the entry of XLTs by China Telecom and China Netcom and the sleeping wireline license held by China Unicom)²³; (2) *Price regulation* (as the case of the regulatory failure in government-pricing (in the case of dominant carrier) and directive-pricing (in the case of China Unicom and China Railcom) witnessed in recent years²⁴); (3) *Interconnection* as demonstrated in dominant operators’ unwilling to provide effective interconnection with dominated firms by either postponing the connection or compromising the quality of service²⁵; (4) *USOs* as demonstrated in the strenuous regulatory efforts by the MII in persuading

²³ China Telecom and China Netcom entered wireless market right after the split in 2002 by manipulating terminology of “technology”, avowing that XLT is wireline technology and therefore the XLT service is wireline service. Technocrat as the MII officials may be, allowing the manipulation of terminology is no different than playing the ostrich. Some industry observers speculate that the regulator might have been captured by interest group. China Telecom’s second divestiture, the former MPT attempted to bring China Unicom into wireline local market by awarding the later, along with its mobile license, a wireline license. The purpose of this attempt backfired because of China Unicom’s insufficiency in capital and difficulty in securing interconnection with the incumbent local wireline operator, the former China Telecom.

²⁴ Implicitly taking the forms of service-package-plan, rebate, free terminal equipments, free minutes, direct price discount, mobile carriers have been breaking the price regulatory rule one after another since the turn of the century. As a matter of fact, the MII eventually scored a lucky hit in price regulation as over the years certain level of price rivalry happens in this industry under, but not because of, regulation.

²⁵ The undesirable status of interconnection regulation substantially affected carriers’ strategies in network deployment by partly stimulating the industry wide duplicate construction in network infrastructure which has sunk hundreds of billions of RMB. For detailed calculation of the duplicate investment, See Jun Xia, 2006, “*Head-to-Head or Hand-in-Hand: Does Structural Reform Have Led to Meaningful Competition in China,*” The 34th Telecommunications Policy Research Conference, Arlington, USA.

and lobbying while eventually the goal of the VAP was accomplished only after substantial political pressure.

In this case, one conclusion that can be drawn is that the behavioral dimension of Chinese telecom firms is most likely to be based more on their roles as factionists than their roles as market players. Accordingly, competition, if any, is probably attributable in large part to government-sponsored rivalry among factionists, or *neo-institutional competition*, rather than *neo-classic competition*. In other words, the conduct of the firms, including competition, has largely been contributable to the influence of the “implicit law”. It is astounding to conclude that the QGZ has been growing in importance and actually become a secondary or sometimes even primary mechanism beyond standard market force in influencing private and public choices, the allocation of resources, and government’s role.

Hence, one-sided economic liberalization and industry deregulation in China has led to neither sustainable nor genuine and meaningful competition in telecommunications in the absence of self-enforcing formal mechanisms of institutions as well as the development of parallel market-oriented cultural institutions. Meanwhile, current socio-cultural environment itself might have been a direct consequence of the one-sided reform and the improvement may not come before further efforts in political reform. In this sense, the mission of economic reform faced by China seems not to merely cease at *neo-classic market reform*, instead, China is probably encountered by the challenge of *neo-institutional market reform* in which firms are to become real market players under a scientifically designed self-enforcing institutional environment.

3. Possible Effect of Current Institutional Environment on USO Regulatory Regime

The designing and implementation of USO regulatory regime needs to meet some basic criteria. These criteria include, among others:

- *First*, the regime has to demonstrate *continuity* and *sustainability*, which should accommodate the smooth transition from the current regime toward the emerging one, and ensure a predictable flow of funding on a regular basis.
- *Second*, the regime has to demonstrate attributes of *fairness* and *transparency*, particularly when private and foreign participation in the sector become realistically substantial.
- *Third*, the regime should be *efficiency-friendly*, which means it should not cause much distortion in terms of investment and choice of technology.
- *Fourth, and last*, the regime should incur *low enforcement cost*, which has become one of the most controversial issues in contemporary China.

These criteria are prerequisite for effective USO regulation. Nonetheless, current institutional endowment seems not to be readily compatible with these criteria. For example, to ensure continuity and sustainability, general institutions of an economy have to provide an environment with certainty and predictability. On the contrary, current institutional endowment in China is characterized by the prevalence of the QGZ which is rather obscure, unstable, and unpredictable. Meanwhile, in the absence of self-enforcement mechanism, it would be costly to ensure conformance to the fairness and transparency rule, as the QGZ would usually sabotage effort in this regard so as to maximize an insider’s goal by means of certain kind of unintended unfair and opaque transactions such as rent-seeking. These unintended transactions

would also lead to distortions in terms of investment and choice of technology. In the presence of factionist interests or departmental interests (which are all vested interests), every business or public organization seems tend to defend their interests, and this is done usually at the cost of the investors or the general public, thus making low enforcement cost hard to fulfill.

It is therefore crucial to avoid these negative effects of general institutional environment in designing and implementing the USOs regime in China. This is particularly supposed to be embodied in the designing of support mechanism and governance structure. To this end, the proposal of certain guiding principles might be in order. The principles must not only help reduce the uncertainty and inconsistency in the USO regime but also be sustainable itself, based on which, the emerging regime have to demonstrate the following features:

- Involvement of the *least regulatory or administrative intervention and efforts*;
- Involvement of the *lease movement and flow of money*;
- Relative *independence from the incremental general regulatory reform process and the economic transition*;
- Involvement of the *least processes and proceedings* such as bidding and auction;
- Involvement of the *widest but cohesive body of stakeholders* including agencies such as the local governments as well as eligible individuals such as academia; and ultimately,
- *Checks and balances.*

These features or principles actually prescribe both the regulatory incentive and regulatory governance which are highly interrelated with each other. Nevertheless, there seemed to be certain kind of conflicts between these principles. For example, the involvement of least regulatory or administrative intervention and effort may weaken the widest involvement from the stakeholders as well as checks and balances. In this regard, policy-maker may face a challenge to strike a delicate balance between them in the process of actual decisions on policy details.

The principles may serve as benchmarks to assess the effectiveness of given USO regime, as they largely outline what seems to be a sustainable and consistent USO regulatory regime in China. For example, the ongoing VAP regime entails too much regulatory and administrative interventions, thus a lot of time were wasted in dispute over trifles in the early stage of the Project.²⁶ Another defect in current regime is probably embodied in the lack of participation mechanism which accommodates voices and opinions of various stakeholders. In this regard, part of the evidence can be found also in the delay of the VAP tasks in early stage. If the corporate leadership of the carriers and local governments were bindingly engaged from the very beginning in the VAP formulation, this delay might have not happened. Now that China is in the process of drastic transition, in both economic and socio-cultural dimensions, to keep relative independence of the emerging regime from this process can contribute to certainty and consistency. Meanwhile, the involvement of least movement of money and least process and proceedings may reduce the likelihood of rent-seeking and other unintended transactions influenced by the QGZ. Eventually, the emerging regime has to demonstrate the wisdom of checks and balances to lessen agency problems and ensure effective implementation.

²⁶ Although carriers may take refuge in funding deficiency, it is actually an excuse for delaying obligations. Three years after the rollout of the VAP, this argument gradually justified by the actual business conduct in this regard.

IV. Policy Prescription: Regulatory Incentive and Governance

A regulatory regime can be treated as comprising of regulatory incentive and regulatory governance. In the case of USOs in China, key issues of the emerging regime lies in the proper formulation of support mechanism and its governance, particularly the former which had been hindering the smooth execution of the VAP in the first phase (i.e., 2004-2005). Based on above-mentioned criteria, this mechanism should be reliable, whether obtained from external sources (e.g., general finance, industry taxation) or the firm's internal subsidy (but not cross-subsidy). Ideally, universal service programs should be financed explicitly, funded broadly, targeted narrowly, competitively neutral, provide the least distortion, and be served most efficiently.²⁷ Other criteria for evaluating a support mechanism may include transparency, equity, efficiency, cost effectiveness, flexibility, incentive compatibility, predictability, accountability, and costs of implementation and administration.²⁸ In China, however, a standard market-driven approach is destined to be configured in such a way that institutional factors must be taken into account.

1. *Regulatory Incentive: Is USF the Final Resort?*

As mentioned above, the USF has long been advocated by the regulator as well as some academia as the ultimate solution or final resort to the provision of universal services in China. However, the efficacy of the USF regime is doom to be undermined by a number of institutional factors which, among others, may include the market reform, governance and the system of ownership, the WTO commitments, the legislation of competition policy, as well as historical legacies. First of all, market reform has been a trend. The telecom industry is now undergoing a transition toward competition where universal service is not supposed to impede, but rather expedite, the transitional process. Second of all, governance and the system of ownership are characterized by state dominance which would inevitably exert substantial influence on the formulation of the USO regime particularly through support mechanisms. Third, China now faces an obligation to honor its WTO commitment and observe WTO rules and practice. This means that policies should embody the idea of consistency and neutrality in terms of investment, technology, and competition. Fourth, if not last, an explicitly defined competition policy in telecommunications is still elusive in China. The current *Telecommunications Regulations* are vague in terms of policy objectives, implementation strategy, and governance. China also does not have a general competition law.

In an era where the economy is being liberalized and the political regime remains untouched, China should follow its own path in considering a support mechanism. There are normally two sources of contribution, i.e., the general taxation system and levies on the industry. Although generalized public sources may contribute more to the goal of equity and cause the least distortion, some pragmatic factors seem to nullify the idea of taking recourse to the general public for rural access in China:

- *First*, funding of universal service is conventionally regarded as a sector-specific issue. Hence, negative responses from other governmental departments are expected if funds are taken from the general tax revenue.

²⁷ See, e.g., Nicholas Economides, "The Telecommunications Act of 1996 and Its Impact," Japan and the World Economy (paper presented at the Annual Telecommunications Policy Conference, Tokyo, Japan), <http://www.stern.nyu.edu/networks/telco96.html> (accessed Dec. 29, 2006).

²⁸ See, Dr. Patrick Xavier, Organization for Economic Co-operation and Development ("OECD"), *Universal Service Obligations in a Competitive Telecommunications Environment* (Paris: OECD, 1995).

- *Second*, China is a developing country with a myriad of communities and individuals competing for assistance in one aspect or another. It may not make sense to turn to general public resources to fund a universal service.
- *Third*, since the telecom sector has long been given priority and privileges over other industries in terms of investment and deployment of new technologies, now would probably be the time for the sector to return the favor to society by simply not soliciting the general taxpayers.

These factors, among others, indicate that for the time being there is no sound rationale to solicit from the general public. This is notwithstanding the fact that either general tax sources or levies on the industry are de facto different forms of cross-subsidization.

As a standard norm of universal service administration, the universal service fund (“USF”) has been taken as an ultimate solution by the MII from the early promulgation of the *Telecommunications Regulations* to the recent issuance of the “Suggestions.” One sign of this dates back to 1999 with the establishment of a center by the MII to specifically deal with universal service costs and other policy matters. Government agencies, telecom carriers, and academic researchers all support creating a USF in China. Factors behind their favorable attitudes may include the following:

- Regulators favor the expected bureaucratic expansion that a USF will likely entail;²⁹
- Because a USF has become a standard mechanism, international experience is available to be learned from and applied.
- Incumbent carriers are inclined to delay action due to piled-up-losses whereas a USF appears to be the most anticipatable funding opportunity in the foreseeable future.

Nevertheless, the establishment of a USF in China would involve substantial regulatory and administrative efforts and costs due to sophisticated costing and duplicate regulatory activities. This is particularly true in the presence of information asymmetry where unattended agency problems can sometimes lead to a high shadow price of public funds. Meanwhile, universal service cost allocation has been proven by many countries to be an arduous task that relies heavily on sophisticated engineering modeling as well as collaborations from the carriers that provide cost information.

It is apparent that the USF regime is incompatible with the above prescribed principles in several ways:

²⁹ Government agencies at various levels have developed their own interests in China, which sometimes make administrative reorganization one of the toughest tasks when certain interest groups are to be harmed because of this. Harmed parties or individuals can sometimes go so far as resorting to violence to impede the process. See, e.g., SINA, “Two Deputy Municipal Party Secretaries in Hubei Province Who Organized Assault Against Local Party and Executive Organizations Were Investigated and Punished,” February, 25, 2006, <http://news.sina.com.cn/c/2006-02-25/02008296002s.shtml> (accessed May 29, 2006). See also, Yong Jiang, 2006, “Beware of the Bloated Departmental Interests”, Liao Wang available at http://news.xinhuanet.com/legal/2006-10/10/content_5183777.htm (in Chinese, accessed August 13, 2007)

- *First*, it involves substantial regulatory or administrative intervention and efforts including those from a spectrum of government agencies at both central and local levels. This is particularly dangerous in the absence of regulatory and jurisdiction independence.
- *Second*, it involves substantial movement and flow of money, which can provide chances for and even encourage opportunistic behaviors of organizations and individuals.
- *Third*, the USF regime is subject to substantial influence of the incremental general regulatory reform process and the economic transition. During the course, both corporate governance of the firm and political governance of the state are to be transformed.
- *Forth*, the regime may involve complicated processes and proceedings such as bidding and auction as well as supervisory efforts. Because as usual practice, universal service tasks are to be awarded through bidding process under the USF regime.
- *Fifth*, it is also hard to ensure the presence of checks and balances mechanism whether the fund is to be administered by a government subsidiary or an independent private organization.

Policy-makers are therefore facing a trade-off between regulatory convenience as a result of expanded organization and departmental interests and high regulatory cost, an even tougher issue given China's current situation.

2. *The "Non-Subsidy" Regime: A Chinese but Sustainable Way*

As an alternative institutional arrangement to a USF regime, a "non-subsidy" approach without the establishment of any kind of fund could be followed by China. This would result in the distribution of USOs directly to incumbent carriers, based on identifiable variables such as network coverage and revenue, but without monetary subsidy. The rationale of this "non-subsidy" approach could include the following:

- *First*, not only has genuine competition remained unestablished in this industry, but it is uncertain when competition will eventually develop. This seems to be a long way away for the transition of China's economy, and the ICT sector in particular, which is far from being market-driven. (*Certainty*)
- *Second*, since the ownership structure of the incumbent carriers is without exception under government-domination, "non-subsidy" policy actually means majority subsidy from the state-ownership part. As for institutional investors and private shareholders, this policy is not supposed to cause much distortion as long as the policy is expressly defined and disclosed beforehand. (*Transparency, Consistency*)
- *Third*, incumbent carriers receive benefits in providing rural services through positive network and brand effect. Besides, this sector used to receive more privileged treatment over other industries in terms of supportive taxation policy and government funding. (*Fairness*)
- *Fourth*, all carriers are vertically integrated firms that operate at all layers of the industry including access, transmission, application, and content. Even if in the foreseeable future the network ownership

structure should become more fragmented for any reason (e.g., the introduction of more aggressive competition policy), USOs can still be easily identified with physical networks. This means a transition between the new and old regimes can be seamless, which is also the case with the VAP regime. It will also hold in the future when institutional environment is improved. (*Sustainability, Consistency*)

- *Fifth*, this policy is cost-effective. It can save a substantial amount of money from cost allocation, administration, and other regulatory efforts. By comparison, however, the USF regime can be more vulnerable to corruption or other types of opportunistic behaviors. (*Low regulatory and agency cost*)
- *Sixth, and in summary*, this regime involves the least regulatory or administrative intervention and efforts, no movement and flow of money, least processes and proceedings. Meanwhile, this regime is relatively independent from the incremental general regulatory reform process and economic transition and entails least participation in the implementation process. Checks and balances mechanism, if any, is easier to function due to simplified and relatively transparent regulatory process.

Under “non-subsidy” policy carriers can be offered the option to freely transfer their obligations with each other based on free industrial negotiations. In this way, high-cost firms may choose to transfer their obligations to firms with relatively lower costs. For the time being, a “non-subsidy” approach can also be promulgated as a formal rule for the ongoing VAP before any emerging regulatory regime actually comes out. Through these means an explicit message can be sent to the players in their decision-making so as to avoid carriers pleading funding deficiency in order to compromise their obligations. This arrangement can be compatible with the current industry configuration, forthcoming industry restructuring, and the future market-driven ICT industry. The negative side of this policy, if any, lies in the fact that it is probably not competitively neutral when the industry is subject to substantial competition from a new entry. If this is really the case, an asymmetric USO regulation needs to be considered to protect effective entry.

As mentioned previously, the objective of universal service is defined as two-tiered at central and local levels respectively. The short-run objective of USOs at central level should be limited to the provision of basic telecom services which usually include the plain old telephone (“POT”) services in the short run while in the long-run the scope of services may be expanded to include broadband Internet services. Accordingly, regulatory incentive is also stratified into two levels, i.e., central and local levels. Since the objective at central level should always be limited to the provision of basic services, the non-subsidy regime can be a sustainable and consistent institutional arrangement, which means, the nationwide universal service provision should never involve monetary subsidy in the foreseeable future. To execute this non-subsidy policy, following steps can be followed:

- *Defining the objective of universal service* in such terms as penetration and/or the scope of services.
- *Determining the universal service tasks* in both general and granular terms, based on which quantifying the task load in such terms as capital requirements and/or the number of telephone lines or the mixture of the both.

- *Distributing the task load*, but not necessarily geographic-specific task load, among eligible carriers based on such criteria as network coverage and revenue.
- *Awarding the geographic-specific task load* among eligible carriers either through compulsory designation, or through alternative approaches such as free industrial negotiation, first-come-first-serve, and even public auction process.
- *Implementation, evaluation, and improving.*

While this process may provide the regulator with a self-learning mechanism in effectively executing the given policy, there are still some other issues that entail regulatory attention. These issues are:

- *Tariff.* It is the responsibility of policy maker at central level to determine a nationwide basic tariff level, usually a price cap, based on which, local legislators may decide the actual level of tariff responding to regional difference at their own cost.
- *Quality of service (“QoS”).* In addition to regular industrial regulation in this regard, central legislator is supposed to decide a nationwide plain level of QoS, usually a threshold, for rural telephone services covered under the national universal service program. Usually, the policy should stipulate the service standard for manned telephones in such terms as the business hours, among others. Similarly, based on this basic level of QoS, local legislators may decide the actual level of the QoS which responds to regional difference at their own cost.
- *Interconnection.* It is the central legislator’s responsibility to ensure effective interconnection for the provision of rural telephone services. To this end, it is necessary to specify the terms of interconnection, which may include interconnection charge, point of connection, and its technology.

Regarding the participation from local governments, in addition to cooperation with the central regulator in providing basic services, their responsibility may include the provision of all those services that is not covered by the ongoing national universal service program but perceived by the central government or the local legislators as necessary. These, as mentioned above, would primarily include the provision of broadband Internet services (as advocated by the central government in its “Socialist New Villages” drive) as well as the expansion of community-based telephone access to a more granular concept of universal service such as household or per-hundred-inhabitant penetration. All of these “extra” services should be provided through regulatory or administrative effort at local levels. To this end, the local legislators may follow a similar process as followed by the central policy maker:

- *Defining local objective of universal service* which would primarily be the provision of Internet service and probably also the upgrading of the community access concept both in terms of enhanced QoS and penetration.
- *Determining local universal service tasks*, in such terms as the number of terminals and bandwidth
- *Assessing the task load and preparing the funding budget.*

- *Awarding the task load*, probably through competitive bidding or invited negotiations.
- *Implementation, supervision, and controlling.*

3. *Regulatory Governance: A “Joint-Commission”*

While a “non-subsidy” policy partially addresses the issues of consistency and sustainability, the regime still cannot be sustainable in the absence of effective regulatory governance. At present, regulatory independence is often taken as a safeguard for effective regulation. In its WTO accession protocol, China certified the Fourth Protocol to the General Agreement on Trade in Services (“GATS”) and its Reference Paper. The Paper stipulates that: “[t]he regulatory body is separate from, and not accountable to, any supplier of basic telecommunications services. The decisions of and the procedures used by regulators shall be impartial with respect to all market participants.”³⁰ Whereas the term “independence” is subject to various interpretations, organizational autonomy and arm’s length relationship with the regulated industry, political authorities, as well as other private interests are commonly agreed upon.

Based on current institutional configurations in China, regulatory independence is subject to a number of restraints, which creates the following concerns that: (1) can the enforcement of a telecom law without a general competition policy in place really lead to effective regulation? (2) can genuine regulatory independence possibly surface amid the current interweaving of complex political and interpersonal relationships? (3) will genuine and effective competition among operators eventually develop before any major changes are made to corporate governance of the firms and political governance of the state?

The allegedly forthcoming telecom law is supposedly a delicate balance between general principles of competition policy, WTO commitment and political goals.³¹ However, it probably will make no difference what specific form the regulatory body will take before any major reform takes place in the political regime. Therefore, the more pragmatic initiative probably lies in shifting regulatory reform efforts to focus on the enhancement and elevation of professionalism and operational efficiency of the incumbent regulator—MII, for which reinforcing the rule of law is of critical significance. In addition, regulatory convergence should be arranged when the timing is mature. With no further unexpected major regulatory governance restructuring in sight, investors, consumers, and carriers (including universal service providers) can enjoy more certainty when making business decisions.

As integral part of overall regulatory regime, USO policy itself also requires an integrated regime. To ensure transparency and sustainability, a number of vertical and horizontal relations need to be explicitly re-defined; and the Chinese government needs to be clear about its own long-run guiding objectives of universal service. Since no ready model can be borrowed from elsewhere in this regard, China faces the challenge of creating its own model. In this case, a “joint-commission” on universal service with members from relevant government agencies at central and local levels as well as carriers’ central offices should be formed as an affiliate to the central regulator to coordinate universal service activities. In so doing, however, China can learn from the United States experience in dealing with central-local relations on universal service. While the road towards the eventual integrated regime may be long, the daily operation of the present ongoing VAP can be delegated to relevant

³⁰ World Trade Organization, *WTO Reference Paper on Basic Telecommunications* (Geneva: WTP Forum, 1998), <http://www.itu.int/newsarchive/press/WTPF98/WTORefpaper.html> (accessed Dec. 29, 2006).

³¹ See also Jun Xia, “*Competition Policy in Telecommunications in the 21st Century*” (in Chinese), 18(2) *World Telecommunications* (2005).

divisions of the incumbent central regulator (i.e., MII) and its local counterparts (i.e., PCBs), meaning no separate entity is needed at this stage either.

The successful implementation of relatively independent regulation in China also relies on addressing agency problems. It is particularly significant to expressly re-define the government's role in the emerging universal service regime. Agency problems can lead to regulatory capture by interest groups, particularly when a "revolving door" exists, which has been a pervasive phenomenon in highly regulated industries³² such as telecommunications in China.

Although the central government is expected to play a leading role in USO policy-making, substantial participation from local governments is also crucial. Not only do local governments have the role of stakeholders (e.g., local development, icon projects), but they are also in a better position to leverage local resources (e.g., supportive taxation policy). The imperative of local participation also comes into play when taking into account how local areas may differ in natural conditions and socio-economic development. With tailored knowledge and jurisdiction, local governments may complement the central government's capacities. Through "joint-commission," both the central and local governments' roles in universal service can be integrated into one unified platform.

To fulfill the goal of effective regulatory governance in USOs, certain process can be followed by China in its effort to construct the governance structure. The process may comprise of the following steps:

- *Determining the goal of regulatory governance.* The central issue in this regard is probably how to better service the public interest.
- *Identifying relevant stakeholders.* Make sure that these stakeholders have adequate and effective input in the decision process which can eventually lead to a scientific implementation of USO objective. To this end, a mechanism should therefore be designed to ensure the compatibility of the decision with the public interest.
- *Defining business processes and the flow of information.* This has to be done based on the definition of relevant regulatory activities and tasks. The activities and tasks must first be decomposed and rearranged into basic units based on division of labor and constraint of resources. Then, business process and the flow of information can be determined.
- *Composing the architect of the regulatory body.* This architect is supposed to represent the widest interest of general public while imperative of narrowest administrative or political intervention.
- *Evaluation and Improvement.*

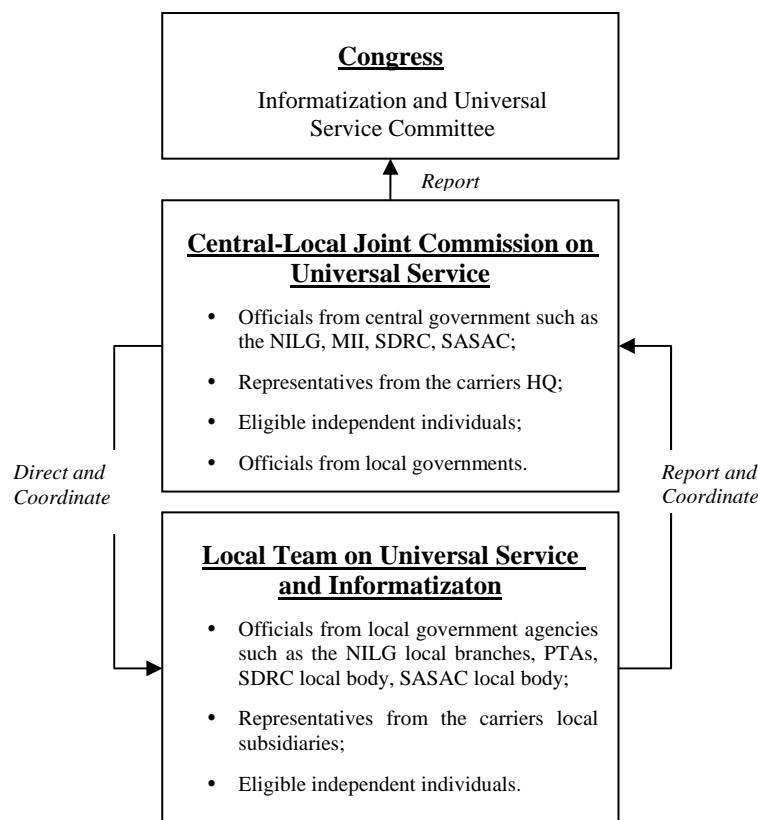
The proposed architect is demonstrated in *Figure 1*. Within the architect, regulatory body is hierarchically stratified into three tiers:

- *Congress Informatization and Universal Service Committee*
- *Central-Local Joint Commission on Universal Service*
- *Local Team on Universal Service and Informatization*

³² See, e.g., George Stigler "The Theory of Economic Regulation," in the *Bell Journal of Economics and Management Science*, ed. Paul W. MacAvoy (Lancaster, PA: Lancaster Press Inc., 1971), 3-21; Sam Peltzman, "Toward a More General Theory of Regulation," *Journal of Law and Economics* 19 (1976): 211.

As the primary facility in implementing USO policy in China, the “Central-Local Joint Commission” reports directly to the Congress “Informatization and Universal Service Committee”. The commissioners of the central organ may include officials from relevant central and local governments, representatives from the industry, and eligible independent individuals, among which, officials from the local governments serve as liaison between the central Commission and the local Team. While the “Local Team on USO and Informatization” is usually supposed to be established in provincial level, this facility can also be expanded to government at even lower levels, depending on regional difference in terms of the objective of the levels of government in question as well as the status quo of universal service in that specific region. Unlike the joint board in the United States, the relationship between the regulatory entities at different levels in China is basically that of directing and reporting, with the entities at higher level directing the entities at lower level and the reverse for reporting. This relationship may also involve a lot of coordinative efforts in terms of inter-regional cooperation, assistance, and dispute settlement.

Figure 1. Proposed Architect for Universal Service Regulation in China



Source: author’s research.

V. Conclusions

Three years after the execution of the VAP, Chinese government has managed to hoist its national village penetration to 98.9% at the end of 2006, which means about 99% of the total administrative villages nationwide have now been connected by at least two workable telephone lines. In so doing, the six carriers who are assigned VAP tasks have spent totally RMB 0.54 billions in building network infrastructure to extend their networks to rural areas. As part of the goal of its recent ideology of harmonious society and building “socialist new villages,” the Communist Party of China (CPC) is now kicking off an even more ambitious goal to further promote telephone penetration as well as Internet diffusion in its vast rural areas. All of these

have been done in the absence of what seems to be a sustainable universal service regime.

The current regime has already demonstrated a number of drawbacks or problems, the most salient part of which has been its nature of uncertainty and inconsistency, both in terms of regulatory incentive and regulatory governance. Despite Universal Service Fund (USF) has long been promulgated by the industry regulator as an ideal solution to these problems, there also lack of sound warrant for this regime when taking into account the unique institutional endowment in China. This paper tries to look at the problems with current regime from an institutional perspective. Before this, the paper first revisits the objective of USOs in China, pointing out that given current economic development and technological advancement, community-based rural access should be pursued by Chinese government as the primary goal of universal service.

After defining the objective, the paper moves on to examine what seems to be a sustainable USO regulatory regime in China, in terms of both regulatory incentive and regulatory governance by first determining the fundamental institutional characteristics that have been brewing difficulties and problems in the execution of the ongoing VAP program. It is concluded that one-sided economic liberalization with fundamental political regime untouched in China has resulted in a specious market economy and a skewed institutional environment in which telecom firms, often government-dominated, are supposed to compete under confused roles and forces which has led to peculiar behaviors. Despite possible variance in underlying incentives, one common characteristic of these behaviors is that they all seem to be influenced by an “implicit law” or the QGZ which is imbedded in current socio-economic system. This “implicit law” has been growing in importance and has become a secondary (sometimes primary) mechanism beyond standard market force in influencing private and public choices, the allocation of resources, and government’s role. If viewed through the lens of new institutional economics, all of the existing problems regarding the USO regulation in China involve contracting problems.

It is therefore crucial to avoid these negative effects of general institutional environment in designing and implementing the USOs regime in China. This is particularly supposed to be embodied in the designing of support mechanism and governance structure in the emerging regime. To this end, certain principles must be followed in order to help reduce the uncertainty and inconsistency in the USO regime. Based on a the consideration and a number of principles and constraints, this paper offers policy prescription on sound and reliable support mechanisms and regulatory governance given China’s unique institutional endowment. The following conclusions are drawn:

- The uniqueness of China’s circumstances requires a unique solution to the USO issue;
- While a USF has been a standard and successful mechanism elsewhere in the world, it is probably currently unsuitable for China because of the high perceived shadow price of public funds as well as serious agency problems;
- Nevertheless, a regulatory approach featuring a “non-subsidy” policy can serve both interim and long-term goals when agency problems are properly addressed in a well-designed governance structure based on a “joint-commission” with members from various stakeholders.