China Currents

A Publication of the China Research Center

Vol. 6, No. 2, Spring 2007

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Commentary

China's New Science & Technology Strategy: Implications for Foreign Firms

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Stunning development

According to Science, Technology and Industry Outlook 2006 released late 2006 by the Organization for Economic Cooperation and Development, China has become the world's second largest spender on research and development. Its R&D expenditures, reached $136 billion in 2006 in purchasing power parity terms, ahead of Japan's $130 billion, although it is still less than half of what U.S. spending of $330 billion (OECD 2006). The purchasing power terms are controversial and maybe misleading. According to the Chinese source, the 2006 R&D expenditures were only RBM294 billion ($37 billion). Nonetheless, these statistics represent an appreciable first step toward achieving one of the quantitative objectives set up by China's Medium and Long-Term Plan for the Development of Science and Technology (2006-2020). Launched by the Chinese government in early 2006, the plan is intended to turn China into an innovative nation by 2020, whose quantitative objectives include:

Investing 2.5% of its increasing gross domestic product in R&D
Raising the contributions to economic growth from technological advance to more than 60%
Limiting dependence on imported technology to no more than 30% of value added
Becoming one of the top five countries in the world in the number of invention patents granted to Chinese citizens and in the number of citations to Chinese-authored scientific papers.

While the purchasing power figure must be used with care, and while China's R&D expenditures as a percentage of its GDP – 1.41% in 2006 – has not yet reached that of a world leader in research and innovation, the underlying trend is that Chinese R&D spending has been growing by an impressive average of more than 20% over the past decade and faster than that of GDP (NBS and NBS/MST). The last several years also have witnessed the increasing role of enterprises in China's national innovation system; their contributions to the nation's R&D expenditures now account for about two-thirds of the total. Apparently, China will spend considerably more over the next 15 years, as mandated by the medium and long-term plan.

Moreover, the essence of the plan is that science and technology will drive China's future economic development, thus enabling the PRC to "leapfrog" into positions of leadership in the emerging fields such as information technology, biotechnology, and nanotechnology. The Chinese objective is nothing less than to put in place a national capability for promoting "indigenous innovation." The plan also introduces a policy framework for implementation of a series of new regulations and initiatives to support indigenous innovation, including providing preferential treatments for 1) innovation within domestic enterprises, government purchases, high-tech exports, and the assimilation of foreign technology; 2) encouraging foreign corporate R&D activities in China; and 3) strengthening intellectual property protection for Chinese innovators. In a word, the potential impact of the plan will be to shape the current and future trajectory of Chinese technological and economic development.

What does the plan mean to the development of the business environment and the operations of multinational corporations in China?

Reducing technological dependence

To begin with, "indigenous innovation" (zizhu chuangxin, also translated as "independent" or "homegrown" innovation) not only has become a buzz term but also has led to considerable confusion inside China and abroad because, in its ambiguity, it has been construed by some as echoing techno-

nationalist notions of self-reliance (zili gengsheng) from the Maoist period – when Chinese research and innovation activities were largely cut off from the international community and experienced significant retardation as a result. In explicating the concept, however, the plan points to zizhu chuangxin as having three components: genuinely "original innovation" (yuanshi chuangxin), "integrated innovation" (jicheng chuangxin, or the fusing together of existing technologies in new ways), and "re-innovation" (yinjin xiaohua xishou zaichuangxin), which involves the assimilation and improvement of imported technologies.

Closely related to the emphasis on indigenous innovation is one of the quantitative objectives of the plan, noted above, to reduce China's dependence on imported technology to less than 30%. Here, the dependence of a nation on foreign technology is calculated by dividing the value of imported technology by the nation's domestic R&D expenditures plus the net technology exports, that is, the value of the technologies exported minus the value of technologies imported. This formula is a bit odd, and indeed, represents a Chinese "indigenous innovation" in the study of science & technology and innovation policies. On its face value, the dependence on foreign technology can be limited by either increasing domestic R&D expenditures and technology exports, or decreasing technology imports, or a combination of both.

Unfortunately, reality is much more complicated than the theory suggests. Boosting R&D spending is one thing, but turning R&D into innovative products that are competitive domestically and internationally is quite another matter. For Chinese enterprises, at least for the time being when many of them do not possess sufficient human and financial resources to engage in large-scale innovation activities – only about a quarter of China's large and medium-sized enterprises have science & technology centers and less than 40% are engaged in S&T activities (NBS/MST, 2006, p.107) – technology import and other forms of technology introduction from outside China will still play an important role in building Chinese innovation capacity in years to come. The critical point is not whether the PRC should limit the importation of foreign technology, but whether China can harness and add value to imported technology. This, in turn, is linked to how they spend their R&D money, including that portion targeted for facilitating the absorption of foreign technology.

In fact, this objective reflects a serious contradiction inside the plan itself. On the one hand, innovation based on imported technology falls into the second component of indigenous innovation, as mentioned, and therefore, significant efforts need to be devoted to the digestion and assimilation of such types of technology. The policy measures accompanying the plan also emphasize this fact. On the other hand, the plan points out that China should not depend so heavily on technology imports as the source of innovation. In fact, this contradiction most likely reflects the differences of interests between China's S&T policy makers, represented by the Ministry of Science and Technology, which advocates indigenous innovation and the reduction of foreign technology dependency, and Chinese enterprises, which, supposedly at the center of innovation, are less likely to bet on internally generated know-how from a more pragmatic, self-interest perspective. Interestingly, this apparent contradiction also has raised concerns among the international business community. A careful reading of the plan only reinforces the sense that reducing dependence on foreign technology may be more of a political slogan than a practical objective.

Attracting multinationals for R&D activities

The goal of decreasing reliance on foreign technology also appears contrary to the desire to attract more R&D activities by multinationals to China, as specified by the plan and reinforced in comments made by officials from China's Ministry of Commerce in December 2006. After China re-opened its door in the

late 1970s, foreign corporations started entering China. The first to come were companies focused primarily on labor-intensive manufacturing activities in toys, clothing, and other low-end products. As China's investment environment improved, multinationals gradually moved into higher value-added operations to China, not only to penetrate the huge Chinese domestic market, but also to take advantage of the effects of the learning curve in terms of the relatively higher quality but less expensive labor force in the PRC to climb the value chain.

Since the late 1990s, multinationals have started to develop an R&D presence in China by opening research and engineering centers and collaborating with top Chinese universities. According to the statistics from China's MOFCOM, foreign corporations set up 980 R&D centers in China as of 2006, up from 24 in 1997. The number is probably overstated as there are most likely only 300 or so substantial foreign corporate R&D centers. Many so-called R&D centers are not independent but are affiliated with a specific venture's Chinese operations. Their registration with Chinese MOFCOM is designed, largely, to take advantage of the preferential treatment that the Chinese government is offering. Moreover, many such R&D efforts by foreign corporations in China are less part of a global innovation strategy and related to the company's localization strategy – being closer to their Chinese operations and localizing products for the local market (Serger 2006). Viewed from this perspective, these R&D activities and their contribution to China's innovation efforts should not be exaggerated.

On the other hand, at least 30 large multinationals currently have more than 60 facilities engaging in innovative research in China. These centers, by Microsoft, IBM, Intel, GE, Motorola, Nokia, Unilever, Procter & Gamble, AstraZeneca, and others, represent a significant commitment by these companies; their activities cannot be explained simply by the attraction of the Chinese market. They are part of a larger global innovation reconfiguration. In such instances, multinationals are attracted by China's "brainpower" rather than Chinese brawn. Multinationals are plugging into China's talent pool, accessing high-quality researchers from domestic enterprises, research institutes, and universities to fortify their high-end scientific and engineering workforce around the world. The rapid growth of these types of R&D efforts may seem somewhat surprising in view of the bad press China receives about the problems of intellectual property rights protection. Nonetheless, it seems multinationals find the upside benefits worth the risks, even with the high degree of labor turnover in the Chinese economy.

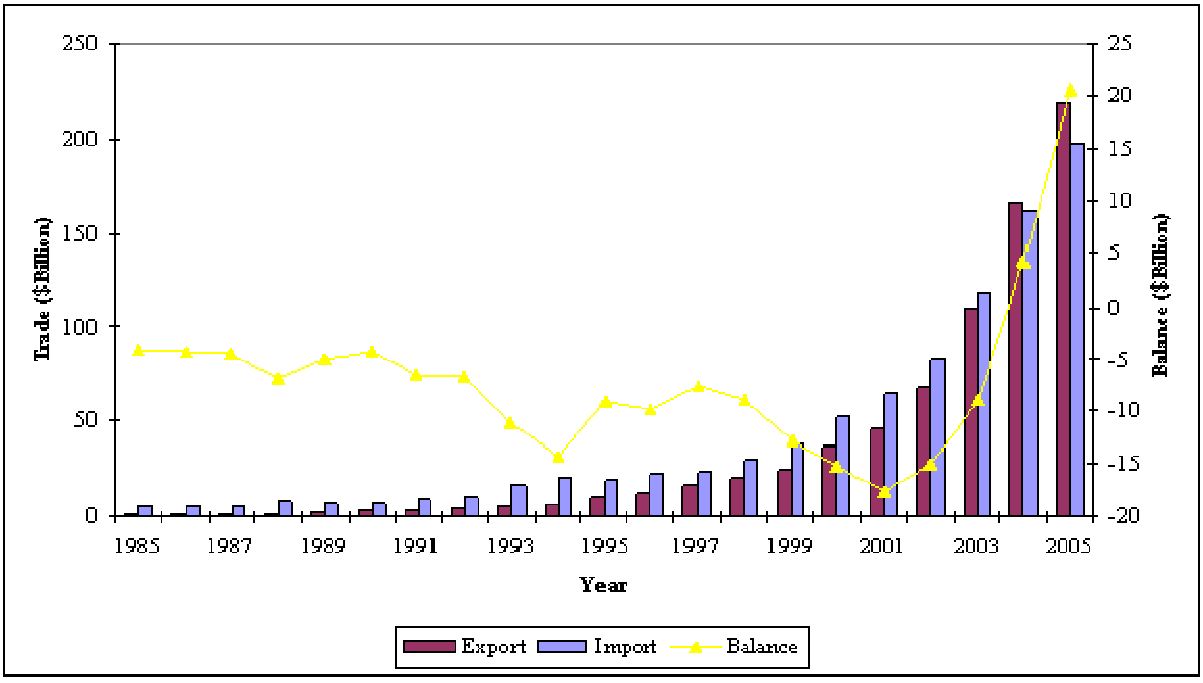
While encouraging more and more of this type of investment, China's leadership also is concerned about whether these R&D centers will be effective instruments of technology transfer and whether they will bring technological spillovers to Chinese enterprises. As the world economy shows signs of becoming more protectionist and the benefits of globalization erode in some areas, the PRC leadership wants to move quickly to bring R&D into the country as a way to enhance access to high-end know-how. Whether this will occur, and via what vehicles and channels, are the big questions surrounding foreign R&D in China. Still, with support from the central government in Beijing, many local governments in the PRC are competing intensely with one another to attract these R&D investment projects.

Given the orientation of the plan, combined with global outsourcing trends, as long as China continues to turn out highly educated scientists and engineers, the country will be a magnet for the new R&D activities of multinationals. Consequently, there will be a restructuring and remapping of the global R&D landscape, through which China will surely be one of the beneficiaries. For one thing, high-end R&D from multinationals helps China to utilize global R&D resources. Indeed, as a whole, funding from the foreign sources already contributed some 15% of China's R&D expenditures – presumably most from MNCs.

Stimulating high-tech exports

The plan also aims to further develop China's high-tech industries, including stimulating high-tech exports through tax and other incentives. Since the 1990s, high-tech exports have become an important growth engine for the Chinese economy (Figure 1). But, China's impressive high-tech trade statistics need to be scrutinized. First, while the PRC's export-oriented strategy has yielded obvious positive results, basic processing and assembling with key components from abroad for export purposes has accounted for a significant part of China's high-tech exports.

Figure 1 China's High-Tech Trade



Source: NBS/MST.

Second, China's export-led high-tech industry has been based on low labor costs and imported foreign technologies or even components. China has become a big assembly line for products made of high-tech parts from abroad plus some lower-tech domestic components. Most of the Chinese "indigenous" exports are lower-end products involving basic processing and manufacturing techniques, while imports in general are much more sophisticated. There has been a tendency for the world's leading multinationals, especially those in the information and communications technology area, to move their manufacturing facilities or outsource production to China – not because of Chinese competitiveness in technology, but largely because of its comparative advantages in labor. Clearly, China has moved and will further move steadily up market. Being labor-intensive, however, these types of so-called "high-tech" exports bring only a slim profit margin, sometimes as low as 2%-3%, to Chinese firms.

Third, in areas where the Chinese economy appears to enjoy a certain level of competitiveness, much of it has come from foreign-invested enterprises (sanzi qiye). Over the years, for example, most of the computer systems and mobile communications equipment have been exported by foreign-invested enterprises. Wholly own foreign enterprises have contributed a significant portion of China's high-tech exports – some 90% in recently years, while state-owned enterprises have seen their share decline year over year (NBS/NDRC/MST, 2006, pp.447-8).

In a word, it is high-tech multinationals that have benefited from China's increasing high-tech exports. In the meantime, China's high-tech industry remains structurally weak – emphasizing processing and assembly of low-end products with low value-added and led by foreign-invested enterprises. Because of this, China may make and export "high-tech" products in large quantity, but does not enjoy the benefits and profits that come from leveraging its own technology to produce higher value-added items. All this points to a pattern of its high demand for and reliance upon advanced foreign technology, a shortcoming that the plan explicitly wants to eradicate. And given path dependence, the domination of foreign invested firms in China's high-tech exports poses difficulties for its domestic high-tech firms to become innovative. This is one of the reasons that the plan places so much emphasis on the building up of indigenous innovation and alleviating the dependence on foreign technology.

Strengthening intellectual property rights protection

One last point worthy of attention is the focus of the plan on strengthening intellectual property rights protection in China. This is one of the critical initiatives within China's S&T development strategy adopted in the new century – the other two being the focus on talent and technical standards – because China has paid an enormous price for over indulgence in imported technology while it has yet to establish sources of competitive advantage based on Chinese created and owned intellectual property rights. Furthermore, China has met various trade-related intellectual property rights barriers. According to a recent report in the Financial Times, China is increasingly the main target of litigation at the International Trade Commission, with the number of claims against mainland Chinese companies multiplying rapidly since 2000; foreign patent owners having won in about half of the cases against China over the past 10 years (Waldmeir 2006). Even though the Chinese have recognized the strategic value of intellectual property rights in today's global economy, they have paid a steep financial price for not understanding this point much earlier.

Protecting intellectual property rights effectively and rigorously will spur the expanded introduction of advanced technologies and especially the manufacturing of new products in China earlier in their life cycle. More importantly, intellectual property rights protection will give domestic firms incentives to invest in R&D and introduce innovative products to the market. Only when domestic entities start to be innovative is it possible for the nation to turn itself into a truly innovation-oriented society.

Conclusion

As a new, strategic S&T and innovation policy manifesto, the Medium and Long-Term Plan for the Development of Science and Technology (2006-2020) reinforces China's ambition to become a global technological power. China consciously is trying to transition from a manufacturing-based economy to an innovation and knowledge-based economy; progress towards this goal is already in evidence. Take the OECD statistics on China's R&D expenditures as an example. Regardless of whether they are $136 billion or $37 billion or, probably and more accurately, somewhere in between, there has been a trend of rising spending on R&D, and this trend will have positive implications for China's economic transition away from a heavy natural resource and energy using, environmentally destructive model of economic development. This suggests that the transition to a knowledge economy is not only good for China, but also for the rest of the world.

The plan's emphasis on indigenous innovation is not as protectionist as it seemed to some at first sight. Chinese leaders understand that in today's globalized world economy, lone ranger strategies will likely not be successful. Along with strengthening its own innovative capabilities, China also must become more adept at collaboration and cooperation. Obviously, for a range of economic, political, and national security reasons, China is eager to become a more innovation-oriented society, but only can achieve this

goal by becoming more integrated into the global economy and transnational knowledge networks. The real challenge for China is how to effectively access and utilize global resources rather than to worry about becoming overly technologically dependent.

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Can Development Dissolve Swords and Shields?
Hu's 'Harmonious Socialist Society' betwixt Mao Thought and Deng Theory

by Stephen Herschler

October's meeting of the 6th plenum of the 16th Central Committee of the Communist Party of China (CPC) concluded by passing "The Resolution on Some Issues in Building a Harmonious Socialist Society." This document presents not only the Party's current goals for China's development, but it also introduces Hu Jintao's original contribution to Marxist ideology. Yet certain aspects of the Resolution's wording are striking, specifically the prominent role it gives to 'contradictions' in contemporary China. Hu Jintao is generally considered to have been selected by Deng Xiaoping to succeed Jiang Zemin. 'Contradiction,' however, is very much the brainchild of Mao Zedong. Yet Deng could only pursue 'reform and opening' after superseding Mao Thought with his own. This raises the question: how can Deng's political progeny utilize a core Maoist concept without subverting his political benefactor's reform agenda?

The position of generational Party leader includes providing ideological leadership. Hence, the history of CPC leadership is not just one of leaders but, more important, of their ideologies: Mao Zedong Thought, Deng Xiaoping Theory, Jiang Zemin's 'Three Represents,' and now Hu Jintao's 'Harmonious Socialist Society.' Each leader's ideology combines their own novel formulations with particular elements strategically selected from previous leaders' guiding thoughts, thereby suggesting overarching ideological continuity between leaders as well as their own particular program being the logical consequence of that which had preceded it. These ideological frameworks generate the Party's 'line' and 'guiding thought' for national policy in a particular era. As China is governed by the CPC, all these guiding thoughts necessarily adhere to some general Marxist conception of historical development. That is, they understand history as a linear process of development (or a path), traveling through sequential world historical stages, leading eventually to one ultimate destination: Communism. Thus, each leader's ideology necessarily addresses two issues: where China currently is on the path (that is, what stage is it in) and how China can best progress along the path. To better understand the challenge and opportunity Hu faces in melding elements of Mao Thought and Deng Theory with his own specific program to develop China, it helps to first review his predecessors' distinctive conceptualizations of what generates progress.

Mao: Progress through 'Contradictions'

Uniting elements from Daoist philosophy with a Marxist dialectical view of history, Mao emphasized that 'contradictions' not only constituted all things in the natural world as well as in society, it was the generative force for development in all domains. A country's progress was driven by contradictions between social groups, more specifically through class struggle. Mao's 'Sinicized' Marxism helps to explain some of the distinctive features of Chinese political-economy under his rule. In terms of economics, the Great Leap Forward can be understood as reflecting Mao's belief that the contradiction between a society's desire for development and its poor economic base could be resolved by society unleashing a revolutionary effort to advance agriculture and industry. Of course, the Great Leap Forward proved to be one giant step back for China's economic development. In terms of politics, the Great Proletarian Cultural Revolution was rooted in Mao's determining that not only had contradictions persisted after the Chinese Revolution but that these contradictions included antagonistic contradictions between groups upholding the Revolution and those opposing it. 'Grasp class struggle as the key link' was proclaimed to be the national priority, spawning a series of campaigns against prominent national

Party leaders. Of those officials who survived being the target of such campaigns, many were restored to full power only after Mao's death in 1976. One of them was Deng Xiaoping.

Deng: Progress through 'Development'

Upon Mao's death, Party elders who had recently suffered the vicissitudes of Maoist politics, with Deng Xiaoping as their de facto leader, moved quickly to revise the Party's guiding thought. 'Grasp class struggle as the key link' was replaced by 'economic construction as the focal point.' Party leaders affirmed that with the Communist Revolution, China had entered into a new phase of history. Mao's works applied mainly to an era of 'war and revolution,' a time in which class struggle was indeed the primary contradiction in society. After the Revolution, however, China had entered into an era of 'peace and development.' revolution while Deng Xiaoping's glory lay in spearheading China's 'second revolution,' economic development. Accordingly, the main task facing the Party and the people, the core contradiction, had changed from 'Liberating the productive forces' to 'Developing the productive forces.' Mao's glory lay in leading the 'first,' political revolution while Deng Xiaoping's glory lay in spearheading China's 'second revolution,' economic development.

If 'contradiction' was the lynchpin of Mao's political-economy, for Deng it was 'development.' Deng coined the mantra of his era when he stated "only development is firm reason" while undertaking his 1992 tour of Special Economic Zones. Deng's words launched a national campaign to resume market reforms stalled in reaction to the political and social upheaval of spring 1989, a campaign that culminated in the CPC's embracing of market economics in the 1993 "Party Resolution on Some Problems in Constructing a Socialist Market Economy." Deng's tour and its reformulation into Party guiding thought ignited in China a development frenzy which has yet to abate.

Deng's focus on development informed both his conceptualization of China's current historical stage as well as the means by which China could best progress on the path. While the international environment was a phase of 'peace and development,' China itself was in the 'primary stage of socialism'—a very long phase indeed, one lasting perhaps 100 years. The goal for this phase was economic development. Deng's understanding of what actually spurred development is connoted by a fundamental reconceptualization of stages that occurred under his tenure. Dengist views of international political economy determine a country's position and its progress primarily according to certain development indicators, most importantly economic statistics. This view of development parses the countries of the world into three stages of development: advanced, developing and 'falling back'. These categories are relational, meaning that to categorize a country as 'developing' is to implicitly evoke the existence of other countries further ahead or behind on the path. Characterizing China as a 'developing' country clearly indicated China to be further behind on the path relative to other countries. As history is linear, China's progression would require that it cover some of the same terrain as the world's economic forerunners, advanced industrial nations. Accordingly, Deng called for learning from more 'advanced' countries and adopting (with 'appropriate revisions') their advanced economic and management techniques. He warned that to not develop meant to 'fall back,' relatively speaking, which posed the risk of China once again being 'beaten and humiliated' by other, more developed countries.

Deng also differed from Mao in how he conceptualized the domestic impetus for development. First, China needed to 'open to the outside world,' that is, engage with international markets. Second, 'China's' development was to be spurred by local development. Accordingly, the reform era involved an incremental devolution of decision-making and fiscal autonomy to local entities. While Deng did say that China's relatively 'advanced' localities could and should 'pull along' the country's poorer regions, he emphasized that in China's current stage of development nothing should be done that might dampen

the vitality and rapid development of China's local economic vanguard, including such measures as imposing high taxes or undertaking excessive redistribution of wealth.

Hu: Progress Through "Development 'Dissolving' Contradictions"

Contradiction, essential for understanding Mao Thought, is all but irrelevant for understanding Deng Theory. Thus, it is striking to read in the October 2006 Resolution, "No society can be without contradiction; society always develops and progresses through the movement of contradictions." The Resolution concurrently affirms, "For society to be harmonious, first it must develop". In other words, the Resolution gives weight to both Maoist and Dengist conceptions of development.

Closer examination of contradiction's deployment in the Resolution, however, reveals that its framing is very much Dengist, with China's place on the path, the characteristics of the international environment and China's location relative to other countries following formulations crafted during the Deng years. Building a 'harmonious socialist society' is presented as a natural consequence of the Party's success in upholding 'reform and opening' as well as 'modernization construction.' Peace, development, and cooperation remain the major trends of this historical stage but China's development also occurs in a context in which peaceful development is challenged by a number of factors, including an ever-intensifying competition between countries' comprehensive strengths. While reform has helped China develop significantly, the Resolution underscores that China "will continue to face pressure due to advanced countries' continued superiority in economics, technology and other areas for some time to come." In other words, China remains 'backward' relative to more advanced countries. Thus, economic development remains vital for China's progress, perhaps for its very survival, and China will continue to learn from more advanced countries.

Only after a meticulous framing of China's stage of development does the Resolution finally introduce the concept of contradiction, using a formulation that comes directly from Dengist views: "the primary contradiction in our country's society remains the contradiction between that between the people's material & cultural needs and society's backward production." In other words, the central contradiction is between economics and society. This basic contradiction spawns a series of more specific contradictions which become the focus of the Resolution. They include: the legal system, economic disparities, the employment system, morality and culture, creativity and innovation, public administration, and environmental issues. The breadth of topics covered results from the Resolution's function, namely, to set forth a guiding thought pertinent for most every organizational component of the country's immense governing apparatus.

The way in which these different components are analyzed suggests a divergence from the Dengist development model. The Resolution's structure connotes that these constitute contradictions naturally produced by China's current stage of development; indeed, they are necessary products of China's previous development successes. While Deng had emphasized local initiative and experimentation, the Resolution's wording indicates that the central government will be more involved in cultivating and regulating social and economic development within the country. This notion of governance comes forth in how contradictions are conceptualized in the Resolution. China's current contradictions are not constituted by struggle. Rather, they are amenable to hua-jie, a word that evokes dissolving and clearing up. It is clear that the central government is to play a decisive role in dispelling contradictions through a range of national policy endeavors, including: transfers of fiscal receipts, educational reform, work on a social security system, societal and governmental morality campaigns, legal and administrative institutional reforms, etc. Indeed, within the body of the text, the word 'contradictions' all but vanishes,

indicating that the focus is less on contradictions than on national governmental measures to dissipate them.

Can 'Development' 'Dissolve' 'Swords and Shields'?

To briefly position Hu's notion of development relative to Mao Thought and Deng Theory, Hu shares with Mao an understanding of contradiction as being an unavoidable phenomenon in a country's development. However, he uses the term to describe potentially harmful social phenomena that naturally arise in the course of a country's development. That is, unlike Mao, he suggests contradictions are the unfortunate product of development rather than as development's generative force. He sides with Deng in affirming that China's primary contradiction is between society and economics and hence economic development remains China's primary goal. Development's primacy over contradictions is affirmed by development not only producing contradictions but also resolving—or rather, dissolving—them. He differs somewhat from Deng, however, in granting the central government a greater leadership role in comprehensively managing and directing development. Indeed, one is tempted to conclude that Hu's China is taking a more socialist path.

The "Resolution on Some Issues in Building a Harmonious Socialist Society" sets forth Hu's plans for China's future through 2020—a date that is likely to be well into his successor's term. The Resolution has already had an impact on Party and public discussions of social reform, as evinced in numerous articles assiduously analyzing contradictions in essentially every social and economic domain and proposing means of 'dissolving' them. As all the current members of the standing committee are engineers by training, it comes as little surprise that they conceptualize Chinese society as a complex mechanism that Party policy can make run more smoothly, particularly if the policy adheres to a 'scientific development view'. While Hu's coining of a 'Harmonious Socialist Society' seeks to define the national agenda for the next 13 years, he may have less control over contradiction's circulation. Chinese renders the term by combining the character for sword with the character for shield, objects not easily dissolved. The Party has its work cut out for it in this stage of Chinese development, both in managing China's current contradictions and in managing how people conceptualize and apply 'contradiction' to Chinese society.

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Teaching Innovation: Implications for India, China and America

by Robert L DeHaan and Mark Hutcheson

With world leaders acknowledging that innovation will be the well-spring of economic development in the 21st Century, over one hundred participants from places as distant as New Delhi, Beijing, and Jerusalem gathered in Atlanta in early March, 2007 at a conference on **Education for Innovation in India, China and America**.

Sponsored by Emory University and the India, China and America Institute (ICAI), the conference brought together ten distinguished speakers (see box) and a participant audience of government officials, educators, policymakers, students, and representatives of the corporate community to discuss the following critical guiding questions:

- Can inventiveness and ingenuity be taught and nurtured in schools and colleges?
- What are the most effective educational strategies to promote these abilities?
- How are vibrant economies driven by innovation?
- What is the relationship between education for innovation and economic development?
- What measures can these three most populous countries in the world take to promote cooperation and sharing rather than hostile competition in their efforts to educate an innovative citizenry?

The idea for this conference arose out of the work of ICAI, a non-profit organization with the vision of providing a sustainable, non-governmental platform to identify and drive synergies among India, China, and America in the areas of emerging markets, commercial growth, and alignment of policies for the benefit of a vast number of people. The Institute was founded by Jagdish N. Sheth of Emory University as a way to help policy-makers, business leaders, and academics understand the growing importance of this tri-lateral relationship, and to encourage discussion and research into the profound implications it will have for the three countries and the rest of the world.

Providing impetus to the emergence of the trilateral relationship is a new world order where economics and the development of human capital have replaced political philosophy as the driving forces of national policy. Increasing innovative capacity is a crucial component of the “soft” infrastructure on which many nations are pinning their future prosperity. A developed country such as the U.S., with a long history of innovation, massive public and private investment in research institutions, and an ability to draw the brightest minds from around the world, must enhance its innovative capacity in order to maintain economic leadership.

In India and China, innovation and innovative thinking have become synonymous with future economic growth. As manufacturing and investment move more and more easily across borders in our ever “flattening” world, other developing countries are drawing attention as sources of inexpensive labor. It is important that both India and China “upscale” their economies so they are not just the world’s workshops; they must also be sources of product development, artistic creativity, and marketing. Only by moving their economies up the scale of technology and information content can they continue growing at the pace necessary to help the large portions of their populations that have yet to be touched by economic prosperity.

India, China and America each face significant challenges in its efforts to increase the innovative capacity of its citizens. For the U.S., obsolete teaching methods promote rote learning, and competition from other governments and multi-national corporations draws research talent and investment away. The challenge for China is more cultural. A historic reliance on rote learning and an educational system that encourages social hierarchy and uniformity are often cited as barriers to innovation. When even Chinese expert sources acknowledge such problems, it catches the attention of the world community. An April 1, 2007 article in The New York Times describes a small but growing effort among Chinese educators and students "to blend a Western emphasis on critical thinking, versatility and leadership into their own traditions." And, although India has developed a more open attitude toward innovation and innovative thinking, the country is burdened with a severely limited educational infrastructure and a majority rural population that struggles with the basics of food and shelter.

Although much attention has been given to bilateral issues such as the rise of China and India as economic powers and the U.S.-China trade imbalance, analyses couched in terms of the tri-lateral relationship are rare, despite the mounting evidence that these three countries will increasingly come to dominate the world stage in terms of market power and political influence. Conversations among ICAI personnel about how innovative capacity might play a pivotal role in the unfolding India-China-U.S. relationship led to further discussions of how education promotes innovative solutions and economic growth, and eventually to the guiding questions that set the direction of the conference discussions.

In his opening remarks, conference co-organizer Robert DeHaan described some of this history and introduced the guiding questions. He saw his role as encouraging and facilitating penetrating discussions among participants representing diverse fields and interest groups. He reminded the speakers and the audience that the main theme of the conference was not innovative education, but "education for innovation". The questions to be explored, he noted, were whether we can educate students in schools and colleges, or as adults in the work force, in ways that maximize their ingenuity and inventiveness? And how does such education effect national economic growth or competitiveness?

To frame the overall implications of the tri-national relationship, Jagdish Sheth asked his listeners "Why India, China and America? He framed his comments by offering evidence of the explosive, almost simultaneous growth of China and India, referring to "Chindia", the term introduced by Jairam Ramesh to highlight the combined impact of these two nations on the economies of the world. Responses of the U.S. and other developed nations to the Chindia challenge must be to increase R&D spending, improve the search for global talent, encourage public/private partnerships, and actively recruit students at all levels to come to the U.S. to study. These can be the means whereby healthy competition can remain cooperative and collaborative rather than hostile.

Whether and how innovation can be taught in classrooms across the world were issues captured in the first two guiding questions (above). These were addressed primarily by four speakers: Kaufman, Perkins, Daniel and Baraniuk.

James Kaufman explored the origins of innovation in terms of ingenuity and inventiveness, or at an even more fundamental level, in measures of creativity. He defined two levels of creativity: Big-C and little-c. Big-C creativity is that attributed to those acknowledged geniuses who have changed paradigms of their fields or their cultures. Einstein, Mozart and Picasso are often-cited examples. The concept of little-c creativity stems from research showing that creative potential is widely distributed, and emphasizes such

characteristics as unconventionality, inquisitiveness, imagination, and freedom. Kaufman also proposed a third category, called mini-c, which encompasses the creativity inherent in the learning process, based on the contention that the development of new understanding and personal knowledge construction are creative processes. Mini-c creativity, Kaufman argued, highlights the creative process inherent in learning, i.e., the way in which students interpret and make sense of new information.

In her presentation, Perkins explored two questions: (1) What educational goals and practices foster the development of students who are both capable of innovation and motivated to innovate? and (2) What educational technologies serve as tools for achieving those goals? She began by examining recent results from educational research showing that people learn by actively constructing their own understanding, and by building on their own prior knowledge. Developing expert competence requires both acquisition of factual knowledge and development of an organizational structure that allows for efficient retrieval and application of ideas. Perkins introduced two novel technologies which, she noted, can serve as tools for achieving the goals of moving students toward expert competence and innovative ways of thinking: classroom response systems, or "clickers", and interactive, computer-based simulations. The major focus of her talk was computer-based interactive simulations (sims), which provide a novel way to convey scientific ideas and engage students in educational activities. Accessing the Physics Education Technology (PhET) project (http://phet.colorado.edu) online, Perkins showed that sims can be powerful educational tools that facilitate the educational aspects identified above as important for understanding and for innovation. She and her colleague, Carl Wieman, Nobelist in physics at the University of Colorado, have developed over 60 sims for teaching and learning high school and college physics, chemistry and mathematics.

The question of how to disseminate educational materials that promote innovative thinking to vast and often impoverished populations, was taken up in the presentations of Sir John Daniel and Richard Baraniuk. Daniel reported that China now has the largest postsecondary education system in the world with 21 million students and an Age Participation Rate (APR) of 19%. India lags behind with an APR of 10% and some 10 million students. Developed countries have APRs of 40% or more; America's APR is just under 60%. China and India must continue to develop their postsecondary systems. India's combination of demography (60% under age 25) and democracy will propel its postsecondary enrolments past those of both the U.S. and China. According to Daniel, in the coming decades, teaching that promotes innovation in higher educational institutions will expand greatly in the countries of the global South where the large majority of people under 25 live. To compete, the higher education industry must achieve economies of scale by targeting the massive numbers of people at the bottom of the pyramid, not just the elites. This will mean more distance learning and more cross-border provision. The Commonwealth of Learning (www.col.org/colweb/site) and Whitney International University Systems (www.whitneyintl.com) were examples he cited of organizations that have made good progress in this endeavor.

Agreeing that distance learning is fostered by broad access to learning materials, Baraniuk introduced the Connexions website as an example of open educational resources. Connexions is a unique web-based teaching and learning environment that combines free authoring, course building, and publishing tools with an open-access content repository (see www.cnx.org). For students and instructors alike, it provides modular, interactive courses and learning objects that are freely accessible. In January 2006, the Connexions servers handled over 16 million hits representing over 500,000 unique visitors from 157 countries. Some of the most active content development areas at present include music, engineering, physics, chemistry, bioinformatics, nanotechnology, and history. Volunteers are translating modules and courses into a range of different languages, including Spanish, Japanese, Chinese, Hindi and Thai.

In a presentation entitled "Designing Education for Innovation", William Massy contended that education for innovation should include creativity, problem-solving, communication, character-building, and learning to live in a diverse and global society. Universities that do a good job in these areas will have laid the necessary groundwork for innovation. Traditional higher education systems in many parts of the developing world rely mainly on rote learning, and often fail to achieve these basic objectives. Surprisingly, so do many institutions in more advanced nations, as Derek Bok points out in his 2006 report America's Underachieving Colleges. Such arguments support the need for active learning and they essentially define the major differences between high quality and lower quality education.

Maintenance of educational quality is dependent on having appropriate assessment measures. Barry McGaw noted the marked differences among countries in the quality of education, as indicated by international assessments such as PISA, which measures performances of 15-year-olds in reading, mathematics, science and problem solving in some 42 nations. Beyond differences in measured learning, PISA results also reveal marked differences in the equity of education systems. McGaw showed that some countries manage to achieve high quality and high equity at the same time.

The relationship between education for innovation and economic development was the main thrust of the remaining four speakers: Feldman, Mashelkar, Simon and Zhou. Maryann Feldman noted that modern economic growth is a complex phenomenon that is increasingly dependent on innovation -- the ability to create economic value, termed human capital, through the creative application of knowledge. Knowledge is the most important commodity of any modern economy, she argued. The higher education system is the primary creator of human capital, defined as individuals who are able to appreciate, integrate, augment knowledge and innovate. The main question she considered was how the role of institutions of higher education is changing in China, India and the United States and what these changes portend for competitiveness and economic growth. But the unit of analysis, she noted, must be smaller than whole countries. Innovation is not spread evenly across the citizenry; it tends to be concentrated in local regions, exemplified by Silicon Valley in the U.S., China's Pudong district, and Bangalore in India. Academic institutions provide the basis for the range of skills required for advanced economies and form the fabric of such competitive regions. As the economies of India and China develop, increasing both their ability to educate students at home and gainfully employ them after graduation, the competitiveness landscape is changing.

Using a statistical model that captures both the supply and demand sides of the talent issues, Denis Fred Simon laid out a forecast for the availability and utilization of talent in China. The supply side reflected university enrollment data by field of study. The demand side included key factors such as the increased technological sophistication of the society. He noted that there have been conflicting stories about the prevailing talent situation in China. On the one hand, spending on technology, R&D, and education has been accelerating over the last several years. The overall number of scientists and engineers and other trained professionals has been steadily increasing, and the education pipeline at the tertiary level is filled with millions of students entering colleges and universities. On the other hand, complaints are common that qualified talent is difficult to find and retain. According to a recent Kinsey Report, only 10% of Chinese graduates with at least seven-years of professional experience are qualified to work for multinational corporations. There is a growing recognition that China faces a serious talent challenge as it seeks to sustain its economic growth over the next decade or more.

Mansheng Zhou, in his talk entitled "Higher Education for Innovation in China," agreed with Simon's analysis. Citing the 2006 World Competitive Yearbook, Zhou noted that China ranked 19th in

innovative capacity among 61 nations (though up from 31 in 2005). The main barriers to a higher ranking were a low degree of self-sufficiency in key technologies; low rate of patent production; poor quality of scientific research; lack of trained talented manpower; and inadequate investment in science, technology and education. Training a large number of talented people, he said, is the key to building an innovative nation. In comparing U.S. and Chinese educational systems, Zhou focused on the "huge differences" arising from their dissimilar histories, culture and politics. He described Chinese education, which for thousands of years has emphasized respect for the teacher and for learning, as highlighting the systematic accumulation and imparting of knowledge while "cultivating a spirit of rigidity and precision". In contrast, "in the eyes of the Chinese, American education stresses cultivation of independent thinking, creativity and imagination, praxis, and individuality of students". Education in China, he said, has a sound basis but lacks creativity.

The Indian perspective on the idea that expanding human capital drives national economic growth was offered by R.A. Mashelkar. He began by comparing the percentage of world scientific and engineering intellectual output produced by Asia-Pacific nations with that of Europe and the U.S. He noted that in the short period between 1990 and 2004, the U.S. fraction fell, the European Union portion rose just slightly, while the Asia-Pacific nations rose dramatically. In India, since independence in 1947, the government has invested heavily in creating science-rich institutes and universities. One result is that it is reliably predicted that software professionals, representing 0.06% of the Indian population, will generate 35% of Indian exports by 2008. Some of this scientific development has focused on benefiting the economically disadvantaged, as for example, with the development of the GIST technology for multi-lingual computing and the Amida Simputer, a low-cost alternative to the PC which can be widely distributed to even the poorest rural villagers. India and China can gain innovative dominance, he concluded, only by lifting large fractions of their vast populations up the socio-economic ladder through education.

In a "summing up" by a Reprise Panel headed by Mary Bullock, former president of Agnes Scott College, the following conclusions pertinent to the guiding questions were drawn:

- Inventiveness and ingenuity can be fostered by educational strategies that assist learners in constructing their own understanding and developing an organizational structure of knowledge that allows for retrieval and application of ideas.
- Education based on such strategies can be disseminated equitably and at low cost to most sectors of society by the use of open education resources and distance learning methods
- Economic development is promoted by the production of human capital through education, but quality issues are paramount
- At present growth rates, the economies of India and China will overtake that of the U.S. in coming decades, if those nations can overcome intrinsic educational and cultural barriers

Conference Speakers

Richard G. Baraniuk, Victor E. Cameron Professor of Electrical and Computer Engineering, and Founder of Connexions, Rice University, Houston, TX, USA

Sir John Daniel, President and CEO, The Commonwealth of Learning, Vancouver, Canada

MaryAnn Feldman, Miller Distinguished Professor, Institute of Higher Education, University of Georgia, Athens, GA, USA

James C. Kaufman, Director, Learning Research Institute, California State University, San Bernardino, CA, USA

R. A. Mashelkar, Director General, Council of Scientific and Industrial Research (CSIR), New Delhi, India

William F. Massy, Professor Emeritus and former VP for Business and Finance, Stanford University; President, The Jackson Hole Higher Education Group, Inc., Jackson Hole, WY, USA

Barry McGaw, Director, Melbourne Education Research Institute, University of Melbourne, Melbourne, Australia

Katherine K. Perkins, Associate Director, Physics Education Technology Project, University of Colorado, Boulder, CO, USA

Denis Fred Simon, Provost and Vice-President for Academic Affairs, Levin Graduate Institute, State University of New York, New York City, NY, USA

Zhou Mansheng, Deputy Director -General, National Centre for Education Development Research, Ministry of Education, Beijing, PRC

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Mark Hutcheson, Executive Director, ICA Institute

K. M. V. Narayan, Hubert Professor of Global Health, Rollins School of Public Health, Emory University and Health Research Director, ICA Institute

Jagdish Sheth, Kellstadt Professor of Marketing, Goizeta Business School, Emory University and Founder, ICA Institute

Reprise Panel

Mary Bullock (Chair), President Emerita, Agnes Scott College, and Senior Scholar, Woodrow Wilson International Center for Scholars

Eleanor Main, Director, Division of Educational Studies, Emory University

Penny Prime, Director, China Research Center and Professor of Economics, Mercer University

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China's Equity Markets: Recent Reforms Encourage Domestic Investors

by Yanping Shi and Penelope B. Prime


On February 27, Chinese equity markets fell almost 9%. Hours later other global markets plunged far and fast, including those in Europe and the U.S. Such a link between China's equity markets and others was unprecedented. Analysis in the aftermath confirmed that capital flows between China and other markets are highly controlled and therefore were not the main cause of changing stock prices. Subsequent volatility in the Chinese markets has not spilled over to other markets. Nonetheless, global investors are now clearly watching China's markets.

The purpose of this article is to provide background on the development of the Chinese equity markets in order to underscore the point that the recent volatility of China's stock values was a result of domestic capital and an array of domestic decisions.

Some Background

In the early years of reform in the first half of the 1980s, Chinese companies around the country began issuing shares as a way to raise money. The first formal rules for issuing corporate shares were formulated by the Shenzhen government in the mid 1980s. At the national level, the State Council established China's two exchanges, Shanghai and Shenzhen, in the early 1990s, but with mainly state companies initially being listed. Other regional over-the-counter markets and experimental exchanges were closed. The official purpose of the two exchanges was to promote a share-holding system in order to reorganize and improve the performance of state owned enterprises—in other words, this was not initiated as a process of privatization (Walter & Howie, 2003).

The share-holding system defined shares by their relationship to the state, and only non-state shares could be traded. This particular structure has defined the character and development of the equity markets in China. By 2002, listed, non-tradable stock controlled by the state had decreased to two-thirds of total shares due to sales to the public. However, firms where the controlling ownership share was owned by the state still comprised more than 80% of listed companies, and more than 40% of the firms had one large shareholder controlling 44% or more of the shares, which was almost always a state entity.

Market Development

Despite the heavy state presence in these markets, as part of the reform effort to create an environment where firms behave in profit-maximizing, cost-minimizing ways, China introduced rules aimed at creating better corporate governance. China passed a series of corporate laws that, among other things, required firms to have boards of directors with at least two independent members. As a result, by the end of 2002, 31% of the listed firms had some independent directors.

Another goal of the current stock market reform is to convert non-tradable shares into tradable ones. Early on both the authorities and academics in China began to recognize the disadvantages of having non-tradable shares (Zhang 2006). Attempts to fix this problem of equity division have been tried, but two observations can be made about those previous procedures.

First, there was hesitation to take action that would harm state assets and public ownership at that time because of the political sensitivity of the issue. Second, almost every reform arrangement before the latest one ignored the fact that tradable share investors acquired equities of listed companies differently from those of the state. That is, investors in tradable securities based decisions on stock exchange rules and perceptions of the future value of shares, but the state acquired equity based on the planned economy regime.

As a result, tradable share investors would vote by selling shares each time a reform with negative consequences for them was put in place. This naturally ended in big drops in the stock exchange index without mergers and acquisitions occurring because of the tradable and non-tradable regime. The biggest drop was about 50%, from about 2200 points in 2001 to 1000 points, in July 2005 in the Shanghai exchange after the last reform experiment. In that reform, referred to as "reducing the state share reform test," only 17 listed companies participated, accounting for less then 20% of the total, and the experiment lasted only four months. Despite the modest size of the experiment, the resulting market shakeout caused China's government to rethink how to reform the stock market.

In principle, in order to acquire the right to sell non-tradable shares, a holder (most were state entities and often were also major investors in the listed state-owned enterprises) should compensate the public shareholders in some way determined through bargaining. The reason is that initially when a state-owned company was listed, public investors paid a premium for its shares.

For example, suppose an accounting firm determined that company ABC had assets of 200 units where 100 represented equity and 100 represented debt. Then the 100 units of equity would be divided into 100 shares with face value of 1 yuan per share, let's say, and then divided into three parts. The first 51% was issued to a state entity such as a government bureau; a second part (usually 29%) was issued to other state-owned enterprises at face value of 1 yuan per share; and a third part, 30%, was sold to public investors at a premium price, say 3 yuan per share on the date the company officially listed.

Due to this initial set-up, later arrangements were going to have to equalize the investment cost of non-tradable shares with tradable ones. In order to protect the public shareholders in this latest round of reforms and avoid either a moribund market or a big crash, the Chinese Securities Regulatory Commission designed a special voting system. Each compensation arrangement had to be passed by the voting system, and if not, the listed company needed to rearrange its compensation. In the end, the compensation arrangement varied company by company.

Examples of compensation schemes included transferring dividend shares to public investors, transferring dividend shares plus cash, transferring dividend shares plus options, etc.; however, the most common way was for the shareholders of the non-tradable shares to simply turn over some of their shares to those investors holding tradable shares. The public could sell those shares as soon as they were compensated if they chose, but the non-tradable shareholders were required to wait until they met other requirements. The most common requirement was that they had to wait one year after completing the compensation arrangement before they could sell any shares. In some cases the companies also promised additional compensation, such as not selling their shares unless the price reached a certain level, but these promises were not officially backed or required.

Largely due to the wide implementation of this reform, where investors holding tradable shares were appropriately compensated, starting in 2006 investors returned to the market. According to The New York Times (Yardley 2007), over two and a half million investment accounts were opened that year, and

the Shanghai Composite Index increased 130 percent. On February 27, 2007, however, many investors began to sell—some analysts say because of worries that the government might try to slow both overall economy growth as well as valuations in the exchanges. Since then the Index has recovered but remains volatile.

Current State of the Markets

New research on China's equity markets has focused on how effective reforms have been in shaping the institution. A study by Kato and Long (2006) examines the relationship between firms' performance and the rate of CEO turnover as a gauge of the influence of corporate governance. If a firm is performing poorly, it is expected that the company's leadership would be replaced if corporate governance is sensitive to the company's stakeholders. In the early days of equity market development in China with the emphasis on raising capital for state enterprises, this connection certainly would not have existed.

The authors' key performance measure, the rate of return on equity, resulted in several key findings based on data on firm listings between 1998 and 2002. First, the connection between CEO turnover and firm performance was much stronger for privately controlled firms than for state-controlled firms. This implies that equity markets are behaving more like established markets in other countries as more private firms participate. On the other hand, it also suggests that the hoped for positive effect on state-owned listed firms is less evident. Second, firms with independent boards showed more sensitivity between CEO turnover and firm performance than those without. And third, there was less connection between CEO turnover and performance if the CEO also held a position simultaneously in the controlling shareholding firm. In general the Kato-Long (2006) results support the expectation that more independence for decision-making is better for firm performance.

Another study by Shi (2006) examines how the reforms to end the overhang of non-tradable shares by solving the problem of unequal investment costs have affected the value of listed companies. Using the Tobin'Q model, this paper examines 188 listed companies by the end of 2005 that had finished the first phase of reform dealing with the problem of equity division by converting the non-tradable share into tradable ones. This research tests the relationship between the companies' value and the extent of compensation. The results show that the variation in companies' values before and after the reform is positively correlated with the protection procedures for the tradable shareholders' compensation.

The Next Challenges

The arrangement of having non-tradable shares in China's stock market led to a series of problems from the inception of these markets and put public investors at a disadvantage.

The implications of the Shi (2006) study explain indirectly why the market has accepted the reform procedures this time around. Compared with previous reform procedures, this time China's government recognized that the tradable share investors needed to be compensated for higher investment costs in relation to that of the non-tradable shareholders in order for the reform to be viable. Given this, the goal of China's stock market reform is clear – it is to rearrange the early-misconstrued nature of China's stock market regime to match equity markets in other countries where the purpose of the markets includes asset pricing and resource allocation as well as the financing function.

The implications of the Kato-Long study (2006) are that corporate governance reforms are working in investors' favor in that governance and firm performance are increasingly linked—at least in private companies.

Despite this documented progress, the recent market volatility means that further reforms to encourage institutional investors, dividend payments, short selling, mutual and index funds, and transparency are needed. Until these are in place, trading will tend to be driven by the natural volatility of thin markets as well as speculation, rather than fundamentals of companies or the economy (Pettis 2007).

Meanwhile, Chinese equity markets have plenty of room to grow—less than 5 percent of the population own equities (Balfour & Roberts, 2007)—and investors in China are looking to diversify beyond real estate holdings. Further, loosening of international capital flows are expected to go forward in the future, such as allowing Chinese investors to buy international shares of mutual funds and allowing foreign institutions access to Chinese equities on the two domestic exchanges. To date, however, most foreign investors who own shares in Chinese companies have purchased them through the Hong Kong or New York exchanges. Short-term portfolio flows into and out of China are still highly restricted. Hence, the current volatility of Chinese stocks is due to domestic factors, many of which are driven by reform efforts and investor's expectations about their effect on future share values.

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The New Politics of Equity

by Baogang Guo

China's political development apparently is undergoing an important transformation. The latest emphasis by the government in Beijing on the need to address social and economic concerns of the common people has led to a series of new policy initiatives. These initiatives are designed to more fairly distribute wealth and promote the quality of human development. Apparently, the politics of equity-maximization has returned to the center stage of politics, though not in its radical form.

Economists such as Arthur M. Okun, have observed the phenomenon of the efficiency-equity trade-off.[1] According to this hypothesis, efforts to improve efficiency can degrade equity, and excessive welfare distribution will lower growth rates and reduce economic efficiency. One the one hand, extreme egalitarianism leads to incentive trap, free-riding, high operating costs, and corruption, and on the other, extreme inequality leads to social unrest, erosion of social cohesion, and instability.[2]

China's success in economic reform has greatly improved China's economic performance since 1979. However, the widening income gap between rural and urban population, the emergence of the new urban poor, the worsening regional disparity between the more developed coastal regions and the western part of China, and the widespread public criticisms of market-oriented reforms in health and education in recent years have put the reformers on the defensive. The mounting pressure for social justice has resulted in escalating numbers of disputes, complaints, and protests. Can technocratic managers survive the onslaught of the moralists who demand that the government provide fair and equitable distribution of wealth?

Furthermore, many problems facing China today, such as inequality, immorality, insecurity, alienation, rootlessness, and ruthlessness can be linked to the relentless pursuit of efficiency and the neglect of human problems by leaders whose training is limited to science and engineering. Although technocracy, which has taken root in China's economic and political system since the 1980s, is an important step toward acquiring what Max Weber has termed a rational-legal basis of political legitimacy, the lack of popular sovereignty and innate tendency toward oligarchic rule will eventually weaken the lsegitimacy of bureaucratic technocracy. Can China move beyond technocracy? Will China improve political and social equity without sacrificing economic efficiency? Can an optimal balance between efficiency and equity be achieved through proper implementation of an equity-maximizing policy?

The sixteenth CCP Party Congress, held in November 2002, and the tenth National People's Congress, held in March 2003, completed the power transfer from the so-called third generation to the fourth. This group of new leaders seems to have reached a new consensus that reform has reached a critical point at which some policy adjustments must be made. They have proposed a new development model that may produce "a harmonious society" internally and "a harmonious world" internationally. They believe that this new model should be based not only on continued economic growth but also on fair distribution of the growth, unlike the unrestrained and unbalanced growth of Deng–Jiang era. The upcoming Seventeenth Party Congress to be held this fall will certainly codify this new developmental strategy and consolidate the policy changes initiated in the last few years.

Take rural development as an example. The government has taken steps to alleviate income disparity between rural and urban residents. The agriculture tax was abolished last year, a new rural health care insurance system has been expanded rapidly with heavy government subsidies, tuition and fees for all children attending rural schools have been waived, and a rural welfare program will be put in place to help peasants who live in poverty. All of these popular moves have large appeal to the rural population, and have enhanced the utilitarian dimension of the political legitimacy of the state.

Apparently, equity maximization has returned to the center stage of politics, though not in its radical form. Nevertheless, the new leaders neither intend to return to radical redistributive schemes nor to a bottom-up style of populism. Many Western observers have noticed the latest wave of new policy initiatives, and they consider it to be a Chinese style of "New Deal." Notably, Hu Jintao, the General Secretary of the Chinese Communist Party, has returned to ancient, Chinese top-down populism. He has used the words "*min ben*" or "putting the people first" repeatedly in his speeches, and has proposed his "three peoples" principles. Premier Wen Jiabao shares similar views. According to him, from "Confucius to Dr. Sun Yat-sen, the traditional Chinese culture presents many precious ideas and qualities, which are essentially populist and democratic."[3] Both Hu and Wen want the government to respond to the common sense of the common people, and to address their social and economic concerns.

Is this an end to pragmatist ideology? Has China entered into an era of enlightened elitist rule? Or is this just a new ideology designed to paper over problems and allow a continued emphasis on the Deng-Jiang policies of rapid growth? Is anew breakthrough in the making? It is apparent that the top-down style of populism is proactive and led by an existing elite group within the establishment. It differs from the bottom-up populism advocated by revolutionary modernizers because it does not appeal to the people directly, and it certainly has no intention of mobilizing the public to stand up and against the establishment; instead, it calls for changes within the system. Its rise, therefore, should be interpreted as the government's preemptive response to an emerging governing crisis. The question is whether the men who run China mean it.

Endnotes:

[1]Arthur M. Okun, Equity and Efficiency: the Big Tradeoff (Washington D.C.: The Brookings Institution, 1975).

[2]Giovanni Andrea Cornia and Julius Court, Inequality, Growth and Poverty in the Era of Liberalization and Globalization, policy brief no. 4., World Institute for Development Economic Institute, the United Nations University.

[3]Wen Jiabao, "Turning Yours Eyes to China," remarks made at Harvard University, December 10, 2003, transcripts from Harvard Gazette, December 11, 2003.

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U.S.-Taiwan-European Conference
"Taiwan's Democracy and Future: Economic and Political Challenges"

By Swathy Prithivi

Taiwan's democratization process and its implications on economic, political and social fronts are of great importance to understanding the key to Taiwan's future and a resolution of the Cross-Straits crisis. Participants from different parts of the United States, Taiwan and Europe gathered on the Georgia Tech campus in early April at a conference on **Taiwan's Democracy and Future: Economic and Political Challenges**.

The conference was sponsored by the Taipei Economic and Cultural Office (TECO) in Atlanta, Georgia Institute of Technology, University of London, Georgia State University, Kennesaw State University, China Research Center and the Center for International Strategy, Technology and Policy (CISTP). The event brought together 19 distinguished academics and an engaged audience of government officials, educators, policymakers, students, and representatives of the corporate community to discuss the crucial issues concerning Taiwan's democratic future and its implications for the rest of the world.

The idea for this conference arose out of the need to have sustained discussions focusing on Taiwan's domestic and international relations, primarily the issue of Taiwan's democratization and its implications on cross-strait issues, establishment of a Taiwanese national identity and economic issues concerning the island.

In his opening remarks, conference co-organizer Robert Ash introduced the general themes of the conference — Taiwan's position at the crossroads on political issues — the democratization process and the effects of it on domestic and international relations, establishing national identity, and economic issues.

The role of Taiwan's evolution in the global economy as a response to China's rise and Japan's economic re-emergence was the guiding theme for the first panel.

The manufacturing sector in Taiwan showed immense growth in the 1950s, leveled off in the 1980s and then made a rebound in the 1990s. This was due to technology-intensive exports such as computer-related electronics and also high-skilled labor increasing dramatically with the low-skilled labor-intensive activities being moved to China and other countries. Governmental policies such as the establishment of technology institutions, science-based industrial parks, tax breaks and de-regulation of entry requirements also contributed. Another major factor for success was the emergence in Taiwan of a stronger private sector pushing for profit-making endeavors versus moves made for populist politics. The movement of Taiwan up the value-added ladder has increased the Taiwanese investment in Mainland China to utilize cheaper labor and resources and has also strengthened ties across the Strait. Statistics show that due to cheaper costs and larger market opportunities, the number of Taiwanese companies investing back in Taiwan is falling. As a result, China's export boom has been sustained by Taiwan's technological support and supply of intermediate goods and materials.

In comparison to small European countries like Ireland, the Netherlands and Finland, Taiwan has the lowest value-added workforce but is second after the Netherlands in science and technology performance. Thus the problem with Taiwan, according to one speaker, is the poor value-added per capita of the population and not the lack of high quality inputs. Taiwan's recent policies to move away

from Mainland investment, said the speaker, will make the island less attractive to foreign investors and multinational enterprises and by voluntarily making these policy moves, Taiwan will encounter a serious brain drain that will hinder overall competitiveness. The relation between Taiwan and the PRC is naturally complementary, added the speaker, the severing of which will only be self-defeating to Taiwan.

In Taiwan, the rise of China is being dealt with through economic, diplomatic and military means. Economically, China's strengths of economic modernization, de-centralized regional leadership and lure of market area enables Taiwanese firms to take opportunities unavailable to them back home due to market size and volume. With the large amount of Taiwanese investment in the Mainland, Taiwan's economic performance shows linkages with Taiwan's PRC policies. There is a growing dependence of Taiwanese firms on the Mainland market and moves to diversify investment to other regions in Southeast Asia have not been successful. Thus, said the presenter, Taiwan faces a threat of marginalization. Economic integration will only bring closer political amalgamation and this could potentially put the ROC in danger of losing its nationhood. An option of solving the issue includes Taiwanese independence, but because people on Taiwan are highly polarized on this issue, the goal should instead be restrained reconciliation and contained confrontation for continued Taiwanese economic success.

With globalization, Taiwan's role has evolved from a labor-intensive producer to having a labor shortage, and from being a capital-recipient to providing the capital. Taiwan has followed a sequential order of liberalization to cope with globalization. There has been a gradual change of foreign direct investment flows from inward directed to an outward push, geared mainly towards the Mainland. As other industrialized latecomers, Taiwan's financial sector is far behind that of its other sectors. Overall, Taiwan has created its dynamic comparative advantage to compete with other East Asian economies by upgrading its technological leverage and attenuating its vertical specialization through intra-industry trade.

Taiwan's national competitiveness lies in higher levels of technology-intensive products. Taiwan has become a partner of Asian economic integration by significant investments in Southeast Asia, argued one presenter. Maintenance of Taiwan's strategic position is best achieved by moving to the high-end via vertical specialization with increasing intra-industry trade structure. Taiwan has a strange phenomenon of having a high level of patents per capita and yet having a deficit in technology trade. This fuels the need, according to the presenter, for Taiwan to move from imitation to innovation. For sustainable development, Taiwan has to develop greater competitiveness by moving from OEM (Original Equipment Manufacturing) to developing production facilities that support the creation of indigenous core industries.

In the luncheon keynote session, the speaker's theme was the internal sources and external implications of democratic gridlock on Taiwan. The main challenges faced by Taiwan, according to the official government view on Taiwan, are a rising military threat from China, a threat to the sustainability of democracy, and Taiwan's challenge to be recognized in the world. The main reasons for the United States to care about the health of democracy in Taiwan, according to the speaker, are:

1. Taiwan's democratization is important for political change in China
2. China is not passive and tends to show that non-liberal technocratic regimes provide better economic performance than some democratic economies

3. The United States made decisions regarding Taiwan without input from 1943 all the way to 1978 and thus needs to support them
4. Taiwan faces daunting choices in dealing with China's dysfunctional political mechanism where the people's interest are not served
5. Taiwan needs strengthening on all fronts – economically, militarily and psychological—in order to emerge successfully from its current political and economic phase of development

Some of the major drawbacks of the Taiwanese democratic system include a corrosive and pervasive partisan mindset when moderate tendencies are needed to work together, a severe need of stimulus to invigorate Taiwan's political institutions and lack of a working political coalition. But overall an erosion of Taiwan's political elites is a severe threat to democracy and thus political reform is needed by improving governance and bringing about democratic consolidation along with inspired political leadership.

The topic of the second panel of the conference was on the structural issues facing the economy of Taiwan. The first presentation focused on trade, investment and technological upgrades in the Taiwan economy. As China's growth has increased, the interactions between Taiwan and the Mainland have kept pace with Taiwan currently being the second largest FDI provider to the Mainland. Overtime the types of investment have changed. A paradigm of Taiwan and other newly industrialized economies has been the international subcontracting model of production upgrading where production moved from an OEM to an ODM (Original Design Manufacturing) mode, and eventually transforming into an OBM (Own Brand Manufacturing) mode. Taiwan never reached the OBM stage since in the evolution of globalization, but rather continued to make the OEM mode profitable. The speaker recommended that Taiwan focus on producing goods for emerging markets like China instead of pushing to make the transition into the OBM stage.

Taiwan's model of development has been "semi-internationalist" which promotes local firms to be internationally competitive while seeking alliances with foreign multinationals to gain access to new and emerging technologies. This approach coupled with close government-business ties to attract and direct capital to emerging industries has made Taiwan successful and will continue to do so in the future, according to one speaker. Some of the problems that threaten to destabilize Taiwan's continued economic success are slowing economic growth, which has affected employment and labor productivity, slower progress in implementing liberalizing policies, rising income inequalities and an increased reliance on illegal migrant workers from other parts of Asia. Some other human resource problems include decreasing number of people reaching the needed educational levels, the severe underutilization of women which is among the lowest in Asia and a rapid aging of the workforce population that could potentially increase economic inequalities on the island.

The topic of the third panel of the conference was the political deadlock and the policy paralysis in Taiwan's new democracy. The first presentation focused on the political erosion in Taiwan's transition to democracy. The speakers highlighted how signs of democratic erosion were emerging in Taiwan with the DPP being unable to change its deep-rooted opposition party mindset. The symptoms of political erosion emerging in Taiwan are deterioration of the election mechanism, the incapacity of the rule of law and denial of access to other sources of information. This is due to a history of strong-man politics on the island and a glaring institutional deficiency with a growing anti-system political culture. The goal of Taiwan politics, according to the speakers, should be the deepening of democracy and the institutions that will support it.

Another speaker highlighted the polarization of political parties in Taiwan in the current DPP era. The current need is for the factions across all parties to be moderate favoring electorally popular positions. But President Chen Shui-bian's first term had mixed results in this regard, and the second term is showing a great divergence of opinion on major issues. Some of the issues facing the different political parties include Taiwanese independence, national identity, constitutional reform, military procurement and political corruption. The problem of widespread divergence of political positions is compounded by the inner-party and intra-party blocs' balance of power and the response of parties to polarizing moves. The future prospects of these trends shows the continuation of current inner-party power struggles especially over nomination issues for the 2007 Legislative elections and the 2008 Presidential elections.

The national identity issue is one of the strongest polarizing issues in Taiwan and one speaker talked about the different manifestations of local identity from pushes for nativization to de-sinicization. The effects of de-sinicization include actively removing all symbols and institutions of Chinese culture and have had a growing hold on identity politics especially under President Chen's administration. On the spectrum of identity politics with nativization on one end and integration with the Mainland on the other end, Chen's preference for de-sinicization shows clear ethnic politics and the emergence of an anti-Chinese nationalism, which highlight the importance of the Mainland factor in domestic Taiwan politics. Trends also show an increase of a Japanese effect on the Taiwanese identity in recent years with Japan being seen as a valuable economic resource. According to the speaker, the broader theme of identity politics in Northeast Asia shows the influence of China versus Japan in the region.

The topic discussed at dinner was the divided China problem and Taiwan's future prospects with stronger emerging cross-Strait relations economically, politically and culturally.

The fourth panel on Saturday morning discussed the constitutional debate in Taiwan and its current relevance. The first speakers highlighted the pervading myth of a rigid constitution. A rigid constitution by definition makes the passing of regulation tough and requires a high threshold of legislation to pass any regulation. The speakers asked the question why the DPP supported a required high-threshold to amend the Constitution while wanting to push forth constitutional reform. A rigid constitution is stable and venerated but is not flexible or adaptable. The reasons for the DPP to choose constitutional reform despite setting up a high threshold for passing the reforms are purely political, it was argued. The impact of the rigid Constitution myth has been to limit the spectrum of choices available to create an amendment to the Constitution and to legitimize any choice that falls within the spectrum of the myth.

The next speaker talked about the politics behind the constitutional reform process. There were four rounds of constitutional reform in Taiwan. The first round of reforms (1991, 1992, 1994 and 1997) restored democracy and modernized the democratic process in Taiwan. The second reform round (1999-2000) enlarged and then eliminated the legislative body, while the third round (2003 and 2005) further adjusted the legislative state. The fourth round of reforms is currently underway in Taiwan. The DPP, as mentioned before, is seriously pushing for constitutional reforms since they want to disrupt the current status quo that is shifting power in favor of the opposition party - the KMT. They, of course, wish to overturn the equilibrium in their favor. The speaker pointed out earlier work that showed the main components of Taiwan's constitutional reform to be ideology and political power. The current round of reforms is going to be hard, according to the speaker, since the reforms aim to bring more power to the president and this cannot be achieved since the credibility that the DPP brings to moderate constitutional reform is greatly reduced.

The fifth and last panel of the conference focused on the democratization of Taiwan's army. According to the presenter, the main challenges to Taiwan's security are the international environment, China's rise along with the emergence of stronger cross-Strait relations, domestic politics and internal military affairs. On the domestic front, there is ongoing debate if army modernization is a defense or political issue since the defense decision was made via a defense group consensus 20 years ago rather than through any type of democratic political process. The transformation of Taiwan's army has to be on organizational, doctrinal and technical levels for it to succeed, where success is defined by sustained deterrence of any moves by China since victory can only be achieved by the lack of war.

Conference Speakers and Moderators:

Robert Ash, Professor of Economics, School of Oriental and African Studies, University of London, London, England
Anne Elizabeth Booth, Professor of Economics, School of Oriental and African Studies, University of London, London, England
Richard C. Bush, Senior Fellow and Director, Center for Northeast Asian Policy Studies, The Brookings Institution, Washington D.C.
Chun-chih Chang, Doctoral Student, Graduate Institute of East Asian Studies, National Chengchi University, Taiwan
Herlin Chien, Doctoral Student, Institute of Political Science, National Sun Yat-sen University, Taiwan
Chien-min Chao, Professor and Director, Sun Yat-sen Graduate Institute of Social Sciences and Humanities, National Chengchi University, Taiwan
Peter C.Y. Chow, Professor of Economics, City College and Graduate Center City University of New York, New York
John E. Endicott, Professor and Director, Center for International Strategy, Technology and Policy (CISTP), Sam Nunn School of International Affairs, Georgia Institute of Technology, Atlanta, Georgia
Jonathan Eyal, Director, International Security Studies, Royal United Services Institute (RUSI) for Defence Studies, London, England
Daydd Fell, Lecturer, Department of Political Studies and Centre for Financial and Management Studies, School of Oriental and African Studies, University of London, London, England
John W. Garver, Professor of Political Science, Sam Nunn of International Affairs, Georgia Institute of Technology, Atlanta, Georgia
John Fuh-sheng Hsieh, Professor of Political Science, University of South Carolina, South Carolina
Alexander Chieh-cheng Huang, Professor of Strategic Studies and Director, Graduate Institute of American Studies, Tamkang University, Taiwan
Christopher R. Hughes, Reader in International Relations, London School of Economics and Political Science, London, England
Joachim Kurtz, Assistant Professor of Chinese and Director, East Asian Studies Program, Emory University, Atlanta, Georgia
Wei-chin Lee, Professor of Political Science, Wake Forest University
Yeau-Tarn Lee, Associate Professor, Sun Yat-sen Graduate Institute of Social Sciences and Humanities, National Chengchi University, Taiwan
Chien-pin Li, Chair, Department of Political Science and International Affairs, Kennesaw State University, Georgia; Associate, China Research Center

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Swathy Prithivi is a recent graduate in engineering from Georgia Institute of Technology.

Events

"Doing Business in China: An Evolving Paradigm"

The MIT Forum of Atlanta is sponsoring an in-depth discussion with several keynote speakers and a panel of experts, including China Research Center Associates Fei-ling Wang and Penelope Prime. In addition, leaders of companies that have been successful in expanding their operations into China will reveal how they learned to thrive under challenging conditions, where the opportunities and pitfalls lie, and how to best prepare for the endeavor.

Where: Sutherland Asbill and Brennan, 999 Peachtree Street, at 10th Street.

When: Tuesday, May 15, 2007, 5:45- 9:00 p.m.

Registration Required at: www.mitforum-atlanta.org

Center News

Womble Carlyle Delegation Visited China

CRC platinum sponsor Womble Carlyle Sandridge and Rice, PLLC sent a delegation of nine lawyers led by former North Carolina Governor Jim Hunt to China for a 10-day trip in March. The group was composed of attorneys from Womble's various offices and many practice groups. Guanming Fang, a member of the CRC Advisory Board, was primarily responsible for organizing the trip. The delegation went to Beijing, Tianjin, Jinan, Changsha, Shanghai, Suzhou, and Ningbo, visiting 14 Chinese companies and meeting with government officials. In addition, the group hosted two seminars, one in Beijing and one in Shanghai, to introduce the firm and its home base: the Southeast and Mid-Atlantic region of the United States. Among the events was a presentation at the semi-annual conference of Zsoft, a trade association based in Beijing of software outsourcing companies. The delegation also had meetings at the offices of the U.S. Commercial Service at the U.S. Embassy in Beijing and with lawyers from U.S. and Chinese law firms.

The principal purpose of the China mission was to begin to introduce Womble Carlyle as the go-to law firm for Chinese companies that will be expanding their business into the U.S. market, especially in the firm's footprint. There is widespread and strong interest among Chinese companies in the U.S. market, and many are looking for strategic opportunities in the U.S. They are interested in learning new concepts, new technology, management systems and processes. They are also interested in building or acquiring brands. Intellectual property protection is a topic that came up often. The Chinese government is also encouraging mature Chinese companies to go overseas. Many companies the delegation met are ready and capable of doing so. However, the cost of doing business in the U.S. remains a barrier for many.

Still, the delegation believes that China presents a great potential for business in the long term. Staying in the game of attracting this business will be challenging and require persistence and a long term strategy, which Womble is prepared to develop and implement.

Mercer University Hosted Forum on China's Energy Policies

China is increasing energy use at unprecedented rates, and American consumers are already feeling the pinch at the gas pumps. China's spectacular economic growth is helping to drive increases in demand — and prices — for world oil supplies. As these forces continue, where will China place itself?

Approximately 40 people discussed the question at a forum held on April 22, 2007, on Mercer University's Atlanta campus. Entitled "China's Energy Policy: Implications for International Affairs and Economic Development," the forum was jointly sponsored by the Atlanta Chapter of the U.S.-China Peoples Friendship Association and the China Research Center.

The discussion touched on three important areas: the impact of China's economic development and government development policy on energy use and options; the international relations implications of energy policies and pressures; and domestic opinion and politics of these energy issues.

Panelists for the forum included: John W. Garver, professor at The Sam Nunn School of International Affairs, Georgia Institute of Technology and China Research Center associate; Yawei Liu, director of The China Program at The Carter Center and associate professor at Georgia Perimeter College and Center associate; and Penelope B. Prime, professor of Economics and Business, Mercer University, and Center director.

China is already the second largest economy in the world after the U.S. and the second largest consumer of energy. It is projected that the country's energy needs will increase 150 percent by 2020.

This process will, of course, put additional pressure on energy supplies and prices around the world. In addition, China's foreign policy will need to take energy needs increasingly into consideration, especially with rising concerns about the environment and the need to craft policies that will ensure sustainable world development.

Commentary

The Geopolitics of Kung Fu Film

by Paul Foster

(This article first appeared in Foreign Policy In Focus (FPIF), a joint project of the International Relations Center (IRC, www.irc-online.org) and the Institute for Policy Studies (IPS, www.ips-dc.org), February 8, 2007; reprinted with permission from FPIF)

Regardless of whether it had won four Oscars, none, or all ten for which it was nominated, Ang Lee's *Crouching Tiger, Hidden Dragon* broke down the door to the U.S. market several years ago and ushered in a host of great Chinese Kung Fu movies featuring swordsmanship, hand-to-hand combat, gymnastics, mystical energy forces, and fantastical battles in flight over rooftops, lakes and atop bamboo groves. The arrival of high production value Kung Fu movies was overdue. Western audiences had long been ready for this style of Chinese, Hong Kong, and Taiwan film, even if that critical mass was not apparent to Hollywood.

The international success of Crouching Tiger and its superstars fuels the popular image of an ascendant Chinese nation and enhances China's sense of cultural worth. In this digital age, a world-class power produces world-class movies. The kind of movies China has successfully sold to the world also reflects a certain set of Chinese values. Through these new Kung Fu movies, China emerges as dynamic, fast-paced, and disciplined, as well as Confucian in its devotion to a strict moral order. The movies also suggest a China that is not subservient to the West but somehow superior—capable of being a strong nation, a multiethnic empire, and an internationally dominant player.

Charlie Chan is no more. On the big screen, China not only speaks in its own voice, it kicks butt as well.

Hunger for the Exotic

The West's willing suspension of disbelief and hunger for an exotic China has been predicated on a long period of cultural conditioning. In the 1970s, David Carradine introduced television audiences to the martial magic of the Shaolin Temple, and Bruce Lee mesmerized moviegoers with unexcelled Kung Fu prowess. In the 1980s, the "force" of Star Wars spirituality was grounded in Chinese "*qi*," the very energy of the universe. Two decades of director Zhang Yimou's epic cinematography introduced audiences to grandiose Chinese geography, sans Kung Fu. Meanwhile, Jackie Chan pounced from Hong Kong to Hollywood with his hyper-energized Kung Fu, including his highly successful Rush Hour series with Chris Rock.

In 1997, when Chinese female Kung Fu movie great Crouching Tiger's protagonist Michelle Yeoh teamed up with Pierce Brosnan in the 007 adventure Tomorrow Never Dies, the Kung Fu stars themselves achieved global appeal. Riding the wave of Kung Fu action to challenge Hollywood at the box office have been not only China's movies and stars but also Chinese Kung Fu itself. The Hollywood action genre has assimilated the fighting and sword styles so popular with Chinese audiences. For instance, the first ten-minute chase scene of 007's recent blockbuster Casino Royale directly imitates Jackie Chan's Kung Fu fighting and chase style in punches, kicks, and assorted chase-related jumps and gymnastics. Thus has Hollywood been sinified.

Once freed from a strict Western sensibility of realism, American audiences can now enjoy the flight and fight of warriors who cling to walls and race over rooftops and lake surfaces. Chinese audiences immediately recognize these techniques as *qinggong* (light body Kung Fu) or *neigong* (internal Kung Fu power) and take for granted the rules regarding such Kung Fu training and use. American audiences might require some tutorials to recognize the deeper levels of such martial techniques. Digital imaging, however, has helped to redefine the surface-level reality and thus bring Hollywood that much closer to Hong Kong.

It remains to be seen if the more esoteric and fantastical elements of Chinese Kung Fu film, such as shooting qi energy beams from a fighter's palm, fingertips, or sword, will be equally well received by American audiences. This barrier to cultural sharing of Kung Fu has been challenged with some mild success by Stephan Chow's *Shaolin Soccer* and *Kung Fu Hustle*. Crouching Tiger showed the obvious potential of this genre of Chinese films in the Chinese language, and the rush to capitalize on this revelation produced other films like Zhang Yimou's *Hero* and *House of Flying Daggers*.

Behind the force of the Kung Fu is the force of the industry itself. The writers, directors, producers, technical experts, and stars form a "Kung Fu industrial complex" that is multilayered as well as horizontally and vertically integrated. This loosely knit organization capitalizes on the trajectory of individual works as they move from literary serial to television series to movies and post-production commercial items like computer games. It is somewhat analogous to the Disney Empire. TV and movie adaptations commonly serve as the springboard to stardom for young actors and actresses, like House of Flying Daggers star Andy Lau, who thereupon ride the wave of popularity with other advertisement, movie, and even musical careers.

The Kung Fu industrial complex has finally gone global as demand for its production techniques, stars, directors, and fighting styles has reached Hollywood over the last decade. A prime example is the opening chase scene of The Matrix in which Trinity runs horizontally on vertical walls. It is no coincidence that such signature "light body Kung Fu" action appears in The Matrix and its sequels, because these films employed Crouching Tiger's renowned action director, Yuen Wo-Ping. Chinese cultural values are further legitimized by the blockbuster earnings these films have garnered in the last half-decade, both in Asia and the West. This new success in the international marketplace—Crouching Tiger earned $128 million in the United States alone, and Hero earned $177 million at the box office worldwide—reinforces and reconfirms the Chinese national sense of cultural self-worth. Chinese Kung Fu really does finally "earn" its reputation as cultural "treasures" through which the global market begins to appreciate the essence of Chineseness.

Construction of Identity

Chinese consumption of popular martial arts literature accelerated in the latter half of the 20 th century with the serialization of Jin Yong's (and other writers') novels, which were immediately adapted for television series and movies. Their popular success was so great as to generate subsequent and multiple re-adaptations and spin-offs into comics, digital games, and other movie genres. Jin Yong's works transcend entertainment by performing the unconscious social function of constructing the nation. They map out the Chinese nation geographically, and the characters and their behavior become archetypical products that inform the national consciousness. For example, Jin Yong's final epic The Deer and the Cauldron, which was serialized from 1969 to 1972, provides a historically based fictional account of Qing imperial consolidation, intrigue and international conflict. The protagonist Wei Xiaobao colludes with Ming loyalists based in Taiwan, a pseudo-allegory of post-1949 PRC-Taiwan relations, and travels

to Russia forming an alliance to thwart Wu Sangui's conspiracy to overthrow the Kangxi Emperor. Hero and Crouching Tiger perform the same mapping function as the characters traverse a vast space from western Xinjiang, to Beijing in the northeast, and south to Wudang Temple in central China.

This construction of national identity also involves a construction of ethnicity. Jin Yong's novels frequently turn on conflicts between ethnic groups struggling to dominate China. The cultural superiority of the Han—who make up a little more than 90% of the mainland's population—is ultimately reaffirmed through struggles for sacred Kung Fu texts, even if martial superiority on a dynastic scale is temporarily elusive. Works like The Eagle-Shooting Heroes and The Demi-Gods and Semi-Devils demonstrate both the breadth of China's ethnicities and the primacy of the Han.

In addition to helping fashion national and ethnic identity, the Kung Fu action also provides a complex vision of Chinese social values that reinforce and challenge the audience's view of China, ancient and modern. Cultural values such as Confucian respect for hierarchy, central authority, education, and virtue are entwined with swordsmanship that resembles calligraphy (and vice-versa), poetry recited while defeating foes, and loyalty to martial master and state. At the same time, the films counterpose these individual qualities of rectitude with national aspirations.

Hero's narrative, for instance, demonstrates the wisdom of a powerful ruler and his highly efficient military organization that can build a peaceful and prosperous "nation." On one hand, the individual's sword and Kung Fu prowess, like one's moral rectitude reflected by one's calligraphy, can overcome the massive destructive efficiency of orchestrated arrow strikes. On the other hand, the ruler is determined to assert the unity of "Our Country" (the English subtitle gloss) over the hero's thirst for righteous individual revenge. The fact that the Chinese gloss for "Our Country" (*tianxia*) literally reads as "all under heaven," creates space for a reading that points to China's rise as the preeminent 21st-century industrial power.

East Versus West?

Chinese Kung Fu narratives often propound the cultural superiority of the Chinese. In blatantly nationalist films such as Fist of Fury, Bruce Lee uses Chinese Kung Fu to defeat an entire Japanese karate school, thus showing the metaphorical superiority of the Chinese over the Japanese and other foreign imperialists in Shanghai in the early 1900s. This nationalist narrative is repeatedly re-performed in later Fist of Fury film adaptations starring Jackie Chan (1978), Stephen Chow (1991), and Jet Lee (1994), as well as a 28-part TV series with Donnie Yen in 1996.

China's superiority to the West is a common theme in crossover hits, particularly the films of Jackie Chan. Shanghai Noon, for example, juxtaposes a corrupt, violent, and mentally unstable wild West with a cultured Chinese princess and her loyal Imperial Guard, who personify moral integrity and decency in the effort to save her. Rush Hour portrays the honest and hardworking Hong Kong cop using his Kung Fu and his brains to outwit arrogant and bumbling FBI agents at every turn and ultimately rescue the diplomat's daughter. In Who Am I, Jackie's would-be CIA rescuers engage in high-tech villainy in their efforts to kill him to consummate their illicit $500 million nuclear weapons deal. In each of these movies, the well meaning Western partner serves as a foil for Jackie's loyalty, ingenuity, honesty, and bravery—the defining qualities of the Chinese hero who metaphorically, as well as literally, conquers the corrupt foreign world.

Hero and Crouching Tiger function on a subtler ideological plane to reaffirm Chinese values such as the centralization of state power and the loyalty of individual and clan to the state. In this way, they suggest

a cultural cohesion not dependent upon the threat of Western nation states. A maturation of Chinese consciousness with the onset of the 21st century is indicated by a move away from obviously nationalist movies that reflect a China struggling with a 20th-century sense of inferiority to the West and toward an exploration of Chinese values and capabilities on their own terms.

The Western assimilation of elements of the "Kung Fu industrial complex" offers a corrective to previous notions of a weak China. By successfully exporting its stars, directors, styles, and Kung Fu (along with such attendant notions as chivalry and valor), China thus has a platform for expressing its values. By the same token, Western audiences may view a more positive and proactive (thus complex) China rather than blindly wallow in the paradigm of prejudice constructed during the semi-colonization of China during the 19th and early 20th centuries.

The Kung Fu Hustle Hustle

In the first four decades of the PRC, Chinese film production was tightly controlled for didactic propaganda purposes. Hong Kong was the center of film production in the Chinese-speaking world. With its entry into the WTO, China has gradually loosened proscriptions on the film industry. These changes coincide roughly with the success of the Taiwanese-made Crouching Tiger. Now, many of China's most talented directors have pursued formulas of blockbuster commercial success after the moneymaking potential of Kung Fu films was proven.

Directly drawing on Jin Yong's rich literary and film legacy, Stephen Chow's Kung Fu Hustle is an inspired caricature of Kung Fu film. Kung Fu Hustle won at least 21 awards and nominations in Hong Kong and Taiwan and was the highest-grossing foreign language film in North America in 2005. Kung Fu Hustle imagines a future for two of Jin Yong's two most famous martial lovers, Yang Guo and Xiao Longnü. As writer, director, and actor, Stephen Chow taps into mythic archetypical action styled by Bruce Lee and to characters created by Jin Yong. A high level of Kung Fu cultural literacy is mandatory to understand the rapid-fire inside jokes and allusions that permeate every scene, but the movie still appeals on the surface to the uninitiated.

Thus, the "hustle" of Kung Fu Hustle is Stephen Chow's demonstration that China can transcend more narrow issues of nationalism and national identity and fully embrace its own cultural forms. China no longer needs to make nationalist pronouncements about cultural subjugation in modern global society, thus serving to seal its rise in the 21 st century. China has become a producer of artistic and aesthetic culture, not just consumer products. It has moved up the manufacturing chain to create higher value-added cultural artifacts. As such, Kung Fu film nationalism—and internationalism—supplies both Chinese and foreign audiences with a muscular, mythologized view of Chinese martial and cultural prowess.

Paul Foster is Associate Professor of Chinese at Georgia Tech. His recent book is Ah Q Archaeology: Lu Xun, Ah Q, Ah Q Progeny and the National Character Discourse in Twentieth Century China (Lexington Press, 2006).

China Currents, Spring 2007

Taiwan: A Key to China's Rise and Transformation

by Fei-Ling Wang

(This article first appeared in Foreign Policy In Focus (FPIF), a joint project of the International Relations Center (IRC, www.irc-online.org) and the Institute for Policy Studies (IPS, www.ips-dc.org), December 21,, 2006; reprinted with permission from FPIF)

The peaceful rise of China is in the fundamental interest of the Chinese people and world peace. But as Chinese power and confidence increase rapidly, so has international scrutiny and reaction. The United States and its allies, the currently dominant powers, will very likely develop more misgivings about China's rise, unless Beijing also becomes a responsible stakeholder in and shares the basic values and norms of the global community.

Therefore, a peaceful rise of China increasingly depends on the successful political transformation of the People's Republic of China (PRC) in the direction of the rule of law and democracy. Key in catalyzing this profound change is the tenacious, democratic, and unduly marginalized Chinese political opposition: the Republic of China (ROC) on the island of Taiwan.

The Qin System as the Sword of Damocles

Since the time of its first emperor Qin Shihuang in the 3rd century BC, China has been under a centralized, authoritarian, and imperial rule. In 1912, when the ROC was created on the mainland as Asia's first republic, the two-millennia-old Qin political system was poised for fundamental change in the direction of the rule of law, greater respect for human rights, and increased local autonomy as well as democracy and freedoms of press and assembly. However, plagued by repeated external and internal wars, the self-serving leaders of the ROC and their ill-equipped opponents tragically retarded China's political progress. In 1949, a peasant rebellion colored with imported communist ideology created the PRC and drove the ROC offshore to Taiwan. Mao Zedong, the PRC's self-proclaimed new Qin Shihuang, perpetuated and intensified China's despotic political tradition.

After three decades of phenomenal economic reform and growth, today's China is once again on the verge of departing from its Qin system. Yet, successful political reform of the PRC is still far from certain. Overplaying the fear of chaos and overselling the achievement of a rapid, albeit highly uneven, economic growth, Beijing still appears to be unwilling and perhaps also unable to democratize peacefully. The current leadership therefore risks precipitating another "big bang" type of crisis, a repeat of the cyclical crashes that have plagued Chinese political history since the Qin dynasty. Political fragility, the institutional suffocation of human rights and innovation, and out-of-control corruption all combine to fashion a sword of Damocles that hangs over the future of China.

The rise of China is thus in danger of stagnating, straying, or derailing—with dire international implications. A new superpower with the Qin political system and worldview, if such a regime could really elevate China to the height of global power, would be a disaster for the Chinese people and world peace. A China that has collapsed under the weight of corrupt governance would be an equal, if not greater, catastrophe.

The Taiwan Story

Taiwan is key to the political reform of the PRC and the peaceful rise of China. By surviving the Cold War and evolving into a vibrant and prosperous democracy, the ROC in Taiwan has become a de facto

and viable political opposition to the undemocratic PRC in Greater China (which includes Hong Kong and Macao). Over the past decades, the Taiwanese have proudly proven that Western ideas of capitalism, freedom, and rule of law can thrive together with Chinese culture. Driven by the combined force of bottom-up and top-down efforts as well as complementary foreign influences, the Taiwanese successfully introduced and expanded local elections, fought hard for a free press, and managed to establish a young democracy.

The Taiwan story of solid economic growth and peaceful political change is a great success story for all Chinese, on and off the island. In addition to the massive transfer of capital, technology, and socioeconomic norms and values to the mainland over the past two decades, Taiwan can also serve as a powerful model and leverage for political changes in the PRC.

Yet, having long enjoyed a de facto independence, many in Taiwan are now aggressively searching for full, de jure independence. A democratic Taiwan seeking to leave China paradoxically undermines democratic transformation on the mainland. In fact, the Taiwan issue has served to justify and magnify rising Chinese nationalism, instilling excessive humiliation, anger, and frustration among Chinese against outsiders rather than against internal injustices and irrationalities. This nationalist reaction also gives the ruling Chinese Communist Party (CCP) a means to steer Chinese away from learning from the Taiwanese experience and pushing for democracy at home.

Driven by powerful indoctrination or simple nationalist feelings, most Chinese in and outside of the PRC are highly united over the Taiwan issue. It goes beyond a mere dispute over territory. Indeed, many historical, cultural, economic, political, and emotional arguments can be made for why unification with Taiwan lies at the core of China's national interest and also legitimates the one-party rule of the corporatist alliance of the PRC's governing elite. Like it or not, so many Chinese have pinned their own sense of dignity, pride, and destiny on the Taiwan issue that even a war with the United States seems to be a tolerable price to pay.

Target or Catalyst?

The Taiwan issue is consequently not just the biggest problem between the PRC and the United States, as statesmen and analysts have been insisting for decades. It has become a key factor shaping China's overall foreign policy and the PRC's internal political development, which affects the future of China, East Asia, and beyond. It may drive the rising Chinese power irreversibly into the horrific, dead-end alley of militarism and imperialism. But it may also facilitate the PRC's transformation into creating a democratic and peaceful nation in Greater China before it is too late. Taiwan, under a conditional unification with the Chinese mainland, could become a powerful catalyst of change to help reform the PRC and enable a peaceful rise of China. Much bigger and unevenly developed, China indeed must travel the inevitable road of political reform in its own way and at it own pace, but in the same general direction as the Taiwanese. And Taiwan can help solidify, quicken, and smooth that process.

Unfortunately, leaders on both sides of the Taiwan Strait have discounted and marginalized the Taiwan story. Rather than viewing Taiwan as a viable force of political opposition and a model of successful political change, China sees the ROC as just a local regime seeking independence in the refuge of foreign protection. Even though Beijing's stubborn refusal to enact political reforms has made independence ever more attractive to many Taiwanese, the words and acts by many in Taiwan for full independence have served to deprive the ROC of its rightful political influence in Greater China. Shrewdly seizing upon the opportunity, Beijing has successfully portrayed Taipei as an anti-China traitor that has harmed and divided the Motherland, leading many Chinese simply to despise and reject

Taiwan's experience. As such, Beijing, and the world, continually underestimate and undermine Taiwan's catalytic role.

Toward a New Consensus

Beijing's political rivalry with Taipei should stimulate, rather than stifle, China's democratization. Instead of propelling China into imperialism and militarism, Chinese nationalism could become a powerful driving force to constrain the rising Chinese power and reorient it toward democracy and peace. Taiwan must act as a catalyst for China because only with a democratic, free, and peaceful China can the Taiwan story securely continue. Unless the Taiwanese are willing and able to fight and win a war of independence against the ever powerful China, Taiwan will lose its de facto autonomy in the not-too-distant future, not to mention the impractical cause of full independence.

Only by assisting the peaceful rise and change of China can Taiwan solidify lasting support from the United States. Otherwise, the American national interest could conceivably lead to a new Sino-U.S. strategic compromise in the Western Pacific and take away Taiwan's most important bargaining chip, effectively bringing the Taiwan story to an abrupt end. To help China change politically and rise peacefully, and also for Taiwan's own future, the Taiwanese must sacrifice their understandable but ultimately self-defeating desire for full independence.

The latest signals from Taipei are promising. The opposition leader Ma Ying-Jeou, while upholding the "one-China" principle, insists that unification with the Chinese mainland must be conditional. The PRC must democratize, and Beijing must be held accountable for its misdeeds. More encouraging, many senior cadres of the ruling party (which has traditionally supported independence) now assert that "unification is one of our future choices, too," while echoing Mr. Ma's conditions. The maturing Taiwanese democracy, with a stabilizing two-party system, seems to be rising to the occasion by bravely making hard choices about a future inseparable from the destiny of Greater China.

American Interests

The United States must assist in this process. Ignoring or neglecting the situation will only further marginalize the ROC and diminish the PRC's chance of democratic political reform and the likelihood of China's peaceful rise. In addition to the three U.S.-China Communiqués and the Taiwan Relations Act, the United States should develop a two-pronged policy. First, the United States should continue to help Taiwan defend itself. This security commitment, if conditioned by the U.S. "one-China" policy, will not be perceived as hostile by a rising Chinese power. The United States must use any means to oppose attempts to change Taiwan's autonomy and political system by force. To allow an undemocratic power to use force to destroy a young democracy and re-impose the Qin system on Taiwan would not only be a fatal blow to America's global leadership but would also spell the end of the hope for a peaceful rise of China.

Second, Washington should actively support a peaceful, conditional unification between Taiwan and the PRC, not just a vague "resolution" of the Taiwan issue. This way, America's security commitment to Taiwan will be much easier for the Chinese people to understand and accept. A timetable for China's conditional unification should be linked directly and clearly to verifiable political changes in the PRC. Nationalist desires for unification among the Chinese, including many elites, will generate the kind of incentives and energy for political change in Beijing that few external pressures could ever achieve. It will be a great awakening for the Chinese people to see that the biggest obstacle to China's national unification and peaceful rise lies in Beijing's refusal of political reform: a powerful message that will help to reshape minds, paradigms, policies, and paths.

As part of its long-term strategic interest, the United States should urge and facilitate direct Beijing-Taipei talks about their one-China political future. The United States should not shy away from the leadership and broker's role that are historically an American interest and obligation. Washington should also not to be deterred by any criticism from Beijing about interference in internal affairs or derailed by radical claims of some lobby groups at home.

Unification and Transformation

Taiwan is therefore a very precious and highly potent catalyst for China's rise and transformation. It must not be marginalized. Imagine how Taiwan's very Chinese but free media, legal norms and practice, and multiparty democracy could, on direct contact with and extensive presence in the PRC, captivate, energize, and edify the Chinese people on the mainland. Taiwan's role of catalyst is especially valuable given that Beijing now seems to be lacking both the appetite and the stamina to engineer its own democratization.

A federation-style political integration under the rule of law will allow the Greater China to abandon the Qin political system for good. Only when the Chinese government is accountable to its own people can (and should) there be a peaceful rise of China. Toward that end, a democratic and free Taiwan will work wonders when it genuinely—but conditionally—unites with China.

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