Inducement Mechanisms for Entrepreneurship in the State Sector: China's Telecommunication Industry as an Illustrative Case*

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Abstract

Employing the concept of bureaucratic entrepreneur this paper examines the possibility of bureaucrats in big businesses making the transformation from political- to corporate-styled entrepreneurs in a transition economy like China. It proposes an analytical framework which explicitly incorporates the constraints of weak institutions and the incremental nature of the transformation process. Using the case of China's telecommunications sector it illustrates that by mobilizing a number of inducement mechanisms including market competition and international listing, bureaucrats are promoted to overcome institutional rigidities, draw on inherited organisational resources, and behave not unlike entrepreneurial capitalists. However their ability to fully benefit from the market mechanism is limited by the strong political incentives that remain.

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1. Introduction

The orthodox approach to the privatisation of state enterprises intended to replace the monitoring function of bureaucrats with the “invisible hand” of competitive capitalism. Bureaucrats were regarded as a distortion force to the efficient functioning of the market. Privatisation programmes, particularly those in the former Soviet Union, were underpinned by a widespread belief among the transition orthodoxy that the bureaucracy needed to be destroyed as it lacked the necessary skills to bring the economy to the market (Nolan & Wang, 1999). In the recent literature on transition, the research focus has been on whether bureaucrats offered a “grabbing” or “helping” hand to entrepreneurs (Frye & Shleifer, 1997). Little attention has been given to the question how management with long traditions in central planning could overcome institutional rigidities and make the transition to profit-seeking entrepreneurs, much less to the possibility of bureaucrats making the transition from political- to corporate-styled entrepreneurs in the absence of full privatisation. In contrast to this research strand, this paper aims to consider such a transition process by using an analytical framework that accounts for the coexistence of state and market incentives, as well as the adaptive qualities of enterprise management. This is examined in the context of China’s rapidly growing but state controlled mobile telecom sector, where the co-existence of political and market-based incentives influences entrepreneurial behaviour.

Narrowly defined, entrepreneurship concerns the creation of new firms (Schumpeter, 1928; Gartner, 1985). More recently the analysis of entrepreneurship has moved away from the narrow confines of conventional definitions. Entrepreneurship now tends to be viewed as a firm-specific investment that does not necessarily require the creation of new firms (Zingales, 2000). Entrepreneurship can be productive or destructive (Baumol, 1990, 2004), occur within large corporations (Hoskisson & Businitz, 2001), be applied in changing market contexts (Wernerfelt, 1997) and in such non-business settings as the public administration (e.g. Sadler, 2000; Morris & Jones, 1999). The variety of settings under which entrepreneurship can occur, are relevant for analysing the entrepreneurship of bureaucrats during economic transition. In transition economies the boundaries of the firm often defined by forces of both the state and market. Consequently the firm is influenced by both market and political-based incentives. The latter include competencies inherited from the pre-reform era, organisational networks and hierarchies, and access to special resources.

Economic transition changes the institutional rules for bureaucrats. Baumol (1990) has argued that it is the rules of the game that determine the payoffs from entrepreneurial activities. Rule changes create opportunities for both productive and destructive entrepreneurship. Productive entrepreneurship in transition economies is often viewed as the spontaneous manner that *private enterprise* emerged following the relaxation of price controls (McMillan & Woodruff, 2002). The role of bureaucrats is typically viewed as destructive. It is suggested that as potential losers from liberalisation, winning their participation in market reforms may require the tolerance of a certain amount of corruption (Basu & Li, 1998). Departing from this strand of literature we use the concept of bureaucratic entrepreneur to consider a scenario where bureaucrats do not necessarily lose from rule changes brought about by transition. Instead, the ability to exploit uncertainties in the firm's environment can lead to a productive response from bureaucrats in the commercial sector.

China provides an illustrative example of this. Privatisation in western economies subjected management of formerly state-owned enterprises (SOEs), many of whom would have had some market knowledge or experience, to market disciples. In China, privatisation of large SOEs was partial, and management had little prior experience of the market mechanism. Partial privatisation, price reform, and opening to international capital market did however enable bureaucrats to identify areas they could discover and exploit rewarding opportunities. For example, many leading SOEs have adopted international listing of a minority proportion of their equity stock as a mechanism to subordinate themselves to a more credible monitoring power, to commit themselves to more trustworthy corporate governance practices, and thus to win access to cheaper capital (Sun & Tobin, 2005). The significance of China's telecommunications sector to our analysis lies in its "counter intuitive" success that a state driven market could achieve such a sustaining and robust development (EIU, 2005). A remarkable, if not puzzling aspect of this growth is that the sector remains largely unreformed in the conventional sense. "The Ministry of Posts and Telegraphs (MPT) has all the characteristics of the sluggish state-owned monopolies that have hindered growth in many other parts of the world. How then has it been able to produce such a rapid rate of growth" (Mueller & Tan, 1997: 30)? Full privatisation has yet to occur, product markets are largely unregulated and highly differentiated, foreign competition is negligible and many of the same management remain in place.

The paper is structured as follows. Section 2 proposes an analytical framework that accounts for the changes in the rules of the game, the adaptive qualities of bureaucrats and the transition from political to corporate entrepreneurship. Section 3 outlines how China's bureaucracy was well placed to exploit changes in the rules brought about by economic transition. Section 4 examines the major mechanisms that have facilitated the transition process from political to corporate entrepreneurship in the context of China's telecom sector. Section 5 explores the mismatches between bureaucratic and market coordination and how they affect entrepreneurship.

2. An Analytical Framework of Bureaucratic Entrepreneurship

In a rigid economic system like the communist central planning, bureaucratic coordination typically represents inefficiency and political rent-seeking. On the other hand, even under the central planning, it is noticed that bureaucrats are also motivated by such factors as professionalism, power, prestige, material benefits, motivations that are not dissimilar from those in the private sector.[1] In a more flexible and market-friendly environment, it is found that there exist many similarities between entrepreneurship in the public sector and that in large corporations (Morris & Jones, 1999). It is conceivable therefore, that it is not the public sector itself being inimical to entrepreneurship, but the rigidities in its structures and practices (Sadler, 2000). To account for the possibility that bureaucrats can be induced to engage in corporate entrepreneurship in a transition economy like China, an analytical framework should be capable of incorporating incentives and constraints from both political and market domains.

As the bureaucratic entrepreneur is influenced by both political hierarchies and market incentives, this type of entrepreneurship will most likely be a hybrid form, falling somewhere between the general categories of corporate entrepreneur and political entrepreneur as outlined by Zerbinati and Souitaris (2005). The concept of corporate entrepreneurship is consistent with Schumpeter's view that under the transition from *competitive* to *trustified* or regulated capitalism, innovation was increasingly embodied in large units that already existed (Schumpeter, 1928). Recently it has been adopted to describe the process of entrepreneurial or innovative initiatives within large firms (Hoskisson & Businitz, 2001). In contrast, political or public sector entrepreneurship has been described as the creation of value for citizens by bringing together public and private resources to exploit social opportunities (Morris and Jones, 1999). It is mainly concerned with public sector reforms and innovation within the public administration (Osborne & Gaebler, 1992), but also with the ability of public entrepreneurs to break rules, to manipulate public authority for private gain, and to seek power and self-promotion (Terry, 1998). Distinguishing between public and corporate entrepreneurship, Bellone and Goerl (1992) note that although public entrepreneurs are characterised by autonomy, vision, secrecy and risk taking, values not unlike those held by the corporate sector, these must be reconciled against the fundamental democratic values of accountability, participation, transparency and the public good.

Under market liberalisation, the bureaucratic entrepreneur is freed of many political constraints of the central plan, but still retains many of the characteristics of the bureaucracy. The loosening of state controls and the emerging market incentives combined with weak oversight and the limited market experiences of the bureaucrat, may result in bureaucrats behaving like “loose canons” as described by deLeon and Denhardt (2000). To exploit new market opportunities bureaucrats must necessarily engage in rule bending, a feature that Terry (1998) argues is inherent in the public entrepreneurship. Yang (2002) applies the term *double entrepreneurship* to explain the entrepreneurial behaviour of bureaucrats operating under uncertainty. On the one hand bureaucrats must be talented at identifying business opportunity, on the other they must be talented at exploiting institutional weakness. In this regard, the bureaucratic entrepreneur has much in common with social entrepreneurship. Social entrepreneurs aim to create social value (in contrast to corporate value) by recognising opportunity, employing innovation, tolerating risk, and refusing to be constrained by the availabilities of resources (Peredo & McLean, 2006). Accounting for these, it is desirable to shift the focus from the constraining nature of institutions typically associated with economic transition, towards understanding how institutions enable actions of, or create opportunities for those who understand them (Bruton & Ahlstrom, 2003).

If as established, bureaucrats possess entrepreneurial capabilities, then a transition from political to corporate entrepreneurship is feasible. Because entrepreneurship is a firm-specific resource (Mosakowski, 2002), it can survive product market changes and be applied in new contexts (Wernerfelt, 1997). Similar to the way in which large corporations offer opportunities for innovation (Chandler, 1977), large SOEs would also offer such opportunities. Both types of organisation are characterised by formalised hierarchies, competing stakeholder groups, long standing norms and cultures and well-defined financial controls (Morris & Jones, 1999). The factors that motivate management in both organisations are not that unlike. Under both organisational structures, management benefit from a high level of job security, low levels of personal responsibilities and access to large pools of resources (Morris & Jones, 1999; Sadler, 2000).

Nevertheless, changes in institutional rules brought about by economic transition also create the potential for mismatches. These refer to the mismatch between the political skills and motivations of management and those demanded by the market mechanism. Uncertainties in property rights and weak institutions result in the dynamic commitment and time inconsistency problems (Berglof & Roland, 1998; Kydland & Prescott, 1977). These refer to the discretion of principals to re-optimise their policy choices when they deem necessary, and the de-facto discretion of agents to respond opportunistically. Given Baumol's (1990) prediction that the pay-off structure imposed on entrepreneurial activities by the society guides the direction of entrepreneurship, the presence of opportunism increases the prospect of entrepreneurship being directed towards unproductive rent-seeking activities. The commitment and time inconsistency problems can however be mitigated by subordinating to more credible monitoring mechanisms outside the home jurisdiction and to self-regulating mechanisms which bond agents to higher standards of corporate governance (Sun & Tobin, 2005). They can also be mitigated through other channels such as organisational learning and knowledge dissemination.

The analytical framework we adopt for this research is outlined in Figure 1. It incorporates both the changing institutional rules and the inducement mechanisms that facilitate the transition process towards corporate entrepreneurship. It suggest a more adaptive and incremental transition from political to corporate entrepreneurship. It recognises the constraints of weak institutions on entrepreneurship and also how these might be overcome. At time *t*-1 bureaucrats face the incentives of political entrepreneurs. State supervision and hierarchical structures imply moderate incentives for both productive and unproductive (rent-seeking) entrepreneurship. Changes in the institutional rules facilitate the transition from the political to the bureaucratic entrepreneur. These changes include permissions for new entries, the imposition of harder budget constraints, price liberalisation, preparation for privatisation, and partial privatization. At time *t* political and market coordination coexist. Institutional uncertainties and opportunism result in high incentives for both productive and rent-seeking entrepreneurship. Dependent on the strength of inducement mechanisms and the commitment of bureaucrats to knowledge, learning and the adoption of better standards, a full transition may be made to corporate entrepreneurship at *t*+1. In the absence of such transition, management may continue to behave as bureaucratic entrepreneurs, displaying hybrid characteristics of political and corporate entrepreneurship. *(See Figure 1- p.24)*

3. The Political Economy Context of Bureaucratic Entrepreneurship in China

In China the concept of the bureaucratic entrepreneur becomes undoubtedly more complex due to the constraints imposed by the political system, particularly the role of the Chinese Communist Party (CCP). Traditionally SOEs provided the party with control over a wide range of economic activities including the welfare provisions to their own workers. They also provided the party with a means to reward loyalty. The transition to a market economy created many difficulties as traditional values and beliefs instilled by the communist system are replaced and modified by the market experience (Zhuplev & Shein, 2003). It challenged the traditional power of the party and its role in the economy. Bureaucrats had the option to adjust. While China's bureaucrats were often viewed as resistant to change, the intertwining of party and bureaucracy limited their discretion (Ma, 1990). Compliance with the leadership's long-term goal of modernisation and the ability to adapt, were seen as instrumental in the survival of the bureaucracy.

Viewed from another perspective, China's bureaucrats were already well equipped to respond to changes in the market place. Despite the legacies and constraints of central planning, bureaucrats were in a unique position to exploit changes in the motivational state of their enterprises. "Their lifetime experience of thinking strategically and mobilising people in complex institutions was a valuable weapon for the construction of an effective market-oriented business organisation" (Nolan, 1998:77). The institutional and resource constraints imposed by central planning had long taught bureaucrats to be more innovative. Bureaucrats trained in the tradition of Maoist self-reliance were highly innovative when needs required. In accounting for the success of industrialisation during the period 1949-1976, Hsueh and Liu (1980) present survey evidence to show that innovations did come from below, and were outwardly diffused. They observe that "the bold pragmatic enterprise management that permeated the economic units at the lower level epitomised the spirit of China's industrialisation" (ibid: 34). Rawski (1975) notes that in the 1960s, "only the unanticipated flowering of innovative capacity of older machinery producers" prevented industry from being unable to cope with demand shifts too great to be solved by foreign trade alone. The anti-capitalist ethos of the Cultural Revolution disrupted this emerging entrepreneurial spirit. Yet the substantial shrinkage of foreign inputs during this period forced enterprises to pioneer techniques of their own invention, a move that contributed to the establishment of a substantial indigenous technological base (Chen, 1978). In the telecom sector, the early development of non-integrated networks by individual government departments was a product of a culture of self-reliance, which encouraged individual departments to expand their own networks (Mueller & Tan, 1997).

Paradoxically, enterprise management that survived the Cultural Revolution were in fact highly talented entrepreneurs. Progress in industrial production and foreign trade achieved during this chaotic era are testimony to this.[2] As a result, self-reliance and the ability to solve complex tasks with limited resources became key features of management. These experiences are illustrative of resource-based theories of the firm, which by focusing on the experiences and skills of management help explain long-lived variations across firms that cannot be explained by market conditions alone.

Let us now focus on the telecom sector. The telephone in China had long been regarded as a symbol of political status. Prior to economic reforms, the luxury of a residential phone was only made available to senior government and military officials as it represented a symbol of political status rather than as a commercial service (Xu & Pitt, 2002). Up to the early 1990s, owning a telephone commanded luxury status. Almost a decade later, the status of the phone had changed dramatically (Table 1). There are strong social, political and economic incentives underpinning this growth. From a political perspective, the growth of the sector signified the achievement of important development and social objectives. In the grand scheme of things, the direct financial benefit might be the smallest part of the overall contribution of telecommunications to an economy and a society (Bates, 1997). From a social and political perspective, telecommunications provide more efficient means of communications and access to geographically remote areas and thus increase the information services available to the public. From an economic perspective, this increases efficient communication and facilitates data transmission, thereby removing significant bottlenecks to economic growth.[3]

Growth has been most impressive in the mobile telecom sector (Table 1). There are a number of reasons specific to the development context that helps explain this growth. The prohibitively expensive cost of a landline and the practical difficulties of extending a fixed line services to large sections of rural China have made the mobile phones a more realistic option. During the early 1990s the cost of installing a fixed telephone line could reach around US$900 in Beijing and US$500 in Guangzhou (Ure, 1997). Despite such high prices Ure (1997) reported a surprising willingness of customers to pay these amounts. Such pent up demand provided ideal conditions for enterprises to exploit. Both China Mobile and China Unicom, the two state-controlled mobile phone operators have competed vigorously to win new customers. Figure 2 illustrates how both firms have engaged in heavy price discounting in order to increase subscriber numbers. In addition, the state-owned fixed line provider China Telecom has attempted to break into the market by using the Personal Handy Phone System (PHS), a technology that exploits weak regulation by “piggybacking” on the networks of the existing two providers. PHS is a fixed wireless service, which enjoys price advantages over mobile phones and as it is technically not a mobile service it does not require a license.[4] PHS has proved particularly popular in lower income areas outside larger cities where mobile coverage is limited. This has put further competitive pressure on the margins of mobile phone providers.

It would be less informative to assess the achievements of China’s state-owned telecom enterprises in isolation from other developing countries. India offers an interesting “most similar nation” reference to measure China’s progress (Ragin, 1987). During the 1980s China and India had low but roughly similar rates of telecommunication penetration (Table 1). Both countries faced many similar challenges in achieving telecoms diffusion including glaring inequalities, corruption and a large rural population (MacFarquhar, 2005). Furthermore, India’s major telecom providers are also state-owned. However, China has achieved far higher growth rates over a longer period of time. Of many factors contributing to this disparity, the leading one might be the difference between regulatory environments and levels of competitive incentives. In India, the regulatory efforts to permit new entries and promote competition have progressed much slower, in part due to a political process that demands consensus from various interest groups. A lack of competition has translated into lower service diffusion and higher cost (Chandra *et al*, 2006).

4. Major Inducement Mechanisms for Entrepreneurship in China’s Telecom Sector

China’s reform process created the nurturing ground for bureaucratic entrepreneurship. Bureaucrats managing SOEs were for the first time faced with the rigours of market competition. They were also allowed retain pre-reform resource advantages and apply them to earn economic rents. Reform also introduced important inducement mechanisms that created the potential for corporate entrepreneurship (Figure 1). In the absence of a system of independent prudential regulation, partial privatisation through international listing provided more credible monitoring by regulatory bodies and capital markets outside the home jurisdiction. Preparation for international listing reduced information asymmetries and standardised property rights. It also acted as a *de facto* credible commitment to productive entrepreneurship. Exposure to international best practices created opportunities for knowledge assimilation and learning. This section examines the major mechanisms that have facilitated the transition process from political to corporate entrepreneurship in the context of China’s telecom sector, with an emphasis on how market disciplining through international listing provided a catalyst for innovation.

New Entries and Competition

The first important organisational reforms came in 1994, with the separation of the regulatory and operational functions of the MPT. Prior to this separation ministries constructed their own dedicated telecommunications networks, which grew so large that by the 1990s they created significant coordination problems for the MPT (Mueller & Tan 1997).[5] This development of what were largely non-integrated networks was a product of historical institutional conditions. Mueller and Tan (1997) note that the administrative structure fostered a culture of self-reliance. The unregulated growth of these networks was no doubt facilitated by the passive nature of the MPT and its failure to adequately finance the development of a national network. In this regard the second significant event in 1994 was the State Council's decision to officially allow other ministries to enter the telecommunications market and to conduct open competition. This led to the establishment of *Lian-Tong* (Unicom) by three Ministries of Electronics, Energy and Railways and *Ji-Tong* by the Ministry of Electronics Industry. Such a set up, involving complimentary networks with the potential to develop into competing networks, had obvious advantages for countries such as China that are short on switching and transmission capacity (Ure, 1997). More significantly it set the scene for competition that was to ultimately prove highly beneficial to consumers and especially to those live in rural areas of China.

The MPT itself also underwent important restructuring. The regulatory functions of the MPT, along with the Ministry of Electronics Industry and parts of the Ministries of Radio, Television and Film, were reorganised into a new ministry, the Ministry of Information Industry (MII). The operational side of the MPT, the Directorate General of Telecommunications (DGT) officially registered itself as a corporation, which become known as China Telecom in 1995. Although an impressive restructuring, Xu and Pitt (2002) note that China Telecom remained an administrative agency as it did not actually provide any telecommunications services itself. Instead it was the provincial Post and Telecom Administrations (PTAs) who provided telephone services under the brand name of China Telecom. As the DGT did not own any assets itself, provincial PTAs enjoyed considerable autonomy from the centre. Moreover, the MII, fearful of missing out on the booming telecom sector, retained a vertically integrated relationship with China Telecom. As a result the MII continued to be in a position to compete with the enterprises it was supposed to regulate. This role conflict undermines the credibility of the regulator.

This new institutional arrangement clearly differed from the western understanding of "market competition" and "liberalisation". New enterprises such as Unicom and Telecom were not private operators and represented a standardisation of the interests of political ministries before them. The new structure was a product of political competition between government bureaucracies over economic turf (Mueller & Tan, 1997). It did however create a market structure that was conducive to competition between state-owned telecom enterprises. Loose regulatory structure provided bureaucrats who already enjoyed significant autonomy the incentives to overcome political and institutional bottlenecks. Increasing market opportunities resulted in telecom enterprises becaming more entrepreneurial, further undermining the ability of the MII to function as an impartial regulator. In this manner, an absence of impartial market regulation did not prevent bureaucrats responding to market signals.

Over-riding Political Goal of Modernization

Two political motivations were important in cutting the cords between ministry and enterprises. The first involved political efforts to overcome bureaucratic resistance to reform. The second involved improving the economic incentives for enterprise management. The MPT had a long history of control over the telecom sector. Although market reforms challenged this dominance, early regulatory policies appeared to focus on ensuring its own political survival. These included anti-foreign ideologies, political disputes with other ministries and favouritism towards China Telecom, which the ministry viewed as its personal property. Wu Jichuan, the first head of the reorganised MII, rose through the ranks of the communist party as a central planner. Mr. Wu headed up the MPT, the forerunner to the MII, and was regarded as an intelligent political player in the battles for promotion at the communist party.[6] Unicom, as a competitor to China Telecom, initially found itself competing against the MII with the head of the regulator once being quoted as saying that he not only wanted to strangle Unicom but also to bury it deep.[7] The MII tried to frustrate attempts by Unicom to use US technology supplied by Qualcomm, an American network provider, alongside the European standard favoured by China Telecom.[8] It took the intervention of Premier Zhu Rongji to secure the deal, suggesting that the political goal of modernisation took precedence over bureaucratic relationships. The intervention of Premier Zhu was also significant in that it lessened the political mandate enjoyed by the MII.

Imposing a Hardening Budget Constraint

The establishment of China Unicom was also important as it undermined the funding monopoly enjoyed by China Telecom and the MPT (later on MII). Local governments were keen to fund the establishment of telecom networks to their region, and so in the past they provided funding with little concern over return. The entrance of Unicom changed this norm as local governments now had a choice over the allocation of funds. The period between 1994 and 2000 witnessed less foreign government aid and an ending of soft loans and cost-free government allowance to the sector (Xu & Pitt, 2002). As a result both China Telecom and China Unicom had to look elsewhere for funding. China Telecom took the lead by establishing China Telecom (HK) in September 1997, which was subsequently listed on the stock exchanges of Hong Kong and New York. The entity was renamed China Mobile (HK) in 2000 following the restructuring of China Telecom's Mainland operations. After the termination of a troublesome joint-venture scheme in 1999, Unicom followed a similar route. In June 2000, China Unicom (HK) listed on the Hong Kong and New York stock exchanges.

State Hierarchies to Hong Kong Red-Chips

The international listings of China Mobile and Unicom provides an example of how SOEs organised along political hierarchies and with limited market experience, could be provided with the necessary incentives to exploit resource advantages in response to market opportunity. A Hong Kong listing standardised the relationship between China Mobile and China Telecom, while allowing China Mobile to retain many of the pre-reform regional networks and management. Its new majority shareholder was China Mobile (HK) Group Limited, which held approximately 75 per cent of the company's equity through China Mobile Hong Kong (BVI) Limited. In October 2000, it completed a strategic alliance with Vodafone Group Plc. Although Vodafone's intentions in China were less clear, the two companies agreed to share management, human recourses and certain network technologies. The strategic alliance added another independent director to the board bringing the proportion of independent directors to 25 per cent (3/12), compared with 20 percent (2/10) in 1997.

For China Unicom there was an obvious and compelling monetary incentive in completing an international flotation. In challenging the dominance of China Telecom, it had run up debts of approximately RMB 20 billion and run down available cash to RMB 6 billion.[9] The capital-intensive nature of the telecom industry meant that one of its prime objectives in listing was to tap international capital markets. Despite its financial problems, the company completed a highly successful IPO on the New York and Hong Kong stock markets in June 2000.[10]

Simply focusing on the immediate capital inflow may overlook the long-term "transformation" benefits of listing. A director at Unicom noted that domestic debt levels were generally high and, as a consequence, domestic sources of finance are becoming more expensive to come by.[11] Traditionally SOEs relied on the state banking system. This is changing and there is now a greater emphasis on alternative sources of funding. Internationally, the costs of debt financing are comparatively lower. International listing makes it easier to enter international debt markets. It puts in place the groundwork for credit ratings, as there is already significant information in the public domain.[12] Moreover, the IPO process, credit rating and technology transfer are all interlinked. Although international technology can be purchased, entering an international partnership offers access to a much more sustainable source of proprietary technology. A company with an international listing is likely to more concerned about its reputation and therefore less likely to engage in potentially damaging intellectual property disputes.

Commitments to Better Practices

If the IPO was solely for funding purposes, this could easily have been achieved on the domestic market. Instead Unicom opted to list in both Hong Kong and the US, citing the benefits of exposure to international standards and shareholders as a key motivation.[13] The global mix of investors created a type of dynamism within the firm. A company with plans to list must become more transparent and efficient. Market monitoring forces the company to ensure that transparency and efficiency are maintained.

An executive director best sums up how international listing overcomes the commitment problem in the statement that “before listing you could do all kinds, regulation was not stringent. *Now you can’t just do it your way.* Listed companies also have an expectation to perform.”[14] This expectation has resulted in both companies behaving more in line with international industry peers. Both China Mobile and Unicom have adopted quarterly reporting. Unicom introduced this in 2003 as an internal move designed to further strengthen the company’s commitment to improving corporate governance. There is no regulatory requirement to do so. Unicom also updates monthly subscriber statistics on its website. As both companies are also listed on the New York stock exchange, they must also comply with the Sarbanes-Oxley Act. For Unicom, these requirements are doable, but not always practical. It regards compliance as a useful learning and generally positive experience.

Organisational Learning

A more subtle benefit of international listing to bureaucrats was how it facilitated organisational learning. In terms of technological competence, China Mobile and Unicom were more than capable. A majority of executive directors at China Mobile spent the early parts of their careers at the MPT and PTAs and had little difficulty with the technologies necessary for mobile telecommunications. More urgent was the need to copy and learn from international management practices. An executive director noted, “in terms of the IPO and internationalisation process, a higher level of managerial skill is what matters more than technological ability”.[15]

Traditionally SOEs tend not to hire managers from outside China. Market developments have witnessed a departure from this practice. For example, non-mainlander/non-party affiliates have been appointed at executive director level. The international mobile phone company Vodafone fills one of the independent director positions at China Mobile. In 2004, four out of ten directors at Unicom were independent. Two of them were US passport holders. The company noted that directors have become more cautious about what they sign off on, particularly in the aftermath of the Sarbanes-Oxley Act. The function of the independent directors has also changed from fulfilling a pure monitoring function to offering a vital source of independent advice to the company on business strategies.

State Connections and Market Monitoring

A further example of how market and state coordination could be combined to achieve improvements concerned the issue of related party transactions. It has been common practice in China’s state telecoms to list the higher revenue licenses first. Later the listed company acquires the lower revenue and less attractive licenses from the parent company. China Mobile listed with mobile licenses for two provinces, but has since bought 19 mobile licences from its parent company in four separate lots. This arrangement has allowed enterprises to leverage on organisational networks and connections. However, from a corporate governance perspective, these connections create concern over related party tractions. One fear is that enterprises engage in “window dressing” by listing the better licences first, later acquiring the lower revenue licenses for a high price using shareholders’ funds.[16] Provincial mobile licenses are transferred for a fixed price set by the MII. Since these are not sold at auction (as is the norm for European GSM licenses) it is difficult for shareholders to determine the true level of discount or premium paid. China Mobile's purchase in 2004 of 10 licences in some of China's poorer provinces was reported at being priced at the lower end of their expected valuation.[17] The process of transferring mobile licenses has been made somewhat more transparent by the listing regulations of the Hong Kong stock market. These require that all connected party transactions above a certain value must be disclosed to the stock exchange and voted upon by minority shareholders. Connected parties are not allowed to vote.

5. Mismatches between Political Motivations and Market Incentives

At face value the competitive behaviour of management at Unicom and China Mobile indicates a shift from political appointed bureaucrats to profit-seeking entrepreneurs. These improvements suggest that from an economic perspective China's bureaucrats are doing things right. Both enterprises have continued to win new markets by increasing subscriber numbers and cutting costs. Figure 2 illustrates how both companies have had to lower average revenue per user (ARPU) in order to win more subscribers. Unicom's transition has been particularly impressive. At the time of its IPO Unicom was managed by former bureaucrats, some of whom had backgrounds at the MII, it had a tarnished record of dealing with foreign investors and its financial position was poor.[18] Unicom has also transformed the market structure from one of monopoly to competing oligopolies. Standard economic theory indicates that the public interest is better served when oligopolies are induced to compete rather than collude. Intense competition among oligopolies can lead price and output levels towards perfect competition. A comparison of prices (using Average Revenue as a proxy) and marginal costs for China Mobile and China Unicom indicates that competition is slowly pushing them closer to a convergent level more consistent with perfect competition (see Figure 3). Competition between different technologies has also been beneficial to the sector. China Telecom's use of PHS is an example. Although China Telecom's "bending of the rules" suggests an absence of regulation,[19] it is also an entrepreneurial response to the demand for cheap telecom services. In the UK, early competition between the telegraphy and telephony sector worked similarly to promote the diffusion of services to large sections of the population (Bates, 1997).

However, the increased competition put management in an unenviable position, of which they have no previous experience. On the one hand they faced a growth market and as such it was natural to leverage on price advantages. Unicom noted that the market has developed so quickly that the easiest way to get market share is to cut prices. On the other hand management knew that tariff breaking and excessive discounting in a market with two major competitors and significant barriers to entry is not a good strategy for maximizing corporate value. In this type of market structure one would expect some sort of duopoly. Furthermore, international capital markets have become an increasingly important form of monitoring for management. Since listing, Unicom's international shareholders have continually stressed economic fundamentals over subscriber numbers.[20]

The board of directors apparently recognise the need to focus on higher value added services. Senior management are somewhat mystified by the continued price competition, which seems to be going beyond their control. The big question for them is how to implement value-maximising strategies at the provincial level. The suspicion is that provincial management are less familiar with market benchmarks. Traditionally provincial level management were judged on such "political" criteria as how well they complied with the quantitative plan, and now they continue to be multi-task agents accountable to both local governments and the corporate headquarters. From a political perspective what matters is the development and diffusion of phone services to as much of the population as possible. As such although profits are what matter at the board level, subscriber numbers may still be what counts at the local level. Consequently management at the local level often have an incentive to achieve quantitative subscriber based targets that they are more familiar with, in comparison with developing higher value-added services. The top management are aware of these problems. Unicom acknowledged that, "implementing strategy in a market like China is not any easy task; improvements need to be cascaded the whole way down the ranks".[21]

Mismatches are further compounded by the political coordination of director appointments. A majority of executive directors at Unicom either currently hold, or have in the past held a senior position with the state-owned parent company (Unicom Group).[22] Unicom's former Chief Executive, Wang Jianzhou is also Chairman and President of Unicom group. At China Mobile, a majority of directors hold senior positions at the parent and subsidiary companies, and the roles of Chairman and Chief

Executive are not separate. The autonomy of these companies was further undermined in late 2004 when the government exercised its right to select management and simply swapped executives between China Mobile and Unicom in an attempt to reduce competition.[23] This suggests that although state and market coordination can coexist, political incentives may sometimes override market incentives. When this happens, entrepreneurship resembles more the political than the corporate.

The experiences of China's mobile telecom companies indicate that although bureaucrats are not afraid to engage in corporate-style entrepreneurial activities, in the long-term the mismatch between promotion criteria and market incentive and the political mindsets inherited from the pre-reform era may hinder the transition process to full corporate entrepreneurship.

6. Concluding Remarks

China's approach to dismantling the rigid state bureaucracy in the commercial sector has differed markedly from that witnessed in many developing and transition economies. Rather than purging bureaucrats from managerial positions, China instead opted to make use of the entrepreneurial competencies of bureaucrats. Although not without its problems, this type of reform has achieved results that are seemingly counter-intuitive. Understanding this approach demands a departure from conventional understandings of entrepreneurship towards one that accounts for changes in the rules of the game and the adaptive qualities of commercial state enterprises and their management. In recognition of this demand, this paper first calibrates an analytical framework that incorporates the constraints of weak institutions and emphasizes the incremental nature of the transformation process from political to corporate entrepreneurship. It highlights the importance of the inducement mechanisms for the transformation, which include permissions for new entries, hardening budget constraints of state-owned commercial entities, price liberalization, international listing, and further privatization.

By examining the process of entrepreneurship development in China's telecommunication sector, the paper illustrates how firm specific resources, the intertwining of party and bureaucracy, and the market-based incentives have promoted positive adjustments, allowed bureaucrats to overcome institutional constraints, and enabled them to identify areas they can pursue productive entrepreneurial activities. Recently adopted inducement mechanisms such as international listing have mitigated many of the opportunities for political rent-seeking and further promoted productive entrepreneurship. However past legacies of bureaucratic coordination and the persistence of strong political incentives have also led to some confusion as to how management should behave. While being innovative in competition and the application of inherited organizational resources in market settings are indicative of corporate entrepreneurship, strong linkages with the political system mean that when forced to choose, the state owner and management may place political and social motivations ahead of market fundamentals when they deem necessary. In this regard, although a transformation from the political to bureaucratic entrepreneurship can be regarded as admiringly successful, the transformation process from the bureaucratic to corporate entrepreneurship is not yet in full swing and represents a great challenge ahead to the sector.

Notes

[1] See Kornai (1992) for a review of the factors that motivate bureaucrats.

[2] Wage rate was 7.2 per cent lower in 1976 than that in 1965, the gross value of industrial output rose by an annual 15.7 per cent in real terms and foreign trade expanded by 19.7 per cent a year in US dollar terms (*Statistical Yearbook of China* 1983, pp. 17, 420, 455, 490).

[3] See Roller & Waverman (2001) on network externalities and universal service.

[4] It is estimated that there were 16 million PHS subscribers in April 2003, a market twice the size of Unicom's CDMA service ("PHS handsets in China" by D. Clark, BDA China, 22 Apr. 2003).

[5] The Peoples Liberation Army, the Ministry of Electric Power, the Railway Ministry and organisations such as the Peoples Bank of China had all developed sizeable networks to serve their own political and business interests.

[6] See "The minister of arbitrary power", The Economist, 7 Dec. 2000.

[7] "Into the crucible" *The Economist*, 1 Nov. 2001.

[8] "The minister of arbitrary power", *The Economist*, 7 Dec. 2000.

[9] "Markets turn a blind eye to lacklustre performance", *Financial Times*, 18 Sep. 2000.

[10] Unicom raised approximately US$5.56billion (*China Unicom Annual Report*, 2000).

[11] Interview: China Unicom, Hong Kong 26 July 2004.

[12] Due diligence sets the groundwork for a credit rating. However it does not always address how the company treats such issues as related party transactions. Interview: Rating Analyst, Hong Kong 30 June 2004.

[13] "From an overall perspective, (with domestic listing) you would not have incremental value and exposure to standards as with international IPO". Interview: China Unicom, Hong Kong 26 July 2004.

[14] Interview: China Unicom, Hong Kong 26 July 2004.

[15] Interview: China Unicom, Hong Kong, 26 July 2004.

[16] Interview: Rating Analyst, Hong Kong 30 June 2004.

[17] "China Mobile offers $3.65bn for local networks", *Financial Times*, 28 Apr. 2004.

[18] "Markets turn a blind eye to lacklustre performance", *Financial Times*, 18 Sep. 2000.

[19] "China Telecom steps up mobile battle" *Financial Times*, 3 Feb. 2003.

[20] "…It is not just the numbers (of subscribers) that matter; the capital market is a constant pressure on the company to maintain fundamentals." Interview: China Unicom, Hong Kong 26 July 2004.

[21] Interview: China Unicom, Hong Kong 26 July 2004.

[22] *Unicom Annual Report*, 2004.

[23] "Chinese telecoms in management reshuffle" *Financial Times*, 1 Nov. 2004.

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Appendix

Table 1: Selected Telecom Indicators China and India 1980-2004

	Mobile Subs (per 1,000 people)		Landline Subs (per 1,000 people)		GDP per capita (constant 2000 $US)	
	China	India	China	India	China	India
1980	0	0	2.18	3.13	186.44	222.05
1985	0	0	2.97	4.14	289.68	258.99
1990	0.016	0	6.03	5.97	391.65	315.50
1991	0.041	0	7.34	6.70	421.89	312.11
1992	1.52	0	9.54	7.7	475.93	322.50
1993	0.541	0	14.71	8.92	536.36	332.00
1994	1.316	0	22.90	10.7	599.80	350.40
1995	3.012	0.082	33.78	12.85	658.00	370.52
1996	5.629	0.346	45.13	15.33	716.25	390.96
1997	10.758	0.913	57.16	18.44	774.89	401.42
1998	19.214	1.217	70.39	21.99	827.35	418.20
1999	34.534	1.886	86.71	26.54	881.85	440.46
2000	67.525	3.521	114.7	31.93	949.18	450.20
2001	113.86	6.229	141.82	37.32	1020.52	456.81
2002	160.89	12.099	167.31	39.50	1105.96	477.39
2003	209.53	24.572	203.93	39.46	1209.00	510.80
2004	258.32	43.81	241.05	40.71	1323.14	538.31

Source: World Bank Development Indicators

Figure 1: Changing the Rules of the Game

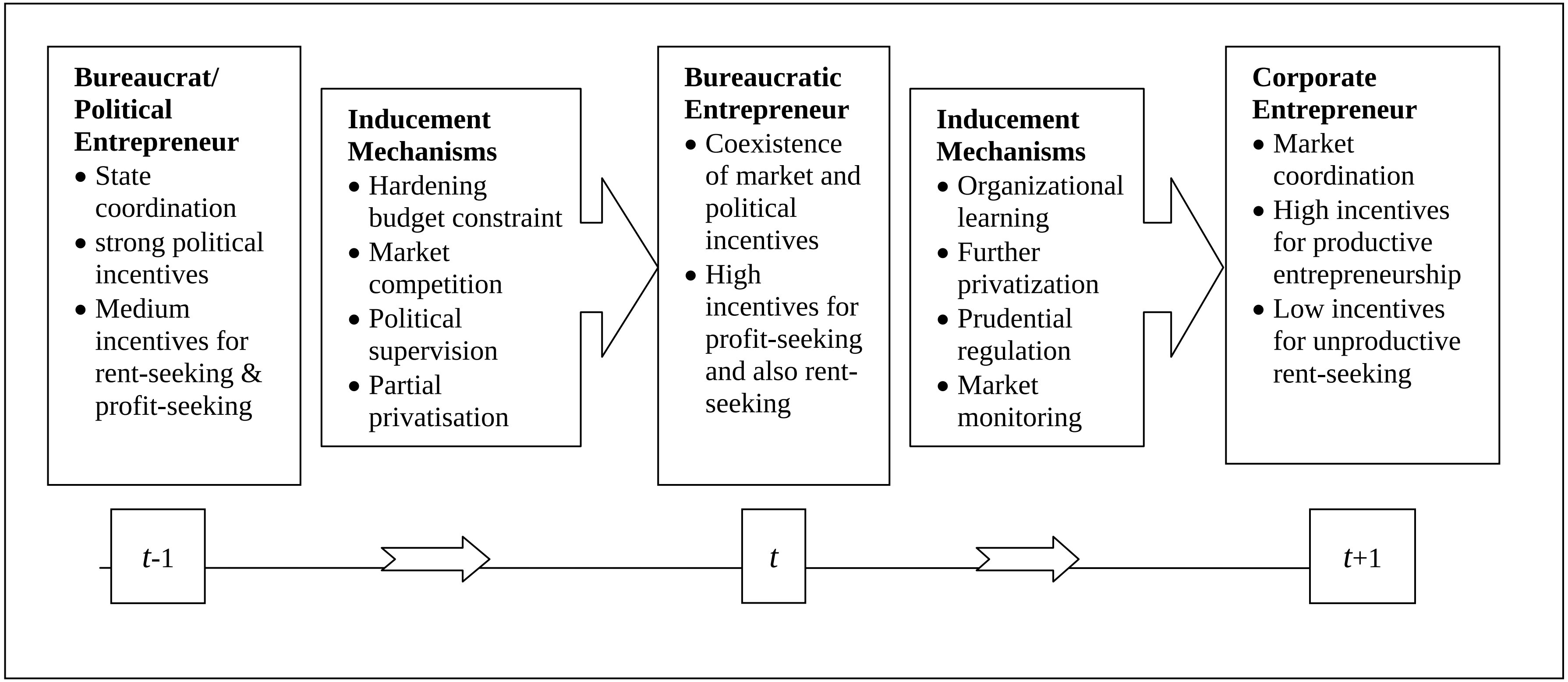
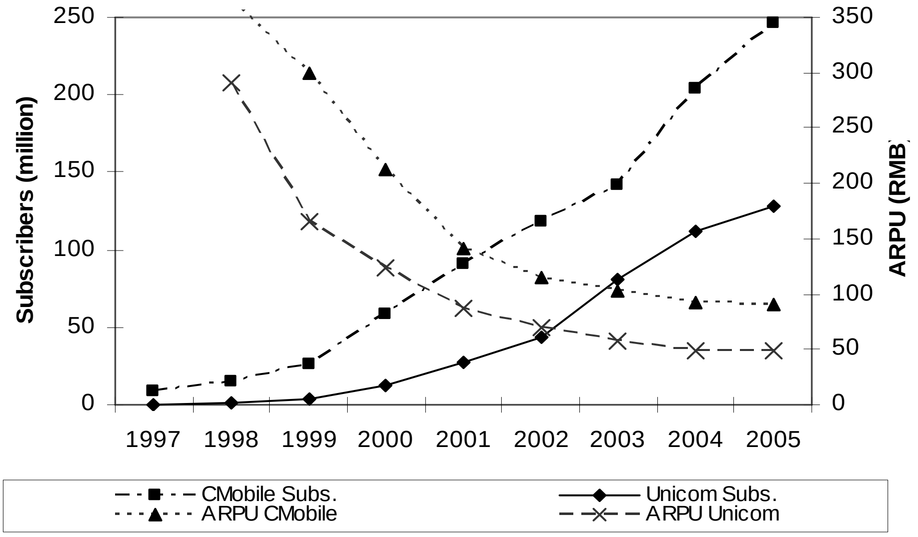


Figure 2: Mobile Subscribers vs. ARPU

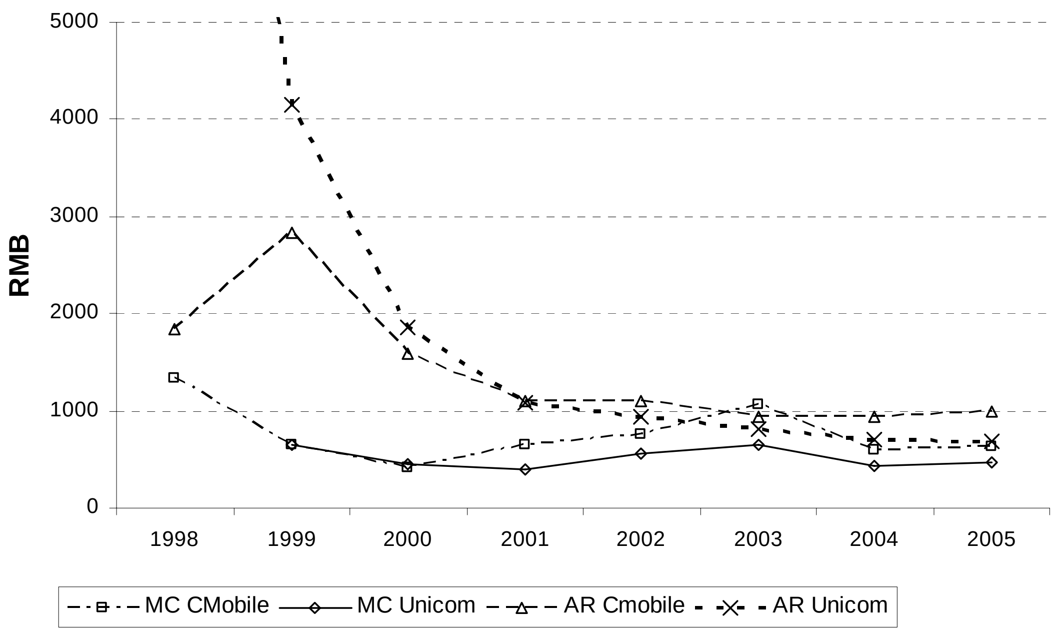


Note: Mobile subscribers equal to the total number of prepaid and contract subscribers.

ARPU is defined as the average revenue per user.

Source: Various Annual Reports China Mobile and China Unicom (2000-2005).

Figure 3: Marginal Cost (MC) vs. Average Revenue (AR) of China Mobile & China Unicom (in RMB yuan)



Note: Average Revenue is calculated as Total Revenue divided by Total Subscribers.

Marginal Cost refers to the addition to Total Costs of adding an extra subscriber.

Source: Annual Reports of China Mobile and China Unicom (2000-2005).