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Abstract: A concerted effort to introduce thoroughgoing reforms into U.S. national administration began in September 1993, when the Clinton-Gore administration issued the first report of the National Performance Review (NPR). The continuing reform effort, which is generally called "reinventing government" in the United States, shares many characteristics with the broader global New Public Management (NPM) movement and is often treated as part of it. The American NPM-style reform program was augmented by congressional attempts to make national agencies more performance-oriented. President George W. Bush, who took office in January 2001, continued to advance several NPM goals, though with some important differences. There is no parallel period of such fundamental, comprehensive, and concentrated administrative reform in American history. The reform agenda has been coherent and consistent enough to allow reflection on its efficacy in terms of its own objectives. These were: 1) making government work better and cost less and 2) building citizens' trust in it. We made two conclusions within this paper. First, the record of the NPM's achievement of greater cost-effectiveness is ambiguous, disputing the Clinton-Gore administration's central claims; the public as a whole perceives no reduction in the waste of its tax dollars. Second, the NPM fell far short of building significantly greater trust in government.

A concerted effort to introduce thoroughgoing reforms into U.S. national administration began in September 1993, when the Clinton-Gore administration issued the first report of the National Performance Review (NPR). The continuing reform effort, which is generally called "reinventing government" in the United States, shares many characteristics with the broader global New Public Management (NPM) movement and is often treated as part of it. The American NPM-style reform program was augmented by congressional attempts to make national agencies more performance-oriented. President George W. Bush, who took office in January 2001, continued to advance several NPM goals, though with some important differences. There is no parallel period of such fundamental, comprehensive, and concentrated administrative reform in American history. The reform agenda has been coherent and consistent enough to allow reflection on its efficacy in terms of its own objectives. These were: 1) making government work better and cost less and 2) building citizens' trust in it.

NPM Objectives in the U.S. National Government
The immediate objective of adopting NPM reforms was to promote far greater cost-effectiveness in national administration—to create a government that "works better and costs less" in the Clinton-Gore administration's slogan. It was claimed that the reforms would save $108 billion over five years, primarily by downsizing federal agencies (Gore, 1993, p. iii). The broader objective bore directly on improving constitutional democracy by generating greater public trust in government through better administrative performance. At the time, public trust levels were considered dangerously low. Seventy-three percent of the public believed that the federal government created more problems than it solved (American Enterprise Institute 2003, 9). According to Gore, the average American believed that the national government wasted 48 cents of every tax dollar collected, and only 20% of the public trusted it "to do the right thing most of the time" (Gore, 1993, p. 1).

The initial NPM thrust was to improve "the way government does business" (Gore, 1993, iv). Beginning in 1995, more attention was devoted to determining what the government should do. Programs were targets for termination, devolution to the state and local governments, or privatization if they were not inherently governmental or amenable to NPM reforms. The reforms would be successful when "there are fewer federal agencies and programs, when there are fewer decisions being made by the federal government that can best be made elsewhere, when customers of the federal government see substantial improvements in services, and when Americans increase their level of trust in the federal government" (NPR, 1995, p. 1).

The NPM's performance orientation was bolstered by a major, largely separate congressional initiative, the Government Performance and Results Act of 1993. The act, alternatively known as GPRA (mostly by Democrats) and the "Results Act" (by Republicans), requires federal agencies to engage in strategic planning
and annual performance measurement. It favors defining agency goals in terms of specific objectives and prefers quantitative performance measures. The act, which was phased in over several years, looks toward enabling Congress to base its annual budgeting decisions on agency performance reports.

**Strategies**
The Clinton-Gore administration was pragmatic in its application of NPM strategies. It was sometimes dogmatic in advancing NPM measures, but rarely, if ever, ideological. Its main strategies for achieving cost-effectiveness and building trust were:

- Cutting unnecessary spending
- Serving customers
- Empowering employees
- Helping communities solve their own problems
- Fostering excellence
- Creating a clear sense of mission
- Steering more and rowing less
- Delegating authority and responsibility
- Replacing regulations with incentives
- Developing budgets based on outcomes
- Exposing federal operations to competition
- Searching for market rather than administrative solutions

Decentralization and deregulation of federal administration were fundamental to implementing these strategies. The Clinton-Gore NPM reforms took place at the agency and sub-agency levels. The administration did not try to centralize presidential control of the executive branch through the Office of Management and Budget (OMB) or the Office of Personnel Management (OPM). It sought to flatten hierarchies within the agencies by drastically reducing the number and layers of managers and supervisors. Hierarchical authority would also be diminished by establishing labor-management partnerships to enhance workers' participation in decisions regarding working conditions. Partnering was similarly encouraged between regulatory administrators and regulated entities, with an emphasis placed on self-regulation. Agencies developed their own customer service standards. The administration called on agencies to be entrepreneurial in exploring ways of providing better service to the public.

The Bush administration also strongly supports cost-effectiveness, performance and customer-oriented administration, and building greater public trust in government. However, it departs from standard NPM principles in favoring highly centralized executive controls on agencies. Bush relies heavily on the Office of Management and Budget (OMB) to promote better agency performance and to monitor agencies' rulemaking activities. OMB's budget makers evaluate the agencies' funding requests in terms of their administrative performance. The objective is to separate "programs that work from programs that don't," find out "which programs are producing a good return on investment," and determine "What do Americans get for their money?" (Peters, 2002) The administration anticipates being the first to make centralized budget decisions based on administrative performance.

OMB’s Office of Information and Regulatory Affairs (OIRA) is responsible for reviewing a good deal of agency rulemaking and administrators' collection of information through forms and other devices. It is concerned with the quality of regulatory rules, duplication, and coordination among agencies. John Graham, Bush’s OIRA director from 2001 to March 2006, was committed to approving only those rules that were cost-beneficial, based on sound science, and had a clear justification (Nakashima, 2002).

OMB is also playing a key role in Bush’s managerial agenda. The administration attached an “Executive Branch Management Scorecard” to its 2003 proposed budget. The scorecard rates agencies on the following dimensions of central concern to the administration: human capital management, competitive sourcing, financial management, electronic government, and performance budgeting (Shoop, 2002). The government's central personnel agency, OPM, is becoming more active in overseeing and evaluating agencies’ human resources management (Saldarini, 2002).

In addition to these important measures placing the agencies under tighter executive direction and control, the Bush administration has promoted very substantial human resource management (HRM) reforms. For the most part, these are contained in the Homeland Security Act of 2002. The act has two main sets of HRM provisions. Some apply only to the Department of Homeland Security, which the act established. Others apply government wide. Bush insists that political appointees and top-level career managers need greater freedom to manage federal employees. The Department of Homeland Security, which many believe provides a template for reforms throughout the executive branch, was exempt from the general civil service laws and regulations for discipline, dismissal, work assignment, promotion, performance appraisal, pay, and collective bargaining. Government-wide reforms include more managerial flexibility in hiring and buying out employees, compensating executives, and paying for employees' higher education. The act also requires each department and agency to appoint a chief human capital officer to supervise, coordinate, and proactively plan HRM activities.

**Accomplishments and Shortcomings: Working Better and Costing Less**
Many of the administrative reforms from 1993 to 2003 were based on assumptions about downsizing, outsourcing, market dynamics, motivation, customer focus, and performance measurement. The NPM has
been more an article of faith and politics than the application of empirically-based science or proven technique, at least in U.S. national administration. The Clinton-Gore administration's downsizing was politically driven by the need to show that the president and vice president were not old-style tax and spend liberals, but rather "new Democrats" who could make government a highly cost-effective tool for promoting social equity, economic growth, environmental protection, and other liberal objectives. The Bush administration is adamant in its belief that the private sector almost always outperforms public agencies and, therefore, that as much of the government as possible should be outsourced or privatized. As decades of failed reforms have demonstrated, politics and faith are often poor substitutes for public administrative knowledge and understanding based on experience, observation, and social science (Caiden, 1991; Pollitt and Bouckaert, 2000). It is not surprising that, to date, the NPM reforms have a mixed record of performance in terms of cost-effectiveness.

Assessing the Clinton-Gore reforms is problematic because decentralization and deregulation made it very difficult to track implementation. Much of the administration's reporting was self-congratulatory (e.g., Gore, 1995). The initial Clinton-Gore call for NPM reforms in 1993 contained 384 recommendations for implementation through 1,203 action items (U.S. General Accounting Office 1996, 1). In 1995, the administration claimed that 380 action items had been implemented (32%). This was disputed by the U.S. General Accounting Office (GAO) in 1996, which found only 294 (24%) to have been completed (U.S. GAO 1996, 5). A subsequent GAO study in 2000 found that of 72 NPR recommendations in 10 agencies, 33 (46%) had been completely implemented and another 30 (42%) had been partially implemented. No action had been taken on 9 items (12%) (U.S. GAO 2000, 10).

In 1999, on the sixth anniversary of the Clinton-Gore administration’s initial effort to install NPM reforms, Gore pointed to the following successes:

- Reduction of the full-time federal civilian workforce by 350,000
- Savings of nearly $137 billion
- The elimination of 16,000 pages from the Code of Federal Regulations and 640,000 pages of internal agency regulations (Littman, 1999, p. 7).*

Gore also contended that:

We've changed the culture of government. By running the government more like a business—focusing on outcomes rather than process, listening to employees, and putting a premium on customer service—we're working to create an environment where federal employees think differently about their jobs and who their customers are. The impact reinvention has had on the government has also helped more Americans connect with their government and helped restore their trust in government (Littman, 1999, p. 7).

 Critics counter these claims by pointing out that as the number of federal employees shrank, the number of people employed on federal contracts grew substantially (Light, 1999). The claimed cost savings included those associated with activities that were only peripheral to the NPM reforms, such as military base closings (Kettl 2000, p. 21). Bush charged that “The General Accounting Office looked into some of these claims of big savings. Of those reviewed by the GAO, two-thirds had no evidence to back them up” (Bush, 2000). The reduction of pages does not necessarily equate to changed administrative processes. For instance, anecdotal information suggests that many agency field offices continued to rely on the notoriously detailed 10,000-page Federal Personnel Manual well after it was ceremoniously discarded in 1994.

Perhaps the most serious charge is that Gore vastly overestimated the culture change. A survey of federal employees in 2000 found that only 36% rated Clinton-Gore NPM reforms favorably, though some aspects of it, such as customer service fared much better (71% favorable rating) (Kaufman, 2000). Another survey, in 2001, found that more federal employees thought the NPM reforms made their jobs harder (49%) than easier (42%) (Light, 2001, p. 9).

Despite continuing disputes over the NPM reforms, the clearest cases of success and failure can be readily identified. On the success side, customer service is at the top. In 2001 the federal government slightly outscored the private sector in the standard American Customer Satisfaction Index. Overall, national administrative agencies scored a 71.0, up from 68.6 in 2000, while the private sector received 70.5 on the 100 point scale. The range for federal agencies was 35 to 93, with several scoring in the 90s or high 80s (Pecknepaugh, 2001, pp. 3-6).

Other successes have been in financial management, performance monitoring, improving information technology, and streamlining procurement. Federal accounting has improved considerably, if slowly. In 2001, 50% of upper-level federal employees with at least 10 years' experience thought that reforms had improved financial management, while 67% believed they had reduced waste, fraud, and abuse (Light, 2001, p. 10). The same year, only 6 of the 24 agencies covered by the Chief Financial Officers Act of 1990 failed to receive a “clean opinion” (Pecknepaugh, 2002). The Government Performance and Results Act appears to be generating performance plans that may be usefully linked to budgets (Ballard 2002a; 2002b; see also Light, 2001, p. 10). Reforms have yielded better information technology according to 88% of the upper-level employees (Light, 2001, p. 10). Fifty-four percent thought NPM reforms "very or somewhat" successfully
streamlined government procurement (Light, 2001, p. 10).

Less tangibly, though potentially of great importance, there is strong political agreement on how the government should operate. Al Gore could have been speaking when Bush explained, “My policies and my vision of government reform are guided by three principles: government should be citizen-centered, results-oriented, and wherever possible, market-based” (Bush, 2000). The Clinton-Gore and Bush administrations differ over decentralization versus centralization and employees’ rights, but not with respect to overall visions of what national public administration should be.

Turning to failures, perhaps the greatest shortcomings have been in the area of human resources. The Clinton-Gore administration radically decentralized and deregulated HRM on the assumption that inflexibility was the cause of innumerable problems. However, HRM continues to be problematic. By 2000, the federal employees gave negative ratings to the hiring process, labor-management cooperation, merit-based rewards, and handling of poor performers (Kauffman, 2000). As previously noted, the Bush administration has targeted HRM for major reforms through the Homeland Security Act and OPM. At present, Bush is seeking legislation to free the Department of Defense from many government-wide personnel regulations in dealing with its more than 700,000 civilian employees.

**Accomplishments and Shortcomings: Public Trust**

As globalization promotes the diffusion of NPM and other reforms, it is increasingly clear that reformers should take political institutions, values, and cultures into account when designing and implementing change (Caiden, 1991; Kettl, 2000; Pollitt and Bouckaert, 2000). Reform is more than a technocratic or business endeavor; it affects governmental institutional arrangements, capacity to formulate public policy, and, of particular interest to American reformers, relationships between citizens and their government. Administrative cost-effectiveness on performance, and customer orientation could be ends in themselves. However, they were introduced in U.S. federal administration and developed as a means to a larger end—that of building public trust in government. Gore contended that adequate administrative performance was a prerequisite to gaining public trust: “How can people trust government to do big things if we can't do little things like answer the telephone promptly and politely?” (Pollitt and Bouckaert, 2000, p. 174). However, the NPR also had an impact on two fundamental aspects of government that are often considered essential to public trust in democracies: administrative transparency, and better access and input to government processes (e.g., see Justice William Douglas’ dissent in *United States v. Richardson* [418 U.S. 166] 1974).

The most prominent, related NPR initiative for transparency was FirstGov.gov, “the official U.S. gateway to all government information” (FirstGov.gov 2003). FirstGov.gov has links to federal, state, and local government information which are organized for citizens, businesses, nonprofits, federal employees, and other governments. It also serves to point interested parties to Regulations.gov, a website that bills itself as a “one stop site to comment on federal regulations” (Regulations.gov, 2003). While this site was developed with a customer-friendly focus it also proactively disseminates select government information.

In contrast to its focus on access and input into government process and rulemaking, the NPR devoted little attention directly to administrative transparency. Yet, transparency is clearly related to the goal of building citizen trust. Transparency promotes accountability, which fosters trust. In the U.S. context, secrecy almost always breeds mistrust. The lack of direct concern with transparency raised the prospect of unintended consequences—NPM reforms might actually undercut governmental openness. This possibility is illustrated by analyzing the NPR’s impact on implementation of the federal Freedom of Information Act (FOIA), which indicates that some NPM initiatives encouraged transparency while others diminished it.

**Improving Customer Service**

FOIA, enacted in 1966, is a major tool individuals can use to obtain documents from the federal government. Users of FOIA are seen by many agencies as customers. As part of the customer focus initiative, agencies improved their communication with FOIA users by writing form letters in more straightforward language, including their phone numbers in them, and revising individual agency FOIA websites to explain how to file a request. Since FOIA implementation is decentralized and handled differently by each agency, the impact of customer service initiatives, like other NPR initiatives, varied by agency. While NPR generally did not seek to improve administrative transparency, the application of customer service initiatives to FOIA implementation did work toward a more transparent government (see Piotrowski, 2003, chap. 4).

**Performance Management**

Unlike the NPR customer service initiatives, performance management initiatives, as prescribed by NPR, may have a deleterious effect on governmental transparency. For instance, a comprehensive analysis of 24 federal agencies’ annual performance plans for 2000 or 2001 found that 17 paid no attention whatsoever to freedom of information. This was true even though all the agencies are required to comply with certain time limits and other provisions of the Freedom of Information Act (Piotrowski and Rosenbloom, 2002). Only four agencies included quantitative performance measures in their plans, and for one of these, the National Archives and Records Administration, freedom...
of information is a mission-based concern. Three other agencies mention freedom of information, but list no concrete performance goals associated with it. Because performance plans are linked to congressional oversight and agency budgets, failure to address freedom of information is likely to divert attention and funding from it. This is no small matter in terms of public trust and democracy. In 1946, the United Nations General Assembly resolved that "freedom of information is a fundamental human right and is the touchstone for all the freedoms to which the United Nations is consecrated" (Zifcak, 1998, p. 944).

Outsourcing
Performance management was not the only NPR initiative with mixed results regarding transparency. The NPR emphasis on reduced costs, downsizing government, and faith in market mechanisms led to increased outsourcing and reliance on contractors. The relationship between government contractors and FOIA implementation is varied. One aspect of this relationship concerns the documents the contractors produce and hold. The majority of documents most federal contractors produce while working for the national government are not subject to mandatory release through FOIA or any other mechanism. It is possible that many functions once performed by federal agencies and covered by FOIA are now handled by contractors whose documents are unavailable to the public. For instance, e-mails of the National Aeronautics and Space Administration pertaining to the disintegration of the space shuttle Columbia were available under FOIA, but those of the private contractors, who do the overwhelming amount of launch work, were not. It is hard to see how this lack of "sunshine" on contractors can improve trust in government.

Many of the NPR initiatives have had staying power with the Bush administration. These management initiatives, now under the Bush administration’s leadership, have affected transparency in largely the same way. The Bush administration is working to make the executive branch less transparent, however.

Bush and Transparency
The Bush administration has intentionally reduced transparency in the name of executive flexibility and national security. In October 2001, Attorney General John Ashcroft notified federal departments and agencies that the Department of Justice would be more inclined to defend their decisions to withhold information than was the case under the Clinton-Gore administration. He also instructed agencies to remove information from their web sites that might be of potential use to terrorists, such as data on chemical processes and infrastructure (Piotrowski, 2003, pp. 146-147; 155-157). In November 2001, Bush's Executive Order 13233 reversed several disclosure features of the Presidential Records Act of 1978. Vice President Richard Cheney adamantly refused to release documents regarding energy policy that many believe are covered by FOIA and a related statute, the Federal Advisory Committee Act of 1972 (Milbank 2002a, A1; Skrzyucki 2002, E6).

When asked why President Bush refused to release some information to Congress, then Press Secretary Ari Fleischer replied, "Is it because we have something to hide? No. It's because it's the best way to have a healthy discussion inside an administration. And that serves the President" (Simendinger, 2002, p. 7). In time, Fleischer’s essential claims—you can trust us and transparency will only interfere with our decision-making—is likely to be a very hard sell to the American media and public.

Trust Levels
If NPM reforms contributed to greater trust in government, their impact was marginal. In July 2001, 29% of the public "trusted the government in Washington to do what is right just about always or most of the time" (Light, 2001, p. 12). This was up between 6 to 10 percentage points from 1993 when the Clinton-Gore administration began NPM reforms. The increase is significant, but only partly attributable to the NPM. Moreover, although any improvement is welcome, compared to the trust levels in the 60-70% range in the 1950s and 1960s, trust remained troublingly low (American Enterprise Institute, 2002, p. 11). The great outpouring of patriotism and support for the government in the wake of the September 11, 2001 terrorist attacks raised the trust level to 64% (American Enterprise Institute, 2002, p. 13). However, by July 2003, trust in government had declined to 36% (American Enterprise Institute, 2002, p. 13).

Conclusion: The Public's Perception: Neither Cost-Effective nor Trustworthy
The foregoing consideration of NPM cost-effectiveness and its goal of building trust in government raises the following question: Did attention to transparency by the Bush administration undercut gains in trust generated by NPM cost-effectiveness? The unequivocal answer is "no." On average, the public was unaware of any overall cost-effectiveness the NPM may have generated. In April 2002, when asked "out of every dollar the federal government collects in taxes, how many cents do you think are wasted?" Americans' collective answer was 47 cents—almost exactly where it stood in August 1993, just before the NPM was introduced (American Enterprise Institute, 2003, p. 21). If cost-effectiveness improved, it went unnoticed by the average American. Even more damaging to the assumptions of the NPM reformers, an individual's positive perception of government performance is only weakly associated with greater trust. In 1997 the regression coefficient was .321, which declined to .224 in 2002 (Mackenzie and Labiner, 2002, p. 6 [Table 8]). The following conclusions are evident. First, the record with regard to the NPM's achievement of
greater cost-effectiveness is ambiguous. The Clinton-
Gore administration's central claims were disputed. The
public as a whole perceives no reduction in the waste of
its tax dollars. Second, the NPM fell far short of
building significantly greater trust in government. In
retrospect, perhaps, that result was to be expected. The
NPM focused on managerial processes and values. It
was relatively inattentive to the broader governmental
concern of transparency. In practice, its initiatives had a
mixed impact on implementation of the national
government's key transparency statute, FOIA. If
transparency is related to trust, as observers have long
contended, then administrative reformers hoping to
build trust in government will have to make it part of
their overall mission.

Notes

*Unless otherwise noted, all references to Bush and
the Bush administration are to that of President
George W. Bush, not his father, President George H.
W. Bush.

1 It is to be expected that individual nations will
adapt the core NPM ideas to their own political,
economic, and social systems. The U.S. is especially
distinctive in its constitutional separation of powers and
federalism. Kettl (2000, 1,5) includes the U.S. along
with the United Kingdom, New Zealand, and several
other nations as participants in "a global reform
movement in public management" and "the global
public management movement" (emphasis added).
Kaboolian (1998) considers reforms in the U.S. to be an
instantiation of the NPM. Pollitt and Bouckaert (2000)
also place the NPM label on U.S. reforms (see
For instance, they write, "Certain regimes look as
though they are much more open to the 'performance-
driven', market-favouring ideas of the NPM than others:
particularly the 'Anglo-Saxon' countries, Australia,
Canada, New Zealand, the UK and the USA" (60-61).
According to Hood (1991) and Hughes (1998), the
NPM's main tenets are: (1) administrative units should
be managed by professional managers who are
sufficiently empowered to be held accountable for their
performance; (2) administrative goals should be clear
and measurable; (3) emphasis should be placed on
outputs or outcomes rather than procedures; (4)
competition should be used to promote cost-
effectiveness; (5) private sector approaches to personnel
and organizational flexibility should be followed by
public agencies; and (6) direct and compliance costs
should be reduced. Kettl (2000, pp. 1-2) lists "six core
characteristics" of the "global reform movement in
public management": (1) productivity, (2)
marketization, (3) service orientation, (4)
decentralization, (5) capacity to devise and track policy,
and (6) accountability for results. As discussed infra,

U.S. reforms from 1993 to 2003 substantially embrace
these tenets and characteristics.

2 According to the American Enterprise Institute
(2003: 12), 23% of the public trusted the government in
Washington to do what is right "about always" (3%) or
"most of the time" (20%) in March 1993. In November
1993, the corresponding figures were 1% and 18%.

3 Morley Winograd, director of the National
Partnership for Reinventing Government when it closed
in January 2001, claimed 426,200 positions were cut, of
which 78,000 were managerial. He did not claim
additional page reductions in rules, though he said
31,000 pages of "legalese" had been converted into
plain English. He also claimed that 2000 "obsolete field
offices" had been closed and 250 "useless agencies" had
been eliminated. The latter figure must include very
small agencies, units within agencies, and, perhaps,
advisory committees. A typical official organizational
chart of the U.S. government shows a total of only
about 95 departments, agencies, boards, commissions,
and other organizations (Winograd, 2001).

4 James Madison, the fourth president of the
U.S. (1809-1817), a major participant drafting the U.S.
Constitution, and the main author of its Bill of Rights,
noted famously, "A popular Government, without
popular information, or the means of acquiring it, is but
a Prologue to a Farce or a Tragedy; or, perhaps both.
Knowledge will forever govern ignorance; And a people
who mean to be their own Governors, must arm
themselves with the power which knowledge gives"

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**References**


Successful Earthquake Mitigation in Qinglong County during the Great Tangshan Earthquake: Lessons for Hurricane Katrina in the United States

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Abstract: More than 246,000 people were killed in the 1976 Tangshan Earthquake. In Qinglong County, despite the collapse of 180,000 buildings, no deaths were attributable to the earthquake and its aftershocks. The case of Qinglong County illustrates excellent coordination among public administrators, scientists and citizens and features pro-active policies, local government initiative, thorough implementation, delegation, information sharing, and citizen participation. These lessons are applied to the response to Hurricane Katrina in the United States in 2005.

Historically, China has been frequently hit by natural hazards,’ said Li Xueju, Minister of Civil Affairs, citing recent disasters such as the flooding of the Yangtze River; northeast China’s Songhua River and its major tributary, the Nehjiang River in 1998; flooding in south China’s Taihu Lake in 1999; and continual droughts, hurricanes and earthquakes across the nation from 1999 to 2001” (China Daily, 2003). Over the last 10 years, natural disasters have affected an average of 200 million people and cost 100 billion yuan (U.S.$12.05 billion) a year in China. (China Daily, 2003) In 1976, an earthquake of magnitude 7.8 on the Richter scale hit Tangshan City, a rapidly growing urban center of about 1.4 million residents in northeast China. More than 246,000 earthquake-related deaths occurred within a radius of 300 kilometers of Tangshan City. This was, by far, the largest death toll related to any natural disaster in the 20th century. However, in Qinglong County, one of the 60 local governments surrounding Tangshan, no deaths were attributable to the earthquake and its aftershocks despite the collapse or damage to 180,000 of its buildings (Col and Chu, 1999).

My paper summarizes what factors were responsible for this seeming miracle in Qinglong and looks at (1) what lessons can be learned from an event that occurred 30-years ago in a relatively remote part of a developing country, and (2) how these lessons could have informed 21st century decision-makers who are struggling with the rebuilding of New Orleans and other parts of the U.S. Gulf Coast in the aftermath of Hurricane Katrina. The overall destruction wrought by Hurricane Katrina, which was both a large and powerful hurricane and a catastrophic flood, vastly exceeded that of any other major disaster, such as the Chicago Fire of 1871, the San Francisco Earthquake and Fire of 1906, and Hurricane Andrew in 1992 (White House 2006).

The storm surge crested up to 27 feet and contributed to significant levee failures, flooding approximately 80% of the city. As President George W. Bush noted on September 8, 2005:

“Hurricane Katrina was one of the worst natural disasters in our Nation’s history and has caused unimaginable devastation and heartbreak throughout the Gulf Coast Region. A vast coastline of towns and communities has been decimated” (White House, 2006).

Following a summary of the events in 1976 related to the earthquake in Qinglong County, my paper will focus on six lessons learned from the Qinglong case and their application to Hurricane Katrina. The lessons are:

1) All levels of government must be involved in disaster management and mitigation.
2) National policies must be proactive and widely understood.
3) Operational decision-making and organizing must be delegated to the lowest level of government possible.
4) Local-level administrators must adapt plans and mitigation strategies to meet changing conditions as the disaster develops.
5) All channels of communication—vertical and horizontal—must be open and operational, thereby increasing community understanding, sharing of perceptions of risk, and ease of coordinating actions.
6) Citizens must participate in all stages of preparation and execution of emergency management measures.
The Great Tangshan Earthquake of 1976

As mentioned above, in the summer of 1976, an earthquake of magnitude 7.8 hit the Tangshan City region in northeastern China. Northeastern China is composed of four provinces (Hebei, Liaoning, Shanxi and Shandong), one autonomous region (Inner Mongolia), and two special municipalities (Beijing and Tianjin). Within these jurisdictions, there are 431 counties (China Daily 2003). The area directly affected by the Tangshan Earthquake in 1976 is shown below in Map 1.

Map 1: Qinglong County in relation to the epicenter of the Tangshan earthquake

More than 246,000 persons in the region died as a result of the 1976 earthquake and its aftershocks. However, no one in Qinglong County was included in this statistic. Several factors account for this seeming miracle. One of the most important factors was the scientific understanding and preparatory actions of what was then called China's National Bureau of Earthquakes and is now the China Earthquake Agency (CEA). The CEA generates four types of earthquake predictions: long-term, medium-term, short-term, and imminent predictions that are revised annually at local, regional, provincial and national levels. Long term refers to more than 2 years; medium term to 1-2 years; short-term to a few months; and imminent to 1-14 days. When the CEA gathers and analyzes sufficient data (Shou, 1999) to indicate a coming earthquake, the CEA notifies the State Council (China's national cabinet), which in turn, issues an alert or a warning to the localities likely to be affected (Li, 1991)).

In the case of the Great Tangshan Earthquake that occurred in northeastern China in 1976, the State Council had issued Document 69 in 1974 to warn the region of the increased risk of seismic activity in the coming decade (Col and Chu, 1999). This national policy document, an example of CEA's long-term predictions, notified provincial and local governments in northeast China to prepare for the possibility of earthquakes. Specifically, Document 69 recommended municipalities and provinces in the area, including Hebei Province in which Tangshan City and Qinglong County are located, to prepare for earthquakes of magnitude greater than 6 on the Richter scale.

Document 69 also called for increased local monitoring, public education and strengthening of infrastructure, including buildings in the area. It also encouraged monitoring by citizens (i.e., “lay monitoring”) in factories, and in mines and schools by local science volunteers. By 1976, most counties in Hebei Province had established an earthquake office and launched a variety of preparedness activities. Their proactive reaction to Document 69 reflected their knowledge of the 1975 earthquake experienced in nearby Haicheng. Based on the 1974 alert, several communities in the Haicheng area were evacuated before the 1975 earthquake (Kelin, 2006).

In response to Document 69, the administrative leaders of Qinglong County, who were also political leaders of the county’s Communist Party, established an earthquake office and hired a 21-year-old graduate of a technical school as the earthquake disaster mitigation officer. He intensified public education by distributing thousands of copies of booklets and posters, presenting slide shows and movies in villages, towns and cities, including a short earthquake preparedness film as a reminder to be presented in movie theaters before the main feature. He was also responsible for increasing the county’s earthquake monitoring stations (sites) from six to 16, with nine of them under the supervision of local middle schools and high schools.

At the same time, on the national level of government, CEA officials increased earthquake monitoring in northeast China, and organized many regional training sessions for earthquake management professionals at which advice was given as to how to prepare for earthquakes. At one of these sessions, attendees, including the Qinglong County earthquake officer, were informed that professional earthquake monitoring teams and lay detection centers were reporting abnormal earthquake-related signals for the Beijing-Tianjin-Tangshan-Bohai-Zhangjiakou region, thereby indicating the possibility of a significant earthquake during the period from July 22 to August 1976.

Session attendees were encouraged to examine readings from county-level earthquake monitoring equipment managed by the lay public. The officials were also encouraged to intensify earthquake preparation measures such as examining buildings and other public works in critical condition, conducting public education teach-ins, and promoting general awareness of possible approaching earthquakes.

When the head of the earthquake office returned to Qinglong County on July 21, he learned that four sites were registering unusual earthquake-related signals. On July 23, a special evening meeting of the County’s Standing Committee of the Chinese Communist Party (SC/CCP) was called to hear about the earthquake officer’s findings and to discuss the
significance of these findings. On July 24, 1976, the Qinglong County SC/CCP issued an “official alert” to all residents to evacuate buildings and to move to tents outdoors. It was decided that village officials should return, with a leading county-level official, to their communities immediately.

It is important to note that the social fabric was sufficiently strong, despite the overwhelming possibility of catastrophe, that all officials continued their work, rather than checking on their families’ well-being, in order to accelerate earthquake and flood preparation. Several photographs taken at the time depict school children sitting on benches and participating in outdoor classes, and merchants selling their goods outdoors on makeshift shelves under plastic sheeting.3 Most residents of the county were also sleeping in tents outdoors.

On July 25 and 26 the two and three days immediately preceding the earthquake, each community in Qinglong County held an emergency meeting to prepare and instruct villagers in disaster damage reduction. Community leaders identified vulnerable buildings and reservoirs and assigned guards to report infrastructure failures. Most villages had overnight watch guards on duty circulating among the buildings to enforce the evacuation order. County and village broadcasts instructed people who were still in their houses not to close their doors and windows at night so that they could leave their homes as soon as they felt the ground shaking. Residents were also told to avoid being close to tall buildings and power lines. On July 27, 1976, one day before the earthquake hit, a leading county official gave a major talk at a county-wide agricultural meeting on the earthquake situation and on mitigation measures.

At 3:42 a.m. on July 28, 1976, the Great Tangshan Earthquake struck. More than 180,000 buildings in Qinglong County were destroyed. However, only one person died, and he died of a heart attack. In the city of Tangshan itself, and in all of its other surrounding counties, more than 246,000 people died.

The seeming miracle in Qinglong County was the result of several factors: the involvement of all levels of government, clear national policies, effective administration delegated to the lowest level, adaptation to changing conditions, open and operational channels of communication, and citizen participation.

Lessons Learned from Qinglong County

Lesson 1: All levels of government must be involved in disaster management and mitigation.

In the Great Tangshan Earthquake of 1976, each level of government performed a critical role in earthquake management and mitigation. National-level officials aggregated data from stations throughout the region, and made earthquake predictions. Ongoing monitoring of earthquake precursors by China’s professional earthquake staff (the CEA) was shared in periodic regional meetings. In all communities subject to earthquake risk, the CEA, through national, provincial and municipal officers, conducted emergency preparedness workshops.

As mentioned earlier, Document 69 issued in 1974 for the northeast region, was part of a continuing national program of applied earthquake science maintained by the CEA. It regularly included outreach, training and communication with sub-national governments, made synthesized reports on risk and vulnerability, and promulgated official directives for earthquake mitigation to sub-national administrators. The leader of the Northeast Analysis and Prediction Group sent teams, several of whom later died in the earthquake, into northeast China to gather additional information in July, 1976. He attended a regional training meeting scheduled in Tangshan, during which he reminded the county-level participants of the range of measurable precursors, illustrated his talk with current data on precursor signals, and encouraged them to check their local stations for unusual signals and anomalies. Although he could not make an official prediction, he encouraged local officials to check their locally-generated data. The subtle message was to increase disaster preparations if local data indicated a likely coming event.

On the sub-national level, institutions in Qinglong County acted on local data, within the context of national policy. Led by the recommendations of Document 69 and further instructions from the CEA, Qinglong County officials added staff in disaster management, checked infrastructure for structural vulnerabilities, increased the number of precursor monitoring stations—both professionally managed and citizen-staffed.

Lesson 2: National policies must be proactive and widely understood.

By the 1970s, CEA had developed a vast network of precursor monitoring sites, employing a wide variety of scientific methods. These sites, with professional scientists, equipment and communications systems, were supplemented by intensive lay monitoring by local volunteers who were assisted by the CEA but organized by local governments.

Professional and lay monitors met annually under the auspices of the CEA in information sharing meetings at local, provincial and national levels. Out of these meetings emerged long-term, medium-term, short-term and imminent predictions. Continuous monitoring and communication kept the entire network up-to-date on the probability of earthquake events, occasionally leading to imminent predictions.

Lesson 3: Operational decision-making and organizing must be delegated to the lowest level of government possible.

In 1976, earthquake alerts and warnings were required to emanate only from the national level, but depended
upon information gathered locally. There were many recorded precursor signals, but no small pre-shocks. The national level scientists could not agree on a definite prediction, and therefore did not issue an imminent warning for the Tangshan area. In contrast, Qinglong County officials, analyzing their locally-generated data, observed that the precursor signals were becoming increasingly strong and decided to issue a county-level warning. Strictly speaking, the county’s earthquake warning was not allowable under national law at the time. Thus, the local officials circumvented national instructions and made a decision that they believed would be useful to their people. In interviews in 1996, the officials indicated that they were aware of the risks of disobeying national instructions, but were convinced that they were taking a calculated risk for the sake of the well-being of the county’s people (Col and Chu, 1999).

In Qinglong County, many officials took extraordinary actions with urgency that communicated seriousness to colleagues and community members. For example, the head of the Qinglong County science committee, when leaving for a meeting in Beijing, instructed his staff not to wait for his return for permission to act, but rather to take action based on incoming local data. Despite the high regard for top-down hierarchical management, these Qinglong County officials delegated decision-making to the officials closest to the problem. During a telephone conference with the leading officials of all 23 towns, the head of Qinglong County administration emphasized that all officials would be responsible for preparing people in their areas and be held accountable for their actions or inactions.

Lesson 4: Local-level administrators must adapt plans and mitigation strategies to meet changing conditions as the disaster develops.

On July 24, without a specific national government instruction (but under the auspices of State Council Document 69 of 1974), the County Committee declared an earthquake alert and a county-wide evacuation of buildings, with special attention to auditoriums, cinemas, theatres and schools. Aware that this alert would interrupt some economic and social activities, the Committee decided to err in the direction of citizen safety, risking criticism if no earthquake occurred. In later interviews, these officials told me that they relied on Document 69 to give them adequate “administrative cover” for their evacuation order, which was “not-specifically-authorized” (Col and Chu, 1999).

The SC/CCP alert included specific instructions for public administrators and citizens to work side by side. The SC/CCP established a command center which was staffed round the clock. First responders and other officials were required to stay at their posts 24 hours per day. Some officials were assigned to work with citizens at monitoring stations and report daily to the command center.

County officials used existing and parallel mechanisms by shifting activities over to earthquake preparedness. On the morning of July 25, in order to intensify communications, the county took over a meeting of more than 800 agriculturalists, informed them of the earthquake risk, provided a “short course” on earthquake preparation and mitigation, and sent some of them with materials to distribute to their towns and villages.

Throughout the run-up to the earthquake event, there was inevitable tension between bureaucratic norms that encourage, among other things, stove-pipe thinking, and emergent norms that evolve from actual changing circumstances. In the case of Qinglong County, in every instance, emergency norms displaced bureaucratic norms. Official after official took decisions that were based on factual reality rather than theoretical manuals (Schneider, 1995).

Lesson 5: All channels of communication—vertical and horizontal—must be open and operational, thereby increasing community understanding, sharing of perceptions of risk, and ease of coordinating actions.

On July 25 and July 26, citizen meetings were held at the county and village level. All residents had the opportunity to contribute to the analysis of the situation and to decisions about actions to be taken. My interviews in three villages, twenty years after the earthquake, revealed that each village had a forum in which people shared their understanding of the earthquake threat and the need for joint action (Col and Chu, 1999).

Choices were made in the forum, and local officials and volunteers enforced those decisions, including evacuating buildings and living in tents. If the decisions had been made in a less open manner and citizens had been told to evacuate without community-wide discussion, some community members would no doubt have questioned the motives of the enforcers. With open discussion, even those in disagreement with the decision perceived the community consensus, and social pressure encouraged follow-through on disaster mitigation practices.

In order to facilitate inter-level coordination, teams dispersed throughout the county were each composed of one county-level official and one local-level official of the target community. Their goal was to inform every county resident by the end of July 26 (within 36 hours). Each community needed to have a command center, 24-hour communications, and patrols to keep people from entering their homes and buildings. The communications system supported 24-hour communications so that each community would know every detail of trends in surrounding areas.

By activating the county-wide information network, county officials were able to broadcast lectures on earthquakes, alert all precursor monitoring stations to report anomalous signals and to maintain overnight
Lesson 6: Citizens must participate in all stages of preparation and execution of emergency management measures.

To the extent that citizens participate in the emergency management functions, especially preparation, mitigation and response, they will embed “disaster awareness” into their everyday lives. While it is common for citizens to help neighbors and victims in the aftermath of a major disaster, it is less common for citizens to participate directly in preparatory activities. For instance, in Qinglong County in 1976, local citizens enthusiastically engaged in both precursor monitoring and emergency preparations with little sign of panic. More generally, vulnerability reduction is most effective and sustainable when accomplished by the vulnerable people themselves (Delica-Willison, 1993).

From 1974, when the county was first notified about the possibility of earthquake(s) over the next few years, the citizens of Qinglong County received pamphlets, watched movies, read posters, participated in drills, and held community discussions about earthquake dynamics. The public learned about lay detection of precursors, such as: anomalies in water level, color, temperature, chemistry and quality; release of gases such as radon; unusual animal behavior; and weather changes. Individuals in each jurisdiction accepted responsibility to participate in monitoring their environment over the coming years (Schneider and Ingram, 1993). Many institutions became involved. Employees in factories and mines were trained to monitor for earthquake precursors using instrument readings or observational data. In addition, students in schools became involved in operating simple scientific equipment and in interviewing neighbors on observable earthquake-related phenomena.

When Qinglong County declared the earthquake alert on July 24, local residents remained calm but:

- Schools moved furniture outside and held classes in the open air.
- Merchants constructed shelving outdoors under plastic sheets, and continued selling their goods.
- Rural populations built makeshift tents and camped outdoors.
- Urban populations practiced exiting their homes and offices quickly and slept near exits during the night.
- Citizens assembled in teach-ins to share earthquake preparedness strategies.
- Communities established patrols to monitor preparatory activities.

Even school children contributed to successful community decision-making. Assisted by three physics teachers, a group of students in a secondary school developed a database on earthquake precursors. The students collected data from monitoring equipment and interviews with local people. They noted changes in water level, temperature and chemistry. They also noticed that normally nocturnal yellow weasels were running around in large numbers in broad daylight. The weasel activity increased in number and frequency on July 27.

Although an earthquake teach-in was scheduled for the morning of July 28, the students, based on in-coming data, convinced their teachers to hold the teach-in early in the evening of July 27, after which the school buildings were declared off-limits to everyone and patrols were set up to keep students from re-entering the school buildings. That the teachers followed the advice of the students resulted in the buildings being completely evacuated when the earthquake hit at 3:42 a.m. on July 28.

In situations where community members are passive and only tangentially hear about disasters, they are ill-prepared to take action against the evolving natural phenomenon and are subject to rumors and panic. Partial citizen action involves those who read about natural disasters and respond to warnings. Such citizens are aware that natural disasters can be anticipated and even forecast. Indeed, these individuals are aware of the community’s interest in being protected, and expect the government to warn them of danger from natural disasters. On the other hand, Qinglong County’s citizens went far beyond relying on the government to take care of them. They were measuring changes in their environment and discussing the changes at the dinner table and at the workplace. Their involvement in daily monitoring of earthquake precursors led to a community-wide sense of risk awareness and joint community responsibility (Comfort, 1999).

Figure 1 illustrates the different levels of activism and consequences for each of three stakeholder communities: scientists, administrators and citizens. Although these levels of involvement represent three points on an “activism” continuum, the categorization is not static. People can learn to be more active through experiencing natural disasters and through focused learning (e.g., public disaster education campaigns during a warning (prepare) or an alert (evacuate or take cover) period). The occurrence of dramatic natural disasters, though often hugely tragic, can make a lasting impression on community members and push “disaster awareness and mitigation” to the top of the policy agenda (Birkland, 1997).
During the Tangshan Earthquake, officials and citizens achieved a significant success that was unpublicized in China and was unknown in the outside world. Within China, officials chose not to publicize the success because it was not sanctioned practice for local governments to declare their own earthquake alerts. The success was achieved by local people taking account of locally-perceived precursor signals and acting on this information in a decisive and timely manner (Brandsen, 2006). Effective synergy between evolving conditions and administrative actions occurred because local organizations believed that they could deviate from national guidelines or that they could tolerate the consequences of sanctions against them for having deviated. Ten of the approximately 60 jurisdictions in the area were notified to check their precursor measurements. Of the ten jurisdictions, only two followed through with collecting local data, making the leadership aware of the precursor signals, and preparing the citizens, taking actions including timely evacuation. Of these two counties, only Qinglong completed its preparation and mitigation activities before the earthquake struck.

Figure 1

<table>
<thead>
<tr>
<th>Attitude / Consequent</th>
<th>Citizens</th>
<th>Public Administrators</th>
<th>Scientists</th>
<th>Natural Disaster Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of Participation</td>
<td></td>
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</tr>
<tr>
<td>Unaware / little or no participation</td>
<td>It will not happen here and not to me, my family and my community; citizens ignore disaster warnings, or they panic</td>
<td>Doing just enough work to hold the job, too busy with immediate priorities every day to consider the likelihood of natural disasters</td>
<td>Studying phenomena without considering their possible relationship to natural disasters and people</td>
<td>Total tragedy</td>
</tr>
<tr>
<td>Educated / moderate level of participation</td>
<td>It might happen; but when it does, someone else will take care of necessary preparations / relief</td>
<td>Gathering and cataloging of information; developing natural disaster management plans; gathering statistics on the community, its vulnerabilities and its disaster relief needs; lack of standards for evaluating accuracy of predictions, who can take responsibility for deciding accuracy or usefulness of predictions</td>
<td>Scientists can notice and record correlation between natural phenomena and disasters; scientists could produce predictions with a degree of probability, but administrators and the public usually demand absolute accuracy</td>
<td>Tragedy; massive relief; major impact on social and economic development</td>
</tr>
<tr>
<td>Aware and alert / high level of participation</td>
<td>Citizens accept possibility of natural disaster occurrences; citizens educate themselves and prepare community-based plans; citizens organize regular drills; circulate posters, pamphlets, school materials, videos, etc.; citizens participate in lay monitoring of disaster precursors; school children participate in lay monitoring as part of science curriculum and community work. Citizens become aware of their immediate natural environment &amp; its subtle shifts</td>
<td>Organizing practice drills; establishing real-time information sharing; promoting disaster-related public education; involving mass media in dissemination of disaster-related information; reaching out to community groups, private sector, NGOs, etc. for integrated public education, disaster preparedness and response</td>
<td>Scientists share and discuss recorded precursor signals with scientists of other disciplines, among lay persons and citizens, and especially among public administrators, who can translate scientific observations into programmes and actions likely to protect communities from natural disasters</td>
<td>Early warning success; evacuations of communities where necessary; safeguarding lives and property; minimize deaths and relief costs; more resources still available for sustainable human development</td>
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During the Tangshan Earthquake, officials and citizens achieved a significant success that was unpublicized in China and was unknown in the outside world. Within China, officials chose not to publicize the success because they believed that they could tolerate the consequences of sanctions against them for having deviated. Ten of the approximately 60 jurisdictions in the area were notified to check their precursor measurements. Of the 10 jurisdictions, only 2 followed through with collecting local data, making the leadership aware of the precursor signals, and preparing the citizens, including timely evacuation. Of these two counties, only Qinglong completed its preparation and mitigation activities before the earthquake struck.

Application of Lessons Learned in the Tangshan Earthquake to Hurricane Katrina
Hurricane Katrina hit the United States Gulf Coast, particularly the States of Louisiana and Mississippi, in August 2005. It was the most destructive natural disaster in U.S. history (White House, 2006). More than 770,000 people were displaced; an estimated 3,330 people were dead as a result of the storm; an estimated 300,000 homes were completely destroyed or made uninhabitable; and property damage was estimated at $96 billion (White House, 2006).

Map 2: Hurricane Katrina landfall map in relation to Louisiana and Mississippi and the United States Gulf Coast

This catastrophic level of destruction led to much criticism of all levels of government. Two reports issued in 2006 analyzed the response to Hurricane Katrina: The Federal Response to Hurricane Katrina: Lessons Learned commissioned by the President, and A Failure of Initiative produced by the House Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane Katrina. There is a strong parallel between the lessons learned in Katrina and the lessons learned thirty years earlier during the Tangshan Earthquake.

Lesson 1: All levels of government must be involved in disaster management and mitigation.
The degree of thoroughness of preparation and mitigation, as well as capacity-building differed greatly with regard to the Tangshan Earthquake and Hurricane Katrina. In the case of the Tangshan Earthquake, the national government issued a prediction for a large earthquake in the region and recommended specific actions to provinces, municipalities and counties. Qinglong County established and staffed a new office of earthquake preparedness in response to national guidelines and made an extraordinary effort to familiarize residents about earthquakes in general and the possibility of a large earthquake in the coming decade. In addition to distributing thousands of copies of booklets and posters and presenting slide shows in towns and villages, this office also arranged the showing of a short earthquake preparedness film as a reminder before each and every cinema presentation throughout the county. The county’s earthquake preparedness officer, despite being only 21 years old and a recent technical school graduate, was able to negotiate and establish 10 new lay monitoring sites within six months, with nine of them under the supervision of local middle and secondary schools. By involving the local schools, the lay monitoring program energized students and their families in community awareness and preparedness. These actions enabled residents not only to prepare but also to avoid panic and confusion.

In the United States, the Department of Homeland Security (DHS) is responsible for the safety of citizens, and the Federal Emergency Management Agency (FEMA), a part of DHS since 2003, is responsible for a national emergency response plan and for preparing communities for disaster response. In 2004, FEMA, in conjunction with the State of Louisiana and the City of New Orleans, organized a disaster exercise called “Hurricane Pam” in which a category 5 hurricane incident was simulated. Lessons learned in the exercise were communicated throughout FEMA and the related states and local governments, but as of July 2005 follow-up was confined to workshops but no actionable plan (White House, 2006). “Hurricane Pam” highlights the lack of follow-through between planning and implementation in the United States. Both the Louisiana Office of Homeland Security and Emergency Preparedness (LOHSEP) and the Federal Emergency Management Agency (FEMA) noted the shortfalls in existing plans and expected to eventually develop state
and national plans to address this potential catastrophe (Menzel, forthcoming).

**Lesson 2: National policies must be proactive and widely understood.**

National policies could not have been more different in the Tangshan Earthquake and Hurricane Katrina. In China in 1976, Qinglong County officials were operating under a specific and targeted national policy. Document 69 was not only clear in intent but also elaborate in detailed implementation steps. The national China Earthquake Agency worked diligently to increase its forecasting ability and Qinglong County increased its public education, lay monitoring, and disaster mitigation efforts, as well as setting up a special office and hiring required staff to implement Document 69 at their county level. Regular interaction between CEA national-level professional scientists and local government officials and citizens who volunteered to monitor their local environment helped to focus attention on the threat of an earthquake disaster.

In the U.S., a 600-page National Response Plan (NRP) was in place when Hurricane Katrina hit the Gulf Coast, but “many government officials were not familiar with it” (White House, 2006). On Friday, August 26, when the National Hurricane Center (NHC) announced that Katrina was gaining strength, the federal government moved to protect some of its assets. For example, it moved air force planes and navy ships out of harm’s way. The governors of both Louisiana and Mississippi declared a “state of emergency” but only Mississippi started deployment of its National Guard troops and also began requesting assistance from other states, according to the NRP. The following day, when the NHC announced that Katrina had not only reached category 3 status but was still gaining strength and likely to be devastating, the President declared a state of emergency for both states. On the state level, both governors opened emergency operations centers (EOCs). While Mississippi ordered mandatory evacuation county by county, Louisiana only activated its National Guard troops and the Mayor of New Orleans only issued a voluntary evacuation message. In hindsight, given the seriousness of the forecasted devastation, these state and local actions seem insufficient, and inadequacy of inter-governmental communication created a gap between the actual level of coordination and the level necessary to mitigate the damage.

Furthermore, Chinese Document 69 was promulgated two years in advance, provided specific guidelines that were followed, and pointed out specific future threats albeit within a wide timeframe, while the NRP was seen as too reactive, without any focus on mitigation of expected events (White House, 2006).

Katrina was the first large-scale test of the NPR and NIMS [National Incident Management Systems]. Although many individuals performed skillfully under the worst conditions, as President Bush stated, “the system, at every level of government was not well-coordinated, and was overwhelmed in the first few days.” Organizational problems related to planning, incident management and the management of inter-governmental relations were experienced during the response to Katrina (Wise, 2006).

**Lesson 3: Operational decision-making and organizing must be delegated to the lowest level of government possible.**

In 1976 in China, the national government had not delegated responsibility for earthquake prediction to local levels, but the Qinglong County officials declared a county-wide alert based on data collected and analyzed at the local level. Even within Qinglong County, top officials delegated authority to lower level officials as much as two weeks before the event, when the prediction was anything but certain.

In the case of Hurricane Katrina, national, state and local officials argued publicly about who was responsible for tasks and which organization was responsible for delays and/or malfeasance. These arguments continued from the first hint that Katrina would be a devastating storm until after the storm had passed. On Monday, August 29, when Hurricane Katrina—hovering between category 3 and 4 status made landfall at 6:00 a.m. in Louisiana and at 9:00 a.m. in Mississippi, the main source of information was the television crews situated in the path of the storm. While television crews were filming the tragic events, officials watched helplessly on television as supplies did not arrive and people were rescued only slowly and haphazardly from the rooftops of their homes.

Until 1995, when the United Nations began its research on Qinglong County, the successful mitigation of the loss of lives during the Tangshan Earthquake of July 1976 in Qinglong County had been unrecognized. It is now known that public administrators in Qinglong County stayed at their posts day and night in the days before the expected earthquake, and that due to their diligence, their citizens were safe and able to provide first assistance to the victims in areas that were not prepared for the earthquake. In contrast, during Hurricane Katrina and its immediate aftermath, it was reported that almost 400 officers of the 1,750-strong New Orleans police department left their posts, thereby leaving the local citizens vulnerable and without assistance (Washington Post, 2005).

**Lesson 4: Local-level administrators must adapt plans and mitigation strategies to meet changing conditions as the disaster develops.**

In Qinglong County, local officials aggressively identified possibilities for action. While they were carrying out evacuation and preparedness, they also sought to maintain some semblance of normalcy by encouraging schools to hold classes outdoors and merchants to move their goods outdoors in order to keep
commerce active during the waiting period. As the precursor signals increased, the officials accelerated monitoring and frequency of reporting. As signals strengthened, public informational meetings were pushed forward in time. The local officials did not wait for a disaster alert to be declared from the national level. The county acted on its own, contrary to national regulations restricting earthquake alerts to national-level institutions. In contrast, during Hurricane Katrina, the House Committee Report concludes that “we are left scratching our heads at the range of inefficiency and ineffectiveness that characterized government behavior right before and after this storm...too many leaders failed to lead” (House Select Committee, 2006).

In comparing the experiences of the States of Mississippi and Louisiana, it is important to note differences in vulnerability and response. The National Hurricane Center could not predict with 100% accuracy the exact location of landfall, but was certain at least two days prior to landfall that it was mostly to be either in Louisiana or Mississippi. The NRP guidelines call for inter-governmental consultation. In the case of Hurricane Katrina, this consultation was slow, incomplete and uneven. Both Louisiana and Mississippi were likely to be damaged by a hurricane and its storm surge, but only Louisiana had a major city below sea-level in the path of the oncoming hurricane. With the extreme vulnerability of New Orleans being behind high levees that were thirty years old, Louisiana might have taken the most aggressive approach to calling out its National Guard and requesting help from neighboring states, but it undertook these actions 24 hours after Mississippi. The New Orleans levee system failed with the arrival of storm surges ahead of landfall. Proper coordination would have involved accurate information about risk, appropriate action to mitigate loss of life, and calling on all available assets. Louisiana was one day behind Mississippi in all respects.

Lesson 5: All channels of communication—vertical and horizontal—must be open and operational, thereby increasing community understanding, sharing of perceptions of risk, and ease of coordinating actions.

Communication flowed in all directions in Qinglong County in July 1976. The officials used conference calls, public announcements and tours around the countryside to check on preparations in the towns and villages. Each jurisdiction held citizen meetings and established citizen-led enforcement of preparations and evacuation of buildings. Continuous and open communication reduced the relevance of rumors and fear-mongering. In 2005 during Hurricane Katrina, with cameras filming and standard communications crashing, any small rumor became the next headline. Much misinformation dominated the headlines, including exaggerated reports of widespread looting. According to analysis of statements and events, some national officials in responsible positions learned of events from media reports.

Lesson 6: Citizens must participate in all stages of preparation and execution of emergency management measures.

Citizen participation is a major distinguishing feature between the Qinglong case and the Katrina case. In Qinglong County citizens were not only involved in the preparation, mitigation and response stages, they were also involved in the prediction of the earthquake. By building citizen participation into the monitoring for earthquake precursor signals, citizens were cognizant of the possibility of an earthquake and mentally ready to act quickly to avoid disaster. Officials were able to mobilize all the citizens in just a few days. In Qinglong County residents patrolled neighborhoods to ensure that everyone was informed, safe, and staying away from buildings both day and night. Once the earthquake struck and the shock of the event passed, Qinglong County was able to send the first rescue teams and the first supplies into the epicenter area. In Katrina, residents were confused by conflicting information and many of the poorest and weakest, who were most vulnerable, waited for government services that arrived very late, and too late for some victims.

In the aftermath of Katrina, there has been increased pressure to develop citizen capacity to handle a disaster. This is not the first time that the need for improved citizen participation has been recognized. It is often noted that official rescuers are blocked from reaching those in need for up to 72 hours (O’Leary, 2004), thereby pointing out the need for resilient community-based capacity.

For example, firefighting in the Western United States led to the development of the “incident command system” (ICS), in which command and control is shared among first and second responders. As long ago as 1975, California developed the Citizens’ Emergency Response Team (CERT) concept to help communities to organize and train for self-reliance until professional first responders are able to arrive on the scene of the disaster.

After the September 11, 2001 terrorist attacks, the Federal Emergency Management Agency urged local communities to adopt the CERT concept by providing seed money for training. Furthermore, in 2002, the Suburban Emergency Management Program (SEMP) was established in the Chicago area to coordinate local institutions that were neither urban nor rural. Margaret O’Leary, the founder of the Suburban Emergency Management Project (SEMP), writes that “one of the most difficult challenges confronting American’s local communities today is dealing with the potential calamity created by ignorance, inexperience and lack of initiative regarding disaster” (O’Leary, 2004). In reviewing the Qinglong County case study, one can observe that many actions were taken to educate and practice emergency management and to break down
bureaucratic barriers to enable initiative to be taken despite an ongoing catastrophe.

Conclusion
In comparing the cases of Qinglong County in the Tangshan Earthquake in 1976 and Hurricane Katrina in 2005, I am struck by the lack of “weak links” in the Qinglong County case and the preponderance of miscommunications and lack of initiative in the Hurricane Katrina case. In Qinglong County, it is as if all participants thought of what to do and did it in a timely and effective manner. In contrast, the response to Hurricane Katrina seemed paralyzed. Was there misunderstanding of the National Response Plan and how to apply this plan in a specific situation? While NRP and NIMS identify the network of responders for a disaster situation, the responders in “the Katrina response system showed only modest levels of interaction across all four jurisdictional levels” (Comfort and Haase, 2006). Was there a lack of commitment to intensify efforts adequately in the implementation of response and recovery? Was there complete disregard for obvious mitigation strategies, such as plans and budgets to strengthen and/or improve the levee system in New Orleans? Why were local, state and national government officials overwhelmed by the Katrina events? The Hurricane Pam simulation a year earlier had pointed out vulnerabilities. Where was the will and determination to address large natural disasters?

Major disasters always present us with surprises. While we can plan and exercise for every possible eventuality, there is usually some evolving condition that deviates from expectations and challenges emergency managers to adjust their plans. We start with plans and then adapt them to evolving conditions, providing an opportunity for socio-technical design and organizational learning (Comfort, 2005). The lessons of Qinglong County contribute to learning, adaptive response and evolving socio-technical design.

These lessons are based on a framework of principles, whose application is informed, intelligent, determined, and iterative. Empowered participants embrace uncertainty and strengthen their collaboration, respecting national response frameworks but taking initiative to deviate as needed as conditions evolve. These elements were apparent in Qinglong County in 1976. Much work remains to sort out the failures in Hurricane Katrina and to design frameworks that are robust but flexible in encouraging the sharing of information and collaborating in action. Fortunately, we have a few good examples of disaster mitigation, even a largely forgotten successful prediction and mitigation in Qinglong County, China in 1976.

Notes

1 The Richter scale measures the amount of ground motion resulting from an earthquake. It is a geometric scale, with each magnitude representing an amount of motion squared at the next level. A magnitude of 7.8 is a completely destructive earthquake; stronger earthquakes occur on average once every five years.

2 Jinfang Li (1991) Social Responses to the Tangshan Earthquake (Preliminary paper #165, University of Delaware Disaster Research Center), indicates prediction periods and notes that the national government made a successful long-term prediction (Document 69 of 1974), but no medium, short or imminent predictions for the Tangshan earthquake.

3 See photographs on www.globalwatch.org/ungp/

4 A review of articles in the United States Geological Survey Website Library finds 68 articles on citizen participation in land use and water, but none on citizen participation in earthquake prediction.

5 Note that the government, the scientists, and the public administrators defined applied science in terms of citizen involvement and citizen competence. The voluntary lay monitors, while not credentialed scientists, participated eagerly as service to their community and their families. These lay monitors defined themselves as “community scientists” participating in their county’s contribution to the national prediction program.

6 Note that the House Democratic leadership refused to appoint members to the committee, contending that an independent commission should be appointed by the President.

7 The United States National Guard is composed of the state militias (largely part-time) that are trained by the Army and the Air Force but serve under the control of the states’ governors. The component state organizations can be mobilized by a governor for service in the state or any other state, at the request of another governor. Furthermore, in a matter of national interest, the President can temporarily nationalize the National Guard.

Endnote: Methodology
Research for the Tangshan Earthquake was carried out under the auspices of the United Nations from 1995-2000, with multiple visits made by me and Jean C. Chu, an earth scientist associated with the Chinese Academy of Sciences, to Qinglong County. An initial familiarization visit was followed by a more intensive set of interviews, including those with retired public administrators. The then-State Science and Technology Commission (now the Ministry of Science and Technology) facilitated my visits to Qinglong County. The then-State Earthquake Bureau (now the China Earthquake Agency—CEA) facilitated introductions to provincial, city and county level officials.

Qinglong County officials opened their archives, including a unique collection of essays written
by county residents recollecting their experiences on the 10th Anniversary of the 1976 earthquake. These essays were translated into English by several Chinese colleagues and made possible comparison between interview comments and the statements written 10 years earlier. After two years of research and analysis, the chronology of Qinglong County events was translated back into Chinese and circulated among the interviewees in order to be certain of accuracy as seen through their eyes.

Throughout this five-year period, the Chinese Academy of Sciences (CAS) organized expert panels to explain the fine points of the science of earthquakes and, for background understanding, the CEA and CAS arranged for additional interviews at earthquake epicenters throughout China.

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A Study of Healthcare Reform in China in Light of the USA and Canadian Systems

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Abstract: This article describes and examines the newly implemented basic medical insurance system for urban employees in China. The insurance system was built on two distinct concepts, individual providence and social insurance, and was characterized by national government mandates, local government administration, and employer/employee contributions. The study found that the Chinese basic medical insurance program for urban employees was implemented in all major urban areas. About 130 million people were covered under the scheme as of May 2005. The program benefits are limited with relatively low ceilings on reimbursable expenses and high cost sharing from the insured. The procedure for reimbursement is complicated and time consuming. China can learn from the U.S. and Canadian systems in both financing and providing healthcare. The U.S. system arguably supplies the best medical services in terms of quality and accessibility for those who are insured and those who can pay out of pocket. But the huge costs may not work well with China at present. The Canadian system, which is relatively effective, efficient, and equitable, although not as accessible, may fit China better. The study also suggests that the U.S. employer-based healthcare insurance system requires a major overhaul. It puts U.S. companies at a disadvantaged position in the increasingly competitive global marketplace.

According to Pipes, “The goal of a healthcare system should be to provide all citizens with access to quality and affordable healthcare” (2004). However, achieving accessibility, quality, and affordability are by no means easy tasks. This is especially true for developing countries that face competing priorities with limited resources. This article describes the Chinese healthcare system in general, and examines the newly established urban employee basic medical insurance program in particular. The Chinese healthcare system was analyzed against a backdrop of the U.S. and Canadian healthcare systems. The study intends to inform Chinese policymakers in healthcare reform by drawing lessons from comparisons of healthcare systems in the developed world. Conversely, Chinese healthcare reform may also provide insight and implications for U.S. healthcare reform, highlighting the interconnectedness of all nations in this rapidly shrinking and increasingly flattening world (Friedman, 2005).

China is undergoing fundamental economic and social reforms. Since the beginning of the 1980s, China has gradually transformed from a central planning to a primarily free market economy under a socialist government. China is the second largest recipient (after the United States) of direct foreign investment, attracting a total of over $60 billion in 2004 (Wang, 2005). Measured on a purchasing power parity (PPP) basis, China is the second largest economy in the world (CIA, 2005). China is also the third largest trading nation, with the U.S. as its largest trading partner (CSC, 2005). At a consistent 9% economic growth in GDP for a decade and a rapid rate in absorbing and internalizing new technologies, China is becoming a major economic powerhouse in the world.

Economic reform in China has, however, brought about conflicts and incoherence with its deeply rooted, but somewhat outmoded, socialist institutions. Economic reform has de facto dismantled the healthcare system. Health insurance in urban areas declined from 70% in the late 1970s to less than 39% in the later 1990s (Guan, 2004). China needs new and corresponding policies to protect its citizens’ health security and to sustain its socio-economic development in the 21st century.

Interestingly, China shares many issues and concerns in fundamental ways with the U.S. Both countries have the tradition of employer-sponsored healthcare insurance systems, although the origin and purposes of the arrangements are different. While in the U.S. employee medical insurance was initiated in response to wage and price controls during World War II (Folland, et al, 2004), the Chinese system was designed and constructed based on socialist ideology. Since the 1980s, China has been gradually and selectively adopting U.S. style policies in its economic and social reforms. The U.S. influence can be witnessed in many aspects of economic, social and cultural life in contemporary China.

An alternative to the U.S. healthcare policy can be found in Canada, its northern neighbor. The United States and Canada have very similar demographics and socio-economic systems (Lindorff, 2005). The two countries are to a large extent integrated and interdependent in their economies. However, the healthcare systems in the two countries are substantively different, representing two different philosophies, conceptualizations, and implementations of healthcare in the industrialized world (Evans and Morris, 2001). The U.S. adopted a market-driven, privately-financed
China’s Urban Healthcare System

Brief History of China’s Healthcare System

China’s urban healthcare system was introduced in the early 1950s (Yip & Hsiao, 2001). It was built upon three pillars: enterprise-based financing, a public-delivery system, and price controls for medical services and drugs. It was conceived as part of the fringe benefits for those who worked for the state. The healthcare system fell into two categories: the labor insurance system (LIS) and the government insurance system (GIS). The LIS served employees mostly in state-owned enterprises (SOE). It was financed by welfare funds that each SOE put aside before submitting taxes and profits to the government. There was no risk sharing among SOEs. It was, in effect, a self-insurance program (Ibid.). The GIS provided for government employees and non-revenue-generating public organizations. It was funded by government budgetary appropriations. The two systems provided medical care insurance to about 70% of urban populations by the end of 1970s (Guan, 2004).

Relative to the level of economic development, the benefits of two insurance systems are generous (Yip & Hsiao, 2001). They covered all medically necessary physician and hospital services, dental care, and pharmaceuticals. However, the supplies of services were variable and rationed by the funds available through each enterprise or government. Profitable SOEs and tax-rich local governments offered better medical care for their employees. New technologies and pharmaceuticals were limited in the then relatively closed society.

China’s healthcare was provided through publicly-owned institutions. Large SOEs had, and many still have, their own hospitals and clinics. Public hospital systems provided services for employees of smaller SOEs and government agencies. Government financed capital investments and subsidized about 50-60% of hospital recurrent costs, mostly to pay for medical supplies and the salaries of health personnel (Yip and Hsiao, 2001). The remaining revenue came from fee-for-service activities paid by participating workplaces or paid out-of-pocket by uninsured urban residents. Budgetary appropriations for hospitals were soft. When running deficits, hospitals could ask for more financial help from the government. The central government exercised tight controls on the price of medical services and pharmaceuticals. The prices were deliberately set below costs. The pricing system made medical care affordable and accessible for all, including the poor and uninsured. As institutions in a socialist country, hospitals and clinics in China provided a welfare function as well as an economic function. Under this system, healthcare providers’ decisions on the input or output mix were not based on financial incentives or guided by price system.

The GIS and LIS played an important role in providing China’s urban working population with health protection over the past four decades, thereby contributing to economic development and social stability. The structural change from central planning to a free market economy, however, has fundamentally altered and effectively dismantled the two medical insurance and provision systems (Blumenthal & Hsiao, 2005). Economic reforms opened domestic markets to private and foreign companies. These new entrant companies tended to have advantages over existing SOEs due to newer products, better management, more advanced technologies, and younger workforces. They did not have to carry the burden of pensions and healthcare costs for retirees. They were not required to provide or contribute to health insurance for their employees. Many SOEs failed in the new order of the market economy and subsequently underwent ownership restructuring, often in the form of privatization. Many former employees of these SOEs were laid off, and, consequently, lost their medical insurance. Many other SOEs, although still operating, could not afford to reimburse the medical costs of employees, and, in effect, stopped providing health insurance. Except for some larger and profitable SOEs, LIS crumbled under the new economic order of the day.

The GIS is also under financial pressure. Governments at all levels have experienced revenue shortfalls as a result of the dwindling numbers and lackluster financial performance of SOEs. The financial
Decentralization of the 1990s reduced the capacity of the central government to transfer funds between rich and poor provinces, exacerbating regional differences in the country. Limited government resources are often used in high priority infrastructure construction projects to stimulate and maintain economic growth, leaving very few resources for healthcare and other public programs. Without major policy changes, the future of the GIS system is also in question.

Chinese governments started to experiment with new healthcare systems in the 1980s (Yip & Hsiao, 2001). The key objectives of these measures included decentralizing management responsibilities and regional development, introducing a range of financial incentives to medical staff to improve productivity, encouraging private practitioners and private firms, and reforming the existing health insurance system. The impact of these 1980s reforms is significant and far-reaching. Government funding for healthcare was reduced to about 25-30% of hospital expenditures (Hsiao, 1995). In return, the central government allowed hospitals and clinics to charge patients higher fees for high technology diagnostics and new drugs. A bonus system was introduced in hospitals that linked revenue generation to personal income of doctors and other healthcare workers. In affluent areas, there was growth in the private sector for profit-based healthcare firms (Bloom and Gu 1997). This profit-oriented incentive system, when combined with the fee-for-service provider payment method, encouraged and enabled medical professionals to prescribe high-cost diagnostic tests and expensive medicines, which might not have been medically necessary. The incentive system contributed to an escalation of medical service spending on aggregate for the supply side. The total healthcare spending grew 11% annually over the 1986 to 1993 period, much higher than per capita GDP growth, rendering the systems unsustainable (Yip & Hsiao, 2001). These reforms also had an impact on the cost distribution of healthcare. Private spending increased substantially while public spending declined. Out-of-pocket expenses accounted for 58% of healthcare spending in China in 2002, as compared with 20% in 1978 (Blumenthal & Hsiao, 2005). For individuals, the higher healthcare costs, exacerbated by the shrinking insurance coverage, further reduced affordability and therefore accessibility to healthcare for the growing population of uninsured urban residents.

**Design of the Basic Medical Insurance System for Urban Employees**

Declining healthcare access and escalating healthcare costs set the stage for broader healthcare reforms in the 1990s. These included healthcare provider/hospital reform, pharmaceutical reform, and the extension of medical insurance to large segments of the population (China Ministry of Health, 2005). Improving access has become the priority of the government, which has recognized its potential impact on political stability and economic growth (Ibid.). After extensive experimentation and pilot studies in many cities across the nation in the mid 1990s, the Chinese government issued the “Decision on Establishing a Basic Medical Insurance System for Urban Employees” (BMISUE) in 1998 (State Council of the Republic of China, 1998). The system intended to extend medical insurance and therefore health protection to all urban employees and retirees (Ibid.).

The BMISUE is a nationwide, centrally mandated, however, locally administrated (city or county) program. It intends to extend healthcare access to most urban employees and to control increasing healthcare costs, all predicated on the financial capacity of the local government. The basic medical insurance program is financed mainly through employer and employee contributions. To extend and standardize healthcare insurance coverage, the central government recommends that employers contribute six percent of the total annual salaries of the company to the health insurance funds as premiums. Employees are also required to pay two percent of their salaries into the system. Retirees are exempted from paying the premiums (Ibid.).

The BMISUE includes two major components: an individual health savings account (MSA) and a medical social pooling account (SPA). Similar to the U.S. health saving accounts, the MSA is designed to pay for regular, mostly outpatient healthcare expenses. The SPA is mainly for inpatient services and a list of diseases requiring high cost treatment, although in some jurisdictions it is also used to cover outpatient services. Employees’ contributions plus a portion (30% in Tianjin) of the premiums paid by employers is allocated to the personal medical savings account (MSA). The rest of the employer contribution is pooled into the social pooling account (SPA). Local governments have the authority to increase the workplace share of the medical insurance contribution. For example, employers contribute 10% of the total salary of the workplace to the basic medical insurance fund in Shanghai, the largest city in China (Dong, 2001).

The BMISUE attempts to control medical spending from the demand side by requiring cost sharing: deductibles, co-insurance and spending caps, from the insured. This stems from the theoretical framework of economics in insurance, such as moral hazard, predominating in healthcare discussions in the U.S. (Feldstein, 1973; Pauly, 1968). The deductible is set at 10% of the average annual salary of a locality (State Council of the Republic of China, 1998). The rate of co-insurance for outpatient services depends upon the age of the insured and the locality. In Shanghai, the co-payment ranges from 0% to 70% (Shanghai Municipal Government, 2005), depending on the ages and seniority of the employees. The insurance system caps the total amount to four times the average yearly salary of a locality (State Council of the Republic of China, 1998).
Many city governments extend the protection and mandate supplementary catastrophic medical insurance over and above the cap of the basic insurance. For example, Beijing, the capital city, stipulates that employers contribute an extra 1% of annual salary and employees pay 3 RMB (Chinese currency) into a citywide catastrophic fund. The fund provides additional protections for serious diseases, such as cancer, up to 10,000 RMB per year (Beijing Municipal Government, 2005).

The BMISUE attempts to control costs from the supply side by introducing regulations and competition into the healthcare marketplace. This is similar to the managed competition concepts and some of the managed care practice in the U.S. (Dranove, 2000; Enthoven, 1988). The city medical insurance bureau contracts with selected hospitals and other healthcare facilities. Only those hospitals and clinics that are designated and that maintain a good standing with the insurance program are qualified to provide reimbursable medical services as far as the basic insurance system is concerned. Formularies of medical tests, treatments, and pharmaceuticals are published that outline reimbursable diagnostic and treatment procedures under the basic medical insurance plan (Mather, et al., 1999).

The BMISUE is buttressed by workplace-sponsored second-tier supplementary programs (China Ministry of Health, 2005). Profitable businesses are encouraged to provide employees with additional medical insurance. Similar to the U.S. practice and as an incentive, the costs of the supplementary insurance are tax deductible up to four percent of the employees’ annual salaries. Government offices and agencies are required to provide supplementary insurance to all civil servants, supported by general taxes. The governments also encourage individuals to purchase commercial medical insurance as the third tier of healthcare protection. This provides freedom of choice for those who are willing and able to purchase premium healthcare service on their own. The multi-tiered system intended to broaden the coverage for the urban population while respecting consumer sovereignty. This reflects the Chinese government’s philosophical and policy change (i.e., moving away from government involvement in supplying and providing social welfare, which is in line with the fundamental tenets of U.S. policies) (China Ministry of Health, 2005).

Preliminary Assessment of the Basic Medical Insurance System for Urban Employees
The basic medical insurance system for urban employees has been implemented in urban jurisdictions across China since 1998. As of May 2005, about 130 million people have been covered by the insurance plan (People's Daily, 2005). Structurally, the BMISUE transformed the traditional enterprise-specific self-insured LIS system to a community-based social insurance system, which gives legacy firms with extended retirement liabilities a level playing field to compete domestically and on the world stage (Wang, 2005). The workplace is no longer responsible for the premium of retirees who are covered by the city-level pooled insurance fund. To the extent that it was mandated and required to include all companies, the new system improved labor mobility among SOEs and private firms. Moreover, the expanded risk pool for the whole community and employer-sponsored participation prevents potential adverse selection (Folland, et al., 2004). The single payer system by the city insurance bureau reduces transaction costs that account for significant portion of the total healthcare cost as in the United States (Woolhandler, et al, 2003).

Reviews of government documents and news reports, and interviews with government officials and healthcare professionals revealed that to a varying degree, competition was achieved by selectively contracting with hospitals and other healthcare providers. Chinese-managed competition has a single payer and multiple providers in each community under BMISUE. Although most existing medical facilities were initially certified almost by default, a noticeable proportion was later revoked or put on probation. For instance, contracts of nine hospitals in Tianjin were cancelled in one month’s time due to repeated violation of insurance regulations (Zhang, 2006).

However, Chinese reform seems to have failed to achieve the two major goals of the program (i.e., to reduce healthcare cost and to extend healthcare access). For the nation as a whole, healthcare costs have continued to outpace the growth of income. According to an official Ministry of Health survey, while average incomes in urban areas increased by 8.9% in the five years ended in 2003, annual medical expenditures rose by 13.5% (China Ministry of Health, 2005).

Reform did not solve the related problem of accessibility either. The program did not extend medical insurance to most urban residents. The most vulnerable urban residents, the poor and unemployed, migrate workers, and children, are excluded from the system. The more than 60% private financing for medical care is unconscionable for a socialist society (Hu, 2003). Combined with escalating healthcare costs and the shift to user-pay methods, accessibility is becoming a “time bomb” in China. Based on China's official 2003 national health survey, about 64% of people in cities did not seek needed healthcare because of the costs (Aiyar, 2005).

Many reasons contributed to the unsuccessful reform of the urban healthcare system. The BMISUE did not address the key causes of escalating costs. It failed to address supply-induced demand by not continuing the fee-for-service payment method (Folland, et al. 2004). It did not address the issues of reduced public financing of healthcare and the perverse incentive systems to link physician income with revenue generation. Cash-strapped hospitals continue to operate as quasi for-profit businesses, over-prescribing expensive new drugs and high tech procedures, often...
with questionable efficacy. As Dr. Li Ling at the China Center for Economic Research revealed, on average 50% of babies born in Chinese hospitals are delivered by Caesarean section now, compared with the pre-economic reform rate of 10%. Li considered this strong evidence of suppliers inducing the demand, and information dissymmetry. “If a doctor says, ‘I think it is better to have it,’ nobody has the courage to say no.” (Lague, 2005). Physician agency functions and physician reputations are under increasing scrutiny and criticism (Gao, 2005).

The program, by design, does not provide universal coverage for all urban residents. Those who are unemployed do not have a workplace. Unless they pay the full premium without support from an employer, which is unaffordable for many, they are left out of the system. Family members of employees, including children, are not covered by the system, which is regressing from the traditional GIS and LIS systems. The program does not take into account temporary migrants who moved from rural areas to large urban centers to seek employment. The number of migrant workers is large and increasing at an alarming pace, approaching 80 million in 2004 (Zheng and Lian, 2004).

The implementation and management of the program also needs attention. Interviews with government officials and medical personnel suggest that many non-insured patients use their friends’ or family members’ plans to obtain medical services. Hospitals do not check the identity of the patients. The author’s own observation supported the information from informants. Some hospitals leave the official seal for basic insurance in the hallway, so that everybody can stamp it on their receipts. The long-term financial stability of the program could be jeopardized if an effective control mechanism is not devised and implemented to combat fraudulent claims.

Some of these issues were substantiated in a population survey conducted by Horizon Research International, the most prominent social policy and consumer research firm in China, under the supervision of Harvard University. The study was completed in December 2004 and the data published in the report, “Citizen Assessment of Chinese Government,” in March 2005. Among other things, the study included an assessment of medical insurance coverage in the country. The study followed a widely accepted design, including a stratified random sample of 3,978 residents between the ages of 16 and 60 in the country, 1,876 urban and 2,102 rural and small towns. The study involved seven large cities in China, including Beijing, Shanghai, and Guangzhou, and many small cities, townships, and rural areas. The survey found that about 60% of urban residents did not have any medical insurance coverage (Horizon Research, 2005). More than a quarter of families surveyed had foregone medical services due to cost concerns.

The Horizon study was a comprehensive population survey of citizen assessment of government works. However, the survey was not specially designed to assess the newly designed and implemented urban employee basic medical insurance program. This present study supplements and extends the population survey with a patient survey of the insurance program. The study addresses two key issues: implementation of and patient satisfaction with the urban employee basic medical insurance program. Patients are considered the most valid source for assessing the perception of the system, compared to the general population, which may or not may not have used the system in its short lifespan.

The patient survey was conducted in Tianjin, one of the largest cities in China with a population of 10 million people. Senior medical personnel interviewed patients in the Center for Women, Children and Family Planning. A convenience sample of 130 patients was interviewed between June 10 and July 7, 2005. All patients participated in the survey, although not all patients answered each and every interview question. The use of a convenience sample is due to the financial and political constraints that the author had at the time of the study. The BMISUE is a national program, implemented in urban jurisdictions across the country. A random or stratified sample would require political support from each jurisdiction. Given the highly controversial nature of the program, this was not obtainable for the author. Consequently, the present study is preliminary and exploratory. The results of the survey should not be generalized to the nation as a whole, as each municipality developed its own specific program under the general guideline of the central government. The Chinese central government may need to be involved in a nationwide study of this deep and far-reaching social reform.

The interview questions addressed gender, age, the purpose of the visit, and whether or not the patient had insurance. Patients were also asked about their satisfaction with the basic insurance program. Open-ended questions at the end of the survey solicit patient opinions on the strength and weaknesses of the program. An outline of the interview questions is presented in Appendix A. The patients were informed of the purpose of the interview and consent was obtained. The interview is brief due partly to the time constraints in a medical office and partly to the limited financial resources available for this study.

The interview data were summarized and the key results are presented in Table 1. The qualitative data on comments, suggestions, and notes were examined through content analysis for ideas and patterns. Table 1 shows that about 72% of the patients had the basic medical insurance for urban employees. The rest either had no insurance at all (24%) or had other types of insurance, including commercial coverage offered by foreign companies. The pre-reform GIS system is still operational. It provides insurance for some government agencies and institutions (5%).

Table 1 indicates that the majority of the respondents (90%) were either dissatisfied with or
indifferent toward the program. This was mainly due to the program’s limited coverage, high cost sharing from patients, and complex and slow reimbursement procedures. The content analysis revealed that about one half of the patients were dissatisfied with the program because of its meager coverage, high cost sharing (deductible and co-payment), and complicated procedures for reimbursement. The 10% average annual salary deductible is high for many salaried employees, considering that they did not have to pay in the pre-reform period. Consistent with Horizon’s population survey, some residents may have restrained their tendency to seek preventive and well care to save money in their individual medical account.

For primary and tertiary care, the program did not seem to help control patient healthcare utilization behavior. About 10% of the respondents specifically mentioned that medical service is not a luxury good that they enjoy. They seek medical services when needed, with or without cost containment in the insurance scheme. A reduction in preventative care and the potential increase in curative medicine could shift the inexpensive well care to emergency room visits, which is counter-productive from both health and economic standpoints.

The procedure for reimbursement was deemed very complicated and time consuming. The content analysis indicates that about three quarters of dissatisfied respondents disliked the program for its procedural complexity and time delays for reimbursement. Moreover, a substantial proportion of the patients (close to 10%) who responded to this question were concerned with privacy. This seems to be justified, considering that patients have to submit all medical records to their employers for initial verification.

The implementation and management of the program also needed attention. Table 1 reveals that about 92% of the patients did not carry their basic insurance ID when visiting the clinic. This is a loophole in the current system that allows the uninsured to make fraudulent claims. Some of them (12%) openly admitted that they were using another’s insurance so that they could get reimbursement. Four “patients” came to the clinic for prescription drugs for their friends or relatives, who probably did not have medical insurance.

The financial position of the funds has been a major concern in many individual jurisdictions. The amount of the premium and the rate of cost sharing are based on historical utilization rates of medical services for the population they serve and the actuarial forecast of future claims and costs. It fails to anticipate the level of fraudulent claims. This situation is further exacerbated by doctors’ over-prescribing high cost diagnostic tests and expensive drugs in response to the incentives of the provider payment scheme. The medical insurance funds risk deficit financing if the management of the program is not overhauled and revamped in time. This is especially true as the program is still in its early stage. Few reserve funds have been saved to weather unpredicted events.

Table 1. Patient Behavior in Response to and Satisfaction with the Program

<table>
<thead>
<tr>
<th>Interview Questions and Response Categories</th>
<th>Frequency</th>
<th>Valid %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfied with the basic medical insurance system</td>
<td>Yes 10 9.2</td>
<td>9.2</td>
</tr>
<tr>
<td>Neutral 69 63.3</td>
<td>63.3</td>
<td></td>
</tr>
<tr>
<td>Dissatisfied 30 27.5</td>
<td>27.5</td>
<td></td>
</tr>
<tr>
<td>Total 109 100.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Brought insurance ID card when visiting clinic</td>
<td>Yes 8 8.1</td>
<td>8.1</td>
</tr>
<tr>
<td>No 91 91.9</td>
<td>91.9</td>
<td></td>
</tr>
<tr>
<td>Total 99 100.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Purpose of the visit being to obtain prescription for others</td>
<td>Yes 4 4.4</td>
<td>4.4</td>
</tr>
<tr>
<td>No 87 95.6</td>
<td>95.6</td>
<td></td>
</tr>
<tr>
<td>Total 91 100.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Use of other's basic insurance for reimbursement</td>
<td>Yes 11 12.0</td>
<td>12.0</td>
</tr>
<tr>
<td>No 81 88.0</td>
<td>88.0</td>
<td></td>
</tr>
<tr>
<td>Total 92 100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

The public share of the financing of the program is both inadequate and inequitable. The coverage of the program is too limited for many people, especially when compared with the previous labor insurance and government insurance systems. The 5% GDP invested in healthcare is low even for many developing countries. The more than 60% of private financing for medical care is unconscionable for a socialist society (Hu, 2003). The WHO Report 2000 ranked China 188 of 191 countries in terms of fairness in financial contributions to healthcare (WHO, 2000). China has a long way to go to balance its economic and social/human development, which is so crucial to the country’s long-term progress and prosperity. It seems advisable that China review and develop its health policy and implementation strategies in light of the experiences of the U.S. and Canada, two developed countries which are very similar on many accounts, except for their healthcare systems.

U.S. Healthcare System

The U.S. healthcare system is primarily privately financed and privately provided. Employment-based insurance is the predominant form that insures most Americans. Private financing, including insurance premiums, cost-sharing, and out-of-pocket payment, makes up 54% of total healthcare expenditure in the U.S. (Goldman & Alpert, 2005). This separates the U.S. from the rest of the developed world, wherein public financing is the major source for healthcare coverage.

The coverage of the American employer-based private healthcare systems varies substantially among companies. Many plans have caps on total expenses or on some categories of benefits. Most plans
try to limit expenses with cost-sharing requirements or by mandating participation in managed care arrangements. Health Maintenance Organizations (HMOs), Preferred Provider Organizations (PPOs) and other arrangements under the rubric of managed competition (Enthoven, 1988) have been growing in popularity (Dranove, 2000). Although cheaper in many circumstances, these plans, it is argued, restrict the patient’s choice among healthcare providers (Ibid.).

By law, American employers are not required to provide health insurance to their employees. The health insurance system does not involve risk sharing or resource pooling among companies (White, 1997). The marketplace orientation of the system seems to lead to inequity at both the company and the individual levels. Low profit companies may find healthcare costs prohibitive. Small employers face higher rates because insurers are spreading administrative costs over fewer customers. Legacy companies carry an extra burden for their retirees. Consequently, smaller and lower-wage employers are much less likely to contribute. Individuals who do not receive insurance through their place of employment face extra difficulties. Insurers will charge them higher rates because of administrative costs. Individuals can also be rejected for insurance if they happen to have a chronic medical condition (Ibid.).

The overall trend of the employer-based private medical insurance in the U.S. is troublesome. The participation rates have been dropping in recent years mainly due to a decline in employers offering coverage. The recent census indicates the percentage of people covered by employment-based health insurance dropped from 61.3% in 2002 to 60.4% in 2003 (DeNavas-Walt, et al, 2005). Coverage for part-time workers has also decreased sharply. The norm that employers should take care of their employees by providing health security is fading away from corporate culture. More and more employers believe that they are not obliged to nor should they contribute to employee insurance costs. This is especially true when considering employees' spouses and children.

The U.S. healthcare system also includes two major publicly-financed government programs: Medicare and Medicaid, in addition to a number of smaller and often directly-provided healthcare services in the Department of Defense, Veterans Affairs, and Indian Health Services. Overall, public medical insurance covers about 24% of the population (Flood, 2001). The Medicare program provides for the elderly and the disabled. The program includes two parts: part A is Hospital Insurance (HI) and Part B refers to Supplementary Medical Insurance (SMI). Part A is automatically available to all persons age 65 or over who have met the standards for participation in the Social Security System for at least 10 years. It also includes persons under age 65 who are legally disabled. Part B is a voluntary medical insurance program with high government subsidies. It charges a premium of between 25 and 30% of actual program costs, and premium costs are subsidized for many of the poor. Most Medicare-eligible Americans who do not have coverage from other sources buy Part B coverage (Ibid.).

Medicare is financed through various sources, depending on the specific program. Medicare Part A for hospital services is financed primarily from the social security payroll tax. The contributions are mandatory and are set at 1.45% for employers and 1.45% for employees. Medicare Part B, the Supplemental Medical Insurance program, is financed by a combination of premiums and general tax revenue from both federal and state governments, supplemented by a variety of user charges (Flood, 2001).

The Medicaid program is for the poor and it is administered by each state. A mixture of federal and state budget appropriations funds the program. The portion of the Medicaid program that is paid for by the federal government is derived from the general revenue. The federal share is determined annually for each state according to a formula that compares the state’s average per capita income level with the national average. By law, the federal share cannot be lower than 50% or greater than 83%. Wealthier states have a smaller share of their costs reimbursed. The federal government also shares in the states’ expenditures for administration of the Medicaid program, covering 50% of most administrative costs (Ryan, 2004).

Healthcare services in the U.S. are provided privately by practicing physicians and hospitals. Physicians are reimbursed through various arrangements. For Medicare, these include paying physicians on a fee-for-service basis or through a capitation system as used by HMOs. Physicians participating in Medicaid must accept the Medicaid reimbursement level as payment in full; that is, no extra-billing is allowed. Hospitals in the US have different ownership structures. About 15% of hospitals in the U.S. are private for-profit institutions, 60% are private non-profits, and the remaining 25% are owned by states or local governments (Flood, 2001). Medicare reimburses hospital services according to a system of Diagnosis Related Groups (DRGs). This system is based on a list of some 500 services, each of which is assigned an average national cost. When admitted, patients are classified into one of the 500 categories. At the end of the treatment episode, the hospital receives the amount shown on the list. It does not depend on the length of stay, or the volume of services actually provided. The DRG system is intended to encourage efficiency by rewarding those hospitals that can treat patients at a lower-than-average cost. Some states also use this method to fund hospitals delivering Medicaid services.

Arguably, the U.S. healthcare system provides the most advanced technology and the best-trained physicians in the world. The market-based system encourages innovation and supply of services. There is almost no waiting time for specialists, surgeries or
diagnostic tests as long as the patient has the means to pay for them.

U.S. governments have shown increasing concern for the future of their public healthcare programs. The unfunded liability of the U.S. federal government for its Medicare program is estimated to be approximately $30 trillion in discounted present value terms over a 75-year time span, and $60 trillion dollars over an infinite horizon if the current policies remain (Walker, 2005; Saving, 2005). With the aging population, this poses a serious question about the sustainability of the system. Immediate action is required to reform these entitlement programs in order to provide medical insurance and health security for future generations.

Canadian Healthcare System
In contrast to the U.S. system, the Canadian healthcare system is primarily a publicly financed, privately provided, single payer system. It is founded on five principles: universality, portability, comprehensiveness, accessibility, and public administration. The fundamental ideas of the system are enshrined in the 1984 Canada Health Act (Department of Justice, Canada, 1985). Although nationally mandated, the administration of the healthcare system is in the jurisdiction of each provincial government. The provincial governments are responsible for planning, financing, and evaluating the provision of hospital care. (Kraker, 2002). The federal government influences health policies by establishing general policies and by contributing to the financing of the program. The contributions from the Canadian federal government, however, decreased significantly in the late 1990s. The federal payments make up only slightly more than 20% of provincial medical care costs (Kraker, 2002). The share of the federal government has since increased incrementally. This was due to concerns about deteriorating accessibility, a principle of the Canada Health Act, especially when elective surgery and high tech diagnostic tests are concerned.

Similar to the U.S., healthcare services in Canada are provided by nonprofit hospitals and practicing physicians. Hospitals are governed by a board of trustees, and receive an annual global operating budget from the provincial government (Klatt, 2000). Physicians are mostly in private practice and remunerated on a fee-for-service basis with a cap imposed by the provincial health plan. Private physicians cannot over-bill patients above the fee schedules and as far as the patients is concerned, the Canadian healthcare is free of charge, at least at the point of services. The Canadian system does not have deductibles or co-payments. Healthcare is free from the patient’s viewpoint. Patients are free to choose doctors and other service providers. Cost sharing in terms of a deductible or co-payment is not required at the point of service.

The coverage of the Canadian medical service plan is limited, allowing only those services deemed medically necessary. These services include hospital and physician services, x-ray, and laboratory work. In general, coverage does not include prescription drugs nor does it cover dental services, although it varies to some extent among provinces. The medical service plan is more generous to people 65 years or older and people with chronic conditions and high medical costs. Many employers provide extended healthcare insurance from commercial insurance companies to their employees in addition to the government basic medical insurance.

The Canadian Health Act does not ban private insurance as long as it is supplementary and does not compete with the publicly funded core service. An estimated 80% of the population has private coverage for items such as private rooms, pharmaceuticals, and dental care, financed primarily through employers. The Canadian tax system, as in the United States, favors employer-provided insurance by allowing employers to count it as a business expense, rather than treating premiums as income to the employees.

As in the U.S. and other industrialized countries, Canada’s healthcare system is under financial pressures. Reform of the healthcare system has including rationing of supplies. The Canadian Coordinating Office for Health Technology Assessment develops policies to control expensive procedures and medicines. One way for the Canadian government to contain healthcare expenses is by limiting services, which is enabled by the single payer national insurance plan.

This cost cutting and arguably rationing practice has exerted significant impact on the access of Canadians to healthcare services, especially advanced technologies and new drugs. In a recent study, participating physicians voiced their concerns about the accessibility of the present system. They felt that waiting times in many provinces had exceeded “clinically reasonable” delays (Gratzer, 2002). In 2003, patients had to wait over one month for CT scans, almost three months for an MRI, and more than three weeks for an ultrasound (Esmail, et al., 2003). Additional funding from the government was advocated.

In recent years, healthcare reform has become a major priority in political and government scenes. High profile royal commissions have been assembled to study the issue and to suggest solutions (Romanow, 2002; Standing Senate Committee, 2002). Meetings of first ministers in each province have been convened to discuss issues and negotiate agreements (Health Canada, 2004). Funding increases have been passed in the Canadian parliament to address, among other things, the issue of waiting times (Department of Finance Canada, 2003). The impact of these reforms on access to care and on health status is yet to be thoroughly analyzed.

Canadian governments at different levels are also taking a more open approach and attitude toward
the roles of private firms in healthcare. The Senate’s Kirby Committee further opened the discussion of private financing and for-profit delivery (Standing Senate Committee, 2002). The Alberta Premier has recently announced that his province will implement a two-tiered system, which will allow the rich to buy services over and above the national healthcare plan (The Canadian Press, 2005). A multi-tier system seems to be emerging, although most Canadians reject the concept that ability to pay determines who and at what time can have access to healthcare services (Lewis and Fooks, 2002).

**Comparison of the U.S. and Canadian Systems**

A brief comparison of the U.S. and Canadian healthcare systems is summarized in Table 2. Apart from the differences and similarities in financing, administration, and provision of healthcare in the two systems, as discussed in earlier sections, Table 2 indicates that the U.S. and the Canadian systems are different in the amount of resources used in providing healthcare services. The U.S. consumed more than 15% of its GDP in healthcare, $1.8 trillion in 1994 (Leavitt, 2005). The Canadians spent about 10% of their GDP on healthcare, which amounts to 57% of the U.S. per capita expenditure (Reinhart, et al., 2004).

The market orientation of the U.S. healthcare system may have contributed to the plentiful healthcare supplies and a thriving healthcare pharmaceutical and technology industry in the U.S. In contrast, the lack of supply as evident in the long waiting times has been attributed to the Canadian healthcare system, especially the single payer system and the reduced funding by all levels of government in the late 1990s when faced with severe fiscal constraints (Esmail, et al, 2004; Pipes, 2004). Although healthcare expenditures have increased in recent years in Canada, the impact on accessibility has not yet been fully demonstrated.

Compared to the U.S., the Canadian system lacks choices and flexibility. In the United States, an individual who wishes to spend more on healthcare can pay and obtain better and faster services. In Canada, on the contrary, increases in medical expenditures can only be achieved through social means (policy changes and budgetary decisions). It often takes time to go through the political process, even if the vast majority has decided to do so.

Although devoting more resources to healthcare and providing choice for its consumers, the U.S. system has not been associated with superior health outcomes. On the contrary, Americans are less healthy, as measured by widely used, although somewhat oversimplified indicators. As of 2002, life expectancy in the U.S. was 77.1 years, which is lower than the life expectancy of 79.6 in Canada. Infant mortality rate in the U.S. was 6.8 deaths per thousand live births, which is higher than the 5.2 deaths in Canada (Hoyert, et al., 2005; Kochanek, et al., 2004; OECD, 2005). Moreover, the divergence is not closing (OECD, 2005). Although many other socio-economic factors affect these basic healthcare measures, it seems fair to say that the high spending in the U.S. system has not been efficiently translated into better health outcomes (DiPiero, 2004).

The lack of efficiency in the U.S. system could be partially attributed to its complex, multi-payer insurance system. It was estimated that the U.S. spent 31% of total health expenditures on administration in 1999. The Canadian system, on the contrary, spent 16.7% on administration (Woolhandler et al., 2003). Functions essential to private insurance but absent in public programs, such as underwriting and marketing, account for about two thirds of private insurers’ overhead. Multi-payer systems, complex accounting systems within provider organizations, and dealings with insurance companies prove to be time and resource consuming. In contrast, the Canadian system has eliminated most billing and has minimized internal cost accounting since charges do not need to be attributed to individual patients and insurers.

The U.S. system is also less equitable than the Canadian system. With its high costs, the U.S. still leaves 15% of its citizens uncovered compared to the universal coverage achieved by the Canadian system. The lack of insurance for many Americans could impact their decision to seek medical services when needed. The uninsured may postpone medical service until their health problems deteriorate to the extent that they need emergency hospital admission. The medically uninsured population in the U.S. is increasing in recent years (Citizens’ Health Care Working Group, 2005; DeNavas-Walt, et al., 2005). There is no reason to expect the gap in health status between Canada and the U.S. to be closed in the short run.

The inequality of health and healthcare manifests itself sharply along racial lines (Smedley, 2002). In 2002, life expectancy for whites was 77.7 years, substantially higher than the 72.3 years for blacks (CDC, 2005). The infant mortality rate was 14.4 infant deaths per 1,000 live births for blacks, almost twice as high as that for whites (5.8 per 1,000). Minorities in the U.S. have less access to healthcare; this is determined partly by health insurance. Data in the first half of 2004 showed that Hispanics were less likely than non-Hispanic whites or non-Hispanic blacks to have a usual place to go for medical care (CDC, 2005). Although whites in the U.S. are very comparable to Canadians in general, black and Hispanic populations are substantially under served by the U.S. healthcare system and less healthy when compared to Canadians in general (Sanmartin, et al, 2004). Despite decades of effort, disparities persist in the U.S. (CDC, 2005).
Table 2. Comparison of U.S. and Canadian Healthcare Systems

<table>
<thead>
<tr>
<th>Category</th>
<th>U.S.</th>
<th>Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insurance</td>
<td>• Commercial health insurances through employment</td>
<td>• National Health Insurance Plan</td>
</tr>
<tr>
<td></td>
<td>• Government programs for the aged &amp; poor (Medicare/Medicaid)</td>
<td></td>
</tr>
<tr>
<td>Financing</td>
<td>• 45% public</td>
<td>• 70% public</td>
</tr>
<tr>
<td></td>
<td>• 55% private</td>
<td>• 30% private</td>
</tr>
<tr>
<td>Administration</td>
<td>• Insurance companies</td>
<td>• Provincial governments</td>
</tr>
<tr>
<td></td>
<td>• HMOs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Government agencies</td>
<td></td>
</tr>
<tr>
<td>Benefit</td>
<td>• Hospitals, physician, pharmaceuticals, and a variety of services</td>
<td>• Medically essential services including hospitals and physicians services</td>
</tr>
<tr>
<td></td>
<td>• Coverage depending on the workplace and employers</td>
<td>• No pharmaceuticals nor dental services</td>
</tr>
<tr>
<td>Cost sharing</td>
<td>• Various rates of deductibles</td>
<td>• No cost sharing, free at point of services</td>
</tr>
<tr>
<td></td>
<td>• Various rates of co-pays</td>
<td></td>
</tr>
<tr>
<td>Providers</td>
<td>• Physicians (private)</td>
<td>• Physicians (private)</td>
</tr>
<tr>
<td></td>
<td>• Hospitals (private and public)</td>
<td>• Hospitals (private)</td>
</tr>
<tr>
<td>Provider payment methods</td>
<td>• Fee-for-service (Insurance)</td>
<td>• Fee-for-services (physicians)</td>
</tr>
<tr>
<td></td>
<td>• Package/global budget (HMO)</td>
<td>• Global budgets (hospitals)</td>
</tr>
<tr>
<td></td>
<td>• Diagnosis Related Groups (DRGs)</td>
<td></td>
</tr>
<tr>
<td>System input</td>
<td>• 15% of GDP</td>
<td>• 10% of GDP</td>
</tr>
<tr>
<td>Accessibility</td>
<td>• Plenty of supplies</td>
<td>• Limited supplies</td>
</tr>
<tr>
<td></td>
<td>• Fast access to mordent technology</td>
<td>• Rationed access to specialist and new technologies/drugs</td>
</tr>
<tr>
<td></td>
<td>• No waiting time for diagnostic test nor surgeries</td>
<td>• Waiting time long for some diagnostic and elective surgeries</td>
</tr>
<tr>
<td>% Administration cost</td>
<td>• 30.0%</td>
<td>• 16.7%</td>
</tr>
<tr>
<td>Coverage</td>
<td>• 85% of residents</td>
<td>• All residents</td>
</tr>
<tr>
<td>Life expectancy</td>
<td>• 77.3</td>
<td>• 79.6</td>
</tr>
<tr>
<td>Infant mortality rate</td>
<td>• 7.0</td>
<td>• 5.3</td>
</tr>
</tbody>
</table>

Source: OECD Fact book 2005 and various research papers as referenced in the article.
What Can China Learn from the U.S. and Canada?
China can benefit from examining and comparing the U.S. and the Canadian healthcare systems. China should pay closer attention to Canada in reconstructing its basic healthcare system. The single payer, public administrated Canadian system proves to be more efficient and equitable than the market-oriented U.S. system. This is admittedly difficult as China does not yet have a tax system that enables the government to finance healthcare to a greater proportion. China, however, can increase healthcare appropriation within the current fiscal system, recognizing the significance that healthcare and health play in social stability and economic growth. Incrementally, China may reconsider and redistribute its current taxation power among various levels of governments, so that the central government could play a major role in equalizing resources for health protection for all its citizens among different regions, creating a system similar to that of Canada’s fiscal federalism. The present urban employee basic medical insurance program seems to be an important step in the right direction. China needs substantial government involvement in financing and regulating healthcare services, reversing the trend of the past 20 years.

China may also learn from Canada on how to develop and use information technologies in healthcare. This includes, but is not limited to, creating a system of shared patient records. The system should be open and interoperable, not proprietary, so that the data can be exchanged between different organizations. This system, when balanced with issues of privacy protection, provides great potential to improve service quality, reduce duplications, and prevent medical mistakes. Moreover, these linked files could also be used for public health purposes. The linked information can be used in disease prevention, surveillance, and control, which in the future may prove to be invaluable in combating unexpected events, such as bio-terrorist attacks or new and highly infectious diseases. The central government of China should take a leadership role, as it is the only authority that can set standards and protocols to insure nationwide system interoperability. The current admirable but fragmented effort in many technologically advanced cities to build local information networks needs attention. These good intentions, brilliant architecture, and huge financial input could be partially, if not totally, wasted if interchangeability, or at least adaptability to a broader system, is not built into the design.

China can learn from the U.S. in providing a complementary second-tier healthcare system to increase choices and flexibility. China can learn from the U.S. in creating business conditions that allow a commercial insurance industry to emerge and to expand. At present, few private insurance companies operate in China. Many foreign insurance companies find it difficult to make a profit, given the low premiums they can command and the high risk due to the shaky foundation of the basic insurance system in China. It seems advisable that Chinese governments work with private insurance companies to come up with ideas and identify issues. A discussion on managed care and HMOs in China’s social and economic environment could function as a starting point.

China can also learn from the U.S. about the varieties of provider payment schemes. Although having experimented with different ideas at various stages of its healthcare reform, China still compensates healthcare providers primarily on a fee-for-service basis in the current urban employee basic medical insurance. The Diagnosis Related Groups method of the U.S. is especially relevant as it is intended to encourage efficiency by rewarding those hospitals that can treat patients at a lower than average cost. Used properly, DRGs could help China control costs from the suppliers end in addition to the cost-sharing mechanism that addresses the issue from the demand side in the basic medical insurance program for urban employees.

China needs to be selective in absorbing healthcare experiences from developed countries. Given the limited resources that are available at present time, China as a developing country should probably pay attention to the Canadian system, considering its low economic cost and its high health status universal insurance coverage. Health is not a commodity and healthcare should not be left for market forces to decide completely. Public involvement in terms of financing and providing should be strengthened. China should not follow the Americans blindly in reconstructing its healthcare system (Gao, 2005; Xiue, 2005).

What Can the U.S. Learn from China?
There are a number of features in the newly implemented basic medical insurance system for urban employees in China that deserves U.S. attention. These include the experience of the Chinese-style medical savings accounts and social pooling of healthcare insurances in local jurisdictions. The decoupling of companies from funding health insurance for their retirees is of special interest. With the increasingly flattening world, leaving employers, especially large and legacy companies, to carry the burden of healthcare for their employees and retirees puts U.S. companies at a severe disadvantage in the competitive global marketplace. The recent downgrading of General Motors bonds to junk class and the floating of ideas of potential bankruptcy for this symbol of U.S. industrial should be viewed as a warning sign. The ailing airline industry is also attributing its difficulties partly to the expense of healthcare insurance. Double-digit increases in health insurance costs are making many legacy industries unprofitable and unsustainable. Policy alternatives, including the Chinese basic healthcare scheme, should be investigated and decisions made to level the playing fields. This is especially important at this point in time, when China, the potential competitor of the U.S., is reforming its healthcare system and releasing its companies from carrying the burden of healthcare for retirees and their families.

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Summary
China’s healthcare system, which was dismantled in the economic reform of the last 30 years, has been undergoing fundamental reconstruction since the early 1990s. The present urban employee medical insurance program is extending medical care insurance to millions of urban residents who may or may not have access to insurance. Although insurance is very basic in terms of coverage and benefits, the Chinese multi-tiered system is unique, combining individual medical savings accounts with social pooling. The U.S. system supplies the best medical services in terms of quality and accessibility for those who are insured or those who can pay out of pocket. But the huge costs may not work well with China at present. The Canadian system, which is relatively effective, efficient, and equitable, although not as accessible, may fit China better. A shift of attention in the policy community from focusing on the U.S. system to a balanced approach derived from both the U.S. and the Canadian systems may better serve the interest of Chinese people at the present time.

There are many limitations in the present study. A key drawback relates to the convenient sample in the patient survey. It would have been much better if a random sample, or otherwise representative sample, could have been selected. However, the BMISUE is a nationwide program, involving thousands of jurisdictions with hundreds of millions of people across vast geographic areas. The author could not command the amount of resources needed when the present study was implemented. However, it is conceivable, and it is the current effort of the author, to seek funding and cooperation from governments in the U.S. and China. With the success of this initial study and the positive response from funding sources, the author is planning a randomized, expanded study to evaluate far-reaching, large-scale social and healthcare policy initiatives in China.

Acknowledgement
The author would like to thank Dr. Lynne Weikart at Baruch College for her inspiration, encouragement, and involvement in writing this paper. The author owes a great deal to Dr. Chao, Director of the Family Planning Center in Tianjin, for data collection. The study could not have been accomplished in the present form without the contributions of these outstanding individuals.

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References


Appendix A: Selected Interview Questions and Response Categories

<table>
<thead>
<tr>
<th>Items</th>
<th>Data Property/Category Coding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>Date</td>
</tr>
<tr>
<td>Name</td>
<td>Text</td>
</tr>
<tr>
<td>Age</td>
<td>Numeric</td>
</tr>
<tr>
<td>Gender</td>
<td>1=Female, 2=Male</td>
</tr>
<tr>
<td>What are the reasons/purposes for the clinic visit?</td>
<td>Categories of concerns, symptoms and diagnosis.</td>
</tr>
</tbody>
</table>
| What type of medical insurance do you have? | 1=urban employee basic medical insurance  
  2=other insurance  
  3=no insurance at all               |
| Do you have your medical insurance ID card with you? | 1=yes  
  2=no                                      |
| Are you using another’s insurance card/name for this visit? | 1=yes  
  2=no                                      |
| Are you obtaining prescription drugs for others who may or may not have insurance? | 1=yes  
  2=no                                      |
| How satisfied are you with the urban employee basic medical insurance? | 1=satisfied  
  2=neutral  
  3=dissatisfied                            |
| What are the reasons for the level of satisfaction you have with the program? | Text                                                              |
| Any notes, comments, and suggestions for the improvement of the program? | Text                                                              |
An Evaluation of China’s Tax System: Insights for Future Reform

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Abstract: Discussion of how to develop a modern tax system is important for the Chinese government with China’s urbanization and economic development and with the enlarged income gap among its population. This paper explores the strengths and weaknesses of China’s tax system by applying the criteria that scholars use in judging revenue sources. The existing Chinese tax system is regressive, complex, and lacks revenue adequacy. To correct its weaknesses, several tax reform recommendations are made. This includes broadening individual income tax among top income individuals and expanding the circle gradually, expanding consumption tax, and eliminating unnecessary preferential tax treatments in all taxes.

Tax systems are critical for the functions of any nation. Although discussions of the need to develop modern income tax systems are often overshadowed by other policy discussions in less-developed countries (LDC) (Qian, 2004), the importance of addressing revenue issues comes to light with their economic development and the need to provide more public services.

This paper explores the merits and weaknesses of China’s tax system. The discussion of China’s tax system is particularly necessary at this time for two reasons. First, given its great economic achievements and its enlarged income gap, a tax system should play an important role in redistributing the gains from economic growth and in redistributing income.

Second, with China’s urbanization and economic development, there has been an ever-increasing demand for public goods and services—health care, roads, public education, infrastructure development, “safety net” programs for millions of the less fortunate, and old-age insurance for over a hundred million aging farmers. All of these services will require substantial amounts of revenue. Yet, the current tax revenue in China is about 18% of its GDP and is not able to generate the needed amount of revenue (Qian, 2004). The existing Chinese tax revenue system relies heavily on indirect taxes such as value-added tax (VAT), business tax, and tax on specific consumption goods. With the rapid increase of personal income and top-earners, personal income tax, which has a high tax-income elasticity, can produce more revenue to deliver services.

In order to explore the merits and weaknesses of China’s tax system, this paper has three sections. In the first section, the author will discuss the criteria that scholars use in judging tax revenue sources. In the second section, the author will apply these criteria to China’s taxation system. The paper ends highlighting several policy recommendations.

Taxation Evaluation Criteria

In The Wealth of Nation, Adam Smith (1937) identified four basic requirements for a good tax system:

- Equality. Every subject of a state should contribute to support government by paying a tax that is in proportion to his/her respective abilities. Tax thus designed leads to an equitable distribution of the cost of supporting the government.
- Certainty. Taxpayers should know when, where, and how much tax a subject needs to pay. These issues should not be arbitrary. They need to be clear and plain to all the taxpayers.
- Convenience. A tax should be levied at the time that is most convenient for taxpayers.
- Economy. A tax should have minimum compliance and administrative costs so as to generate maximum level of revenue for government.

Consistent with Adam Smith’s tax principles, contemporary taxation scholars use the following major criteria to evaluate a tax: equity, collectability, revenue adequacy, and economic effect.

Equity takes two different approaches. One is the benefit-received principle. That is, the amount of tax should be based on the level of the service a taxpayer receives. Though this approach is appealing and goes well with the free market system, its application in the public sector is limited for two reasons. First, many public services and programs such as national defense, roads, highways, and public health are public goods. The benefit is spread to the entire community, and non-payers cannot be excluded from using the services. Second, government needs to perform a redistribution function, which defies the benefit-received principle (Mikesell, 2003).
The equity principle that is often used is the ability to pay. That is, the amount of tax should be based on one’s ability just as Smith stated. There is vertical equity and horizontal equity. The former requires that individuals with different situations be treated differently. Those with a higher ability to pay should pay a higher percentage of their income in tax. Such a tax is also referred to as a progressive tax. If a tax takes away a higher proportion of the income of the poor than of the rich, it is called a regressive tax. Horizontal equity means that individuals in the same economic circumstances should be treated similarly (Mikesell, 2003).

The second major criterion is adequacy of revenue production. Since the major purpose of taxation is to generate revenue for the government, a good tax system is one that can bring in a meaningful amount of revenue “at socially acceptable rates” (Mikesell, 2003, 297). Adequacy usually is determined both by the tax base and the tax rates. The broader the tax base, the more revenue a tax will produce. A higher tax rate does not always produce more tax revenue. The so-called Laffer curve—popularized and promoted by economist Author Laffer—states that to a certain point, when the effective tax rate is perceived to be too high, it will generate less, not more, tax revenue because it will discourage taxpayers’ incentive to work and thus reduce that tax base.

Revenue adequacy is also measured in terms of its responsiveness or tax-income elasticity. During economic expansion periods, demand for government services increases significantly. For some taxes, revenue increases more rapidly than income. In this case, revenue elasticity or the elasticity of the tax base with respect to income—also referred to as tax-income elasticity—is bigger than 1 (Mikesell, 2003). A term that Vording (1997) uses to describe this relationship is “positive fiscal dividend” (p. 100). For taxes whose tax-income elasticity is smaller than 1, negative fiscal dividend is produced. To meet increasing service demands, it is better to design a tax system that has high tax-income elasticity (Mikesell, 2003) or positive fiscal dividends. According to ACIR (1977), personal income tax has the highest tax-income elasticity with the median of 1.75. The corporate income tax median ratio is 1.1, and the general sales tax median ratio is 1. Median property tax-income elasticity is only .87 and other selective sales taxes, such as motor-fuel tax and tobacco tax, are even lower.

The third taxation evaluation criterion is collectability. A tax should incur minimum administrative and compliance costs. “Revenues used in the collection of revenue provide no net service to society” (Mikesell, 2003, p. 301). Of the two types of costs, administrative and compliance, the former is the cost to run the tax collecting agencies and the latter is the cost that taxpayers bear in terms of time and money spent in keeping records and hiring tax attorneys. A simple tax, without tax preferences and with a single tax rate, is easy to collect and comply. However, modern taxes are rarely made simple. Governments often use tax breaks to achieve a wide range of policy goals.

Another major taxation evaluation criterion is economic neutrality. This criterion states that a tax should be neutral. It should not generate behavioral distortion in the marketplace if we believe in its efficiency. If the distortion cannot be avoided, it should be kept to a minimum (Mikesell, 2003). Modern taxes can rarely remain neutral. Their efficiency effects are subtle and difficult to assess. They affect people’s decisions concerning work, savings, education, consumptions, investments, or marriage and divorces (Stiglitz, 1988). The more tax breaks, the more distortion. The higher the tax rate, the more distortion there is.

In the following sections, the author will use these criteria to evaluate Chinese tax systems. The discussion will start with several major taxes and then move to the entire tax system. The evaluation of each major tax and the evaluation of the tax system as a whole are complementary. The former will reveal the strengths and weaknesses of each major tax. The latter will provide us with a whole picture of the tax systems.

**China’s Tax Systems**

The current Chinese tax system was established in 1994 with the Tax System Reform Act, an effort to bring the tax system in alignment with the market system (Vording, 1997). Only a few modifications have been made since then. The current tax system has 25 types of taxes. They can be classified into eight categories:

1. **Turnover taxes:** This includes three types of taxes: value-added tax, consumption tax, and business tax. These levies are normally based on the turnover or sales of the taxpayers in the manufacturing, circulation, or service sectors.
2. **Income tax:** This includes both tax on businesses (either state-owned enterprises, privately owned, collectively-owned, or foreign enterprises) and individual income tax.
3. **Resources taxes:** This includes resource tax and urban and township land use tax. Resources taxes are applicable to the users of urban township land.
4. **Property taxes:** This includes house property tax and urban real estate tax.
5. **Tax for special purposes:** This includes city maintenance and construction tax, fixed asset investment orientation regulation tax and land appreciation, and farmland occupation tax. They are collected for special regulatory purposes.
6. **Behavior taxes:** This includes a wide range of taxes such as vehicle and vessel tax, vehicle and vessel usage license plate tax, stamp tax, deed tax, and banquet tax.
7. **Agriculture taxes:** This includes agriculture tax and animal husbandry tax, both of which are being eliminated in many provinces (Xing, 2005).
8. Customer duties: These are imposed on the goods and articles imported into the People’s Republic of China. (“Overview of China’s Tax System”)

China’s tax system is highly centralized. All the tax laws are passed by the central government. Local governments only have those tax powers that are delegated from the central government. Tax revenue can be classified into central tax revenue, local tax revenue, and tax revenue shared between the central and local governments. About 70% of tax revenue goes to the central government (see Table 1). “Taxes are designated to be local if their revenues are accrued exclusively to the local governments.” (Fulton, Li, and Xu, 1998, p. 13). Central tax revenue includes domestic consumption tax, customs duties, VAT, and consumption tax collected by Customs on behalf of the central government. Local tax revenue includes individual income tax, city and township land use tax, farmland occupation tax, fixed assets investment orientation regulation tax, land appreciation tax, house property tax, urban real estate tax, inheritance tax (not yet legislated), vehicle and vessel usage tax, vehicle and vessel usage license plate tax, deed tax, slaughter tax, banquet tax, agriculture tax and animal husbandry tax, and local surtaxes (“Overview of China’s Taxation”).

Central and local governments share several tax revenues: domestic VAT (75% goes to the central government, and 25% goes to the local government); business tax; enterprise income tax; income tax on enterprises with foreign investment and foreign enterprises; resource tax; city maintenance and construction tax; and stamp tax (“Overview of China’s Taxation”).

The 1994 tax reform set up an indirect taxation system with VAT as the core and business and consumption taxes as the accessories. At the same time, more weight was given to the direct tax on enterprise income and individual income. Table 1 shows the amount of revenue that each of the major taxes generates and its share of the total during the years 1995-2005. VAT has been the largest tax revenue generator, but over the years its and consumption tax’s share have declined. The share of income tax (enterprise business income, foreign enterprise income tax, and personal income tax) is still small but has been growing.

Evaluation of China’s Major Taxes
In this section, the above discussed criteria will be applied to several major taxes. They are VAT, business tax, consumption tax, enterprise income tax, and individual income tax.

VAT
Before the 1994 tax reform, VAT was applied only to a few select items. The reform expanded the tax base by applying “to all individuals and entities that are engaged in the sales of goods in China, the provision of repair or processing services in China, or the importation of goods into China” (Fulton, Li, and Xu, 1998, p. 18). VAT is widely used in the world. While retail sales tax such as the one used in the U.S. applies tax to the final stage of the production-distribution process, VAT applies tax to the added value of production in each stage. While both retail sale tax and VAT have the same broad tax base in theory, the VAT system does a better job of collecting revenue, since retail sales tax puts all tax eggs in one basket (e.g. the final stage) while VAT can collect at least some of it (Mikesell, 2007). Besides its revenue adequacy, VAT has another advantage in terms of its collectability. Businesses have to keep and present their documented receipts to prove the amount of tax they have paid in order to get a tax refund. Thus, VAT has a high level of compliance.

In terms of equity, since VAT is a tax on consumption, it tends to be regressive just like the general retail tax used in the U.S. This flat tax rate takes away a higher percentage of income from low-income families than from the high-income families. Thus it imposes a higher burden on the lower income families.

What about its economic impact? There are two types of VAT. One is production-oriented, and the other is consumption-oriented. The one China uses is production-oriented, which taxes the fixed assets producers buy. Business cannot claim tax deductions for purchases of fixed assets such as equipment and machinery. Industrialized nations use the consumption-type, in which tax paid for fixed-assets is deductible. The consumption-type is more neutral in its impact on market behaviors. It does not distort any choice of production. Production-oriented VAT has negative economic impact. It hinders business’ technological advancements and investments.

In July 2004, China started an experiment to convert its VAT in the northwest of the country to the consumption-oriented tax to “invigorate its so-called rust belt” (“China says its experiment with VAT reform well underway”) by encouraging investment in machinery and equipment and phasing out outdated equipment. The reform would be extended to other parts of the country in subsequent years. The downside of this conversion is revenue decline, as the consumption-based VAT has a narrower tax base. But Xie Xuren, the head of the State Administration of Taxation, stated that reform will stimulate enterprise investment, optimize industrial structure, and enhance competitiveness of Chinese enterprises. Thus, in the long run, economic growth will result in more tax revenue.

Another issue with VAT related to economic impact is its rate. The common rate for VAT is less than 20%. The current VAT rate in China is 17%. Wang (no date) argued that since China’s VAT is a production-type, the 17% is equivalent to 23% of consumption-based VAT. Therefore, VAT’s rate should be reduced.
Table 1. China’s Tax Revenues in Selected Years (in 100 million Yuan)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Tax/GDP*</th>
<th>Central Gov Tax</th>
<th>State/local tax</th>
<th>VAT</th>
<th>Consumption tax</th>
<th>Business tax</th>
<th>Enterprise income tax</th>
<th>Foreign enterprise tax</th>
<th>Individual Income tax</th>
<th>Resource tax</th>
<th>Fixed Assets Investment-oriented adj tax</th>
<th>City maintenance &amp; Construct tax</th>
<th>Property tax</th>
<th>Vehicle &amp; Vessel Usage Tax</th>
<th>Vehicle purchasing tax</th>
<th>Other taxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>5,973.70</td>
<td>9.63%</td>
<td>4,376.90</td>
<td>1,596.80</td>
<td>3,038.60</td>
<td>566.00</td>
<td>869.40</td>
<td>753.10</td>
<td>74.20</td>
<td>131.50</td>
<td>55.10</td>
<td>53.60</td>
<td>212.10</td>
<td>13.40</td>
<td>44.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1997</td>
<td>8,225.50</td>
<td>10.70%</td>
<td>5,628.20</td>
<td>2,597.30</td>
<td>3,910.00</td>
<td>715.10</td>
<td>1,353.40</td>
<td>931.70</td>
<td>143.10</td>
<td>259.90</td>
<td>56.60</td>
<td>78.30</td>
<td>272.30</td>
<td>17.20</td>
<td>51.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1999</td>
<td>10,315.00</td>
<td>12.09%</td>
<td>7,002.90</td>
<td>3,312.10</td>
<td>4,716.30</td>
<td>854.60</td>
<td>1,696.50</td>
<td>1,099.40</td>
<td>217.80</td>
<td>414.30</td>
<td>62.90</td>
<td>130.50</td>
<td>315.30</td>
<td>20.90</td>
<td>29.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>15,165.50</td>
<td>15.04%</td>
<td>10,194.30</td>
<td>4,716.30</td>
<td>7,090.80</td>
<td>946.20</td>
<td>2,084.70</td>
<td>1,212.90</td>
<td>512.60</td>
<td>996.00</td>
<td>67.10</td>
<td>130.50</td>
<td>382.30</td>
<td>24.60</td>
<td>29.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>16,996.60</td>
<td>16.61%</td>
<td>11,324.30</td>
<td>5,308.70</td>
<td>8,141.20</td>
<td>1,072.50</td>
<td>2,467.60</td>
<td>1,972.60</td>
<td>616.00</td>
<td>1,211.10</td>
<td>75.10</td>
<td>150.50</td>
<td>414.30</td>
<td>28.90</td>
<td>24.80</td>
<td></td>
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<tr>
<td>2003</td>
<td>20,466.10</td>
<td>17.53%</td>
<td>13,688.20</td>
<td>6,303.60</td>
<td>10,096.30</td>
<td>1,221.70</td>
<td>2,868.90</td>
<td>2,342.20</td>
<td>705.40</td>
<td>1,417.30</td>
<td>83.10</td>
<td>175.00</td>
<td>476.30</td>
<td>32.20</td>
<td>9.90</td>
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<tr>
<td>2004</td>
<td>25,718.00</td>
<td>18.84%</td>
<td>17,854.30</td>
<td>7,863.70</td>
<td>12,588.90</td>
<td>1,550.50</td>
<td>3,583.50</td>
<td>3,141.70</td>
<td>932.50</td>
<td>1,737.10</td>
<td>99.10</td>
<td>217.80</td>
<td>533.90</td>
<td>35.60</td>
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<tr>
<td>2005</td>
<td>30,865.83</td>
<td>N/A</td>
<td>21,334.49</td>
<td>9,531.34</td>
<td>10,698.29</td>
<td>1,634.31</td>
<td>4,231.42</td>
<td>4,363.13</td>
<td>1,147.69</td>
<td>2,093.91</td>
<td>142.63</td>
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</tbody>
</table>

Share of total tax revenue by source (%)

<table>
<thead>
<tr>
<th>Year</th>
<th>Central Gov Tax</th>
<th>State/local tax</th>
<th>VAT</th>
<th>Consumption tax</th>
<th>Business tax</th>
<th>Enterprise income tax</th>
<th>Foreign enterprise tax</th>
<th>Individual Income tax</th>
<th>Resource tax</th>
<th>Fixed Assets Investment-oriented adj tax</th>
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<th>Vehicle &amp; Vessel Usage Tax</th>
<th>Vehicle purchasing tax</th>
<th>Other taxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>73.27</td>
<td>68.42%</td>
<td>48.78</td>
<td>47.54%</td>
<td>14.55</td>
<td>12.61</td>
<td>1.24</td>
<td>1.74%</td>
<td>0.92</td>
<td>0.90</td>
<td>3.55</td>
<td>1.37</td>
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<tr>
<td>1997</td>
<td>67.89</td>
<td>67.89%</td>
<td>48.78</td>
<td>47.54%</td>
<td>14.55</td>
<td>12.61</td>
<td>1.24</td>
<td>2.11</td>
<td>0.92</td>
<td>0.90</td>
<td>3.55</td>
<td>1.37</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>1999</td>
<td>70.52%</td>
<td>67.89%</td>
<td>48.78</td>
<td>47.54%</td>
<td>14.55</td>
<td>12.61</td>
<td>1.24</td>
<td>2.11</td>
<td>0.92</td>
<td>0.90</td>
<td>3.55</td>
<td>1.37</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2001</td>
<td>66.63%</td>
<td>66.63%</td>
<td>48.78</td>
<td>47.54%</td>
<td>14.55</td>
<td>12.61</td>
<td>1.24</td>
<td>2.11</td>
<td>0.92</td>
<td>0.90</td>
<td>3.55</td>
<td>1.37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>66.88%</td>
<td>66.88%</td>
<td>48.78</td>
<td>47.54%</td>
<td>14.55</td>
<td>12.61</td>
<td>1.24</td>
<td>2.11</td>
<td>0.92</td>
<td>0.90</td>
<td>3.55</td>
<td>1.37</td>
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<tr>
<td>2003</td>
<td>69.42%</td>
<td>69.42%</td>
<td>48.78</td>
<td>47.54%</td>
<td>14.55</td>
<td>12.61</td>
<td>1.24</td>
<td>2.11</td>
<td>0.92</td>
<td>0.90</td>
<td>3.55</td>
<td>1.37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>69.12%</td>
<td>69.12%</td>
<td>48.78</td>
<td>47.54%</td>
<td>14.55</td>
<td>12.61</td>
<td>1.24</td>
<td>2.11</td>
<td>0.92</td>
<td>0.90</td>
<td>3.55</td>
<td>1.37</td>
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</tr>
<tr>
<td>2005</td>
<td>69.12%</td>
<td>69.12%</td>
<td>48.78</td>
<td>47.54%</td>
<td>14.55</td>
<td>12.61</td>
<td>1.24</td>
<td>2.11</td>
<td>0.92</td>
<td>0.90</td>
<td>3.55</td>
<td>1.37</td>
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</tr>
</tbody>
</table>

* The ratios for 1995-2004 are from “Research on taxation that can promote employment.”
Central and local governments shared several tax revenues; domestic VAT (75% goes to the central government, and 25% goes to the local government); business tax; enterprise income tax; income tax on enterprises with foreign investment and foreign enterprises; resource tax; city maintenance and construction tax; and stamp tax. (“Overview of China’s Taxation”)

The 1994 tax reform set up an indirect taxation system with VAT as the core and business and consumption taxes as the accessories. At the same time, more weight was given to the direct tax on enterprise income and individual income. Table 1 shows the amount of revenue that each of the major taxes generates and their share of the total during the years 1995 to 2005. VAT has been the largest tax revenue generator, but over the years its and consumption tax’s shares have declined. The share of income tax (enterprise business income, foreign enterprise income tax, and personal income tax) is still small but has been growing.

Business Tax and Consumption Tax
Business tax is a levy on revenues from service industries, including communications, transaction, construction, financial and insurance businesses, post and tele-communications, culture and sports, entertainment, services, transfer of intangible assets, and sales of immovable properties. While VAT provides credits for taxes paid on business inputs, business taxes do not. Tax liabilities are based on the gross business turnover, not the net profit. Rates range from 3% for transportation, construction, and postal communications to 5% for services, transfer of intangible assets, and sales of immovable properties. Tax rates for entertainment runs from 5% to 20% (“Overview of China’s Taxation”). While this tax base is more limited compared with VAT, its economic impact is not a concern. The long list of exemptions from the tax hinders its enforcement. Who bears the business tax burden is not certain. Though the producers pay the tax, the tax burden can be shifted forward to consumers or backward to workers or to the shareholders. If the first two cases are true, then the tax is a regressive tax. If the last case is true, it is a progressive tax. The same analysis of tax burden applies to corporate income taxes.

Consumption tax is an excise tax applied to certain luxury goods and goods made of exhaustible resources, or goods that are not beneficial to human health or social ecology. This rate varies from 3% to 45%. Consumption tax is levied in addition to VAT. Taxable commodities include tobacco, liquor, fireworks, firecrackers, gasoline, diesel, tires, motorcycles, and automobiles (Fulton, Li, and Xu, 1998). From April 1, 2006, consumption taxes were applied to luxury goods including yachts, golf balls and clubs, high-end watches, wooden disposable chopsticks, and wooden floors. More oil products will be subject to consumption taxation. At the same time, the consumption tax will be removed from shampoo, hair conditioners, and skin moisturizers that middle-income families often use. According to the Chinese Central Government official web portal, “Our country made significant adjustment to consumption items and rates” (March 3, 2006).

The consumption tax levied in China has a limited tax base. Revenue growth is slow because its specific set rates cannot capture the economic growth. Substantial revenue increases require a change in statutory rates and bases. It took twelve years for China to adjust its consumption tax for the first time since the tax was levied. On the other hand, China’s luxury goods market is big and is growing. It is the world’s third largest and will grow by 20% in the coming three years. The sales volume is expected to top $11.5 billion by 2015 (Tang, 2005). So if China’s government wants to expand its consumption tax, it can do so.

In terms of collectability, consumption tax imposes a higher collection cost than the general retail sales tax and VAT, because the tax is applied to specific items. When consumption tax is applied to luxury goods, it is a progressive tax. But taxing tobacco and liquor makes the tax regressive since low-income individuals tend to consume more the tobacco and liquor. In terms of economic effect, it is obvious that the consumption tax is designed to influence people’s behaviors in the marketplace.

Enterprise Income Tax
The 1994 tax reform law created two different types of corporate income taxes: enterprise income tax that is applied to domestic enterprises, and income tax on enterprises with foreign investment and foreign enterprises. Thus, there are two sets of tax rules, with different rates and incentives, for domestic and overseas-funded enterprises. The latter is given much more preferential treatment in term of tax exemptions, tax reductions, and lower effective tax rates. Actual income tax rates have remained 14% for overseas-funded enterprises, as compared with 24% for domestic enterprises (Xinhua News Agency, 2006).

When judged by the major taxation evaluation criteria, the corporate income tax has the following strengths and weaknesses: It has a positive fiscal dividend as its tax revenue is responsive to economic growth. The most important equity concern is the preferential treatment given to overseas enterprises. The preferential treatment intended to attract foreign investment, which has been successful (“China to unify corporate income tax,” 2005). But these policies have also had a negative impact on China’s economic development. First, they encourage foreign investment to focus on short-term and small projects with a short input-output time period, lower capital requirements, and quick returns in service and light industries, not in the high technology and infrastructure industry. Second, they have put domestic enterprises in unfair and less advantageous positions to compete (Yin and An, 1998).

According to official Chinese statistics, in 2004 foreign firms’ profits soared by 25.5% to 345.5
billion yuan. Yet the top 100 foreign businesses paid virtually the same level of tax of 62.78 billion yuan (U.S. $7.74 billion). This is in contrast to the country’s double-digit growth in overall tax revenue in 2004. It is also in contrast to the fact that corporate income tax collected from domestic enterprises increased by one third to $314.2 billion from the previous year. As market-oriented reform has realigned the Chinese economy with international standards, favorable tax treatment for foreign enterprises is less justifiable. The Chinese government announced a unification of income tax on businesses (“China to unify corporate income tax,” 2005). The various exemptions to different businesses also make the tax system complex and hard to enforce.

**Individual Income Tax**

Individual income tax applies to those who “are domiciled in China, reside in China, or derive income from Chinese sources” (Fulton, Li, and Xu, 1998, p. 15). They include both Chinese citizens with their household registration in China or foreigners who reside in China or earn income in China. China’s individual income tax has a narrow tax base. Income is classified into different categories according to the nature of the income: wages and salaries, remuneration for personal services, rents, royalties, interest and dividend income, capital gains and incidental income, and other income. The rates for different categories are different and the tax liability is computed and taxed separately (Fulton, Li, and Xu, 1998). Different withdraw methods are used for different types of income. Wages are taxed on a monthly basis. Other income is on an annual basis. Wages are taxed at a nine-level progressive rate ranging from 5% to 45% after a 1,500 yuan deduction. The income from businesses, contracts or leasing is taxed at a five-level progressive rate ranging from 5% to 35% after deductions of related costs, expenses and losses. All others are taxed a flat rate (“Overview of China’s Taxation”).

Individual income tax, particularly the wages, salaries, and income from businesses, contracts and leases, is a progressive tax. Those who have more financial means are taxed more. Other segments are not. In practice, tax collected by schedule reduces its progressiveness for two reasons. First, taxing wages and salaries on a monthly basis does not allow an individual’s annual taxable income as a single sum for tax purposes. Second, some taxpayers, especially the rich, can easily manipulate different types of income and transfer one type of income into another to evade taxes.

In terms of revenue adequacy, China’s individual income tax has a narrow base. The tax is still an elite tax, not a mass tax. As indicated in Table 2, the share of personal individual income tax is still low but has grown over the years. With economic development and the rapid increase of average income, individual income is a big potential source of tax revenue. Individual income tax with its scheduler1 nature is complex for collection purposes. In addition, many exemptions in the tax not only undermine the tax base, but also make enforcement difficult. The withholding system and banking information systems are not fully established in China. China has a long way to go to make its individual income tax system comparable to those used in developed nations. In terms of economic impact, since it is not a major tax, its impact on the market place has not been a concern. But it can cause significant concern when its share increases.

**Evaluation: China’s Taxation as a Whole**

After briefly evaluating each of the major taxes, let’s put everything together and take a look at the whole system. Since China has a central tax system, evaluating the system as a whole is meaningful.

**Equity**

In terms of equity, China’s system tends to be regressive for three reasons. First, it relies heavily on VAT, business tax, and enterprise income tax. All of these might shift the tax burden to consumers. When consumers bear the tax burden, taxes take a larger share of income from low-income families than from high-income families. In industrialized nations, direct taxes, particularly individual income tax with its various brackets, are used to achieve progressiveness in the tax system. But this share in China’s tax system is still very small. So is tax on luxury goods. Second, the existing tax system has created and maintained regional inequity. Since the system assigns more income-elastic taxes to provincial and local governments, the coastal regions that have had the greatest prosperity from the economic reform reap more tax revenue than the less developed area where there is more need for public and social services. Another aspect of inequity in China’s tax system is the different treatment of domestic enterprises and overseas enterprises.

Regressiveness of the tax system is an even bigger concern when we consider the ever-enlarging gap between the rich and poor that comes with economic development. For instance, the top 10% income share rose from 17% of GDP in 1986 to almost 26% in 2001 (Qian, 2004). Yet, their tax share remains small. According to many economists, China’s rich bear the smallest tax burden in the world.

**Revenue Adequacy**

In terms of revenue adequacy, according to Xie Xu Ren, the director of China’s State Administration of Taxation, China tax revenue has grown rapidly at an annual rate of 19.5% during 2000-2005. Nationwide annual tax revenue was over 1,500 billion yuan in 2001, over 2,000 billion in 2003, over 2,500 billion in 2004, and 3,086.6 billion in 2005. For the past five years, tax revenues, except tariff and agriculture tax, totaled 10,921.7 billion yuan (“State Propaganda Department and other departments held joint trend reporting press”).

As a matter of fact, Wang (no date) showed that tax growth has surpassed GDP growth, and its elasticity in China has been larger than during 1997-2000. Three factors contributed to these abnormal increases. The first was sustained economic development,
which contributed to 55.2% of the tax revenue increase during 1998-2001. The second factor was tax policy changes. Some preferential tax treatments given to foreign enterprises and joint venture enterprises affiliated with schools expired. This explains 19.2% of the tax revenue increase. The third factor was rigorous tax enforcement and management. The central government called for “strengthening administration, blocking loopholes, penalizing corruption and rectifying arrears.” This principle was strictly carried out at all levels of government. The result was a 25.6% increase in tax revenue (Wang, no date). Wang (no date) stated that given the current Chinese tax structure, in which tax on sales and services predominates, this tax growth is abnormal. This growth comes from “a policy of tax increase’ (p. 7) not from a tax structure that has built-in positive feasible dividends, which will be further explained shortly.

When measured in terms of percentage of its GDP, the revenue adequacy of China’s tax system is a concern. The tax/GDP ratio has declined from 39% in 1978 to 10% in 1994 and then bounced back to 18% in 2004. The low tax/GDP ratio is normal for developing nations (Xu, 1998). While China’s 18% was the highest among the developing countries, it is still much lower than industrial nations that collect 30-40% of GDP in taxes. “Economic development and social stability require strong public finance” (Brean, 1998, p. 47). To meet this challenge, Brean (1998) suggested, among other things, improving the coverage and compliance of the Value Added Tax and diversifying the individual income tax.

Economists agree that indirect taxes such as VAT, retail sales tax, or consumption tax produce a negative fiscal dividend. That means the share of taxes in GDP will decline as GDP increases. When people become rich, they tend to save more. Their spending, even if it increases in dollar amounts, will become a smaller proportion of their income. Consumption tax on selected luxury commodities can contribute to a positive fiscal dividend. Income taxes produce a positive fiscal dividend. As income goes up, tax payments will increase. Therefore, countries with a negative fiscal dividend, like China, cannot ensure increasing tax revenue (in percentage of GNP) without constantly increasing tax rates and introducing new taxes. On the other hand, countries with a positive fiscal dividend, such as most Western countries, can keep their tax revenue intact and still reduce tax rates. From this perspective, there is a clear relationship between accomplishing fairness in taxation, budgetary revenues, and tax policy. It is necessary to tax China’s new prosperity effectively (Vording, 1997).

China’s individual income taxation is a good candidate for this change. Facing the increased gap between the rich and poor, China’s leadership has promised to reduce income inequality by means of the personal income tax. While the amount of personal income tax is small, it has rapidly increased in the past decade and has moved ahead of consumption tax since 2001. However, like other developing nations, China’s personal income tax is applied only to high-income people at a high rate. For it to fully show a positive fiscal dividend, its tax base needs to be expanded. To do so, the tax would have to be transformed from a “class tax” to a “mass tax.” This would hurt common people and reduce equity. So turning personal income tax into a “mass tax” is not a good option in the near future (Vording, 1997). What can be done is to expand the tax among top earners and reduce the tax burden for low-income individuals by raising the value of the standard deduction and adding some other deductions to favor low-income families (Cao, 1998). At a certain point in the far future, the income tax can be applied to the general population.

The second suggestion is to expand consumption tax, particularly the luxury tax. The Chinese spend a great deal on durable goods such as houses and cars. Tax should be levied on these durable goods. When sales tax is applied to specific commodities such as luxury commodities, it may do more to achieve a fair distribution of the tax burden than personal income tax as it functions now. The current scope of the consumption tax is too narrow to fully bring out its role of income distribution adjustment. It should be further broadened.

Economic Impact
In terms of its economic impact, China’s tax system has not suffered as many criticisms as the tax system in the U.S. The major reason is its relative small tax/GDP share and the relatively low rates for most of China’s taxes. The major exception is China’s production-oriented VAT. As the experiment to convert it into consumption-based VAT is underway, this flaw should be corrected. In its tax reform, China should avoid overusing tax breaks in any tax, since these will sooner or later distort people’s behaviors. China should also keep any of its tax rates reasonable. Any tax, when overtaxed, will have undesirable consequences.

Collectability
The collectability of China’s tax system is a concern. This is due to problems in the system’s design, as well as inefficient and weak administration. The 1994 reform made the current tax system simpler and more standardized than before the reform (Yin and An, 1998). But it by no means lacks complexity. The schedular personal income tax is a good illustration. In addition, every tax has a long line of exemptions and preferential treatments. In recent years, to deal with the large number of unemployed workers from state-owned enterprises, the government authorized and implemented various tax preferences (either exemptions or reduced tax rates) to the self-employed and to those who hired a certain number of the unemployed (State Administration of Taxation, Department of Labor, and Department of Social Security, no date; Finance Department of China and State Taxation Administration, 2002).

The complexity of the tax structure, inefficient tax administration, and the Chinese cash economy has resulted in severe tax losses. The area that has the most
severe tax loss is income tax. In recent years, many of China’s rich, such as entertainment stars, have been caught in scandals of tax evasion. According to the No. 4 Report of China’s National Audit Office (CNAO) (2004), tax losses among the 788 enterprises that it audited were estimated to be around 25 billion yuan out of the 221 billion yuan of taxes. There are four major reasons for this tax loss: “manipulation of taxation schedules and plans, false or erroneous declarations in a bid to avoid or evade tax, irregular practices by local governments, and ineffective tax collection” (CNAO, 2004. p.1).

In terms of corporate taxation, the report estimated that about 12.69% of corporations filed erroneous tax reports, or took advantage of preferential tax policies for tax evasion purposes. The situation is worse for enterprises funded by local governments. In a survey among 35 cities, 19 local governments intervened in tax collection in one way or another, or overreached their authority in granting tax breaks. Nearly half of the 788 enterprises surveyed indicated using preferential tax treatments granted by local government. Local governments also provided unauthorized tax rebate policies to attract foreign investment, in violation of tax laws and State Council Regulations (CNAO, 2004. p.1).

China has a long way to go to simplify its individual income tax by re-examining the existing tax breaks and keeping them as few as possible, by replacing schedular income tax with one set of rates for total annual income, and by keeping tax rates as flat as possible. At the same time, there is also the need to further improve tax administration and enforcement, even though great progress has been made in this area in the past few years.

Conclusion

After decades of rapid economic development, the Chinese government needs to transform its role “from an economic growth oriented one to a public service oriented one” (CIRD, 2003). That means that government needs to shift its emphasis from managing and administrating the economy to providing public goods and services. There is a huge demand for public goods and services such as roads, public safety, public health, public education, and social security programs for China’s vast citizenry both in rural and urban areas. To satisfy these needs requires the establishment of a public fiscal system that is fair, that can produce adequate revenue, that can easily be administrated, and that will not impair the economy. This paper is an attempt to explore such a public fiscal system.

This paper starts with reviewing various taxation evaluation criteria. It is ideal to have a tax system that is equitable, revenue adequate, easy to collect, and economically neutral. This is very difficult or impossible because of the trade off between several of the criteria—between equity and collectability, and between equity and economic neutrality. So the challenge for government officials in designing a tax system is to find a relatively appropriate balance. This is not an easy job for any government, including the Chinese government.

China’s current tax system has been perfected in many ways over what it was before the 1994 reform. But it still has many problems and further reforms are needed. As mentioned earlier, China’s tax system tends to be regressive and complex, and does not generate adequate revenue. To deal with these weaknesses, a few recommendations have emerged from the discussion. The first one is to simplify and expand the individual income tax among top-income individuals and expand that circle gradually. The second suggestion is to expand consumption tax. The third suggestion is to eliminate unnecessary preferential tax treatments in all taxes. A proposal to unify enterprises’ income taxes is an important effort. The experiment to turn production-oriented VAT into consumption-oriented VAT is an effort to correct the negative impact on business capital investment.

While various tax reform proposals have been made and efforts are underway, the present overall tax structure will remain. In other words, in the near future, China will still rely on turnover taxes and enterprise income taxes as the main sources of revenue, even though efforts will be made to expand the use of individual income and consumption taxes.

Notes

1 The word “scheduler” in this the context refers to the variable rates for each different category of income. Income is classified into different categories according to the nature of the income: wages and salaries, remuneration for personal services, rents, royalties, interest and dividend income, capital gains and incidental income, and other income. The rates for different categories are different and the tax liability is computed and taxed separately (Fulton, Li, and Xu, 1998).

2 When turnover taxes, not individual income tax, are the source of major tax revenues, China’s tax system is supposed to grow more slowly than GDP and have a tax elasticity of less than 1. But this has not been the case. China’s tax elasticity was 1.98 in 1997, 2.40 in 1998, 3.33 in 1999, 1.99 in 2000. Wong (no date) did not give data for later years.

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The CCP, the State and the Cadres in China

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Abstract: This paper, on the basis of documentary analysis, examines the CCP’s monopoly of cadre management. The basic question to be answered is what the relationships among the Party, the state and the cadres are. Constitutionally, both the legislature (the people’s congress in Chinese lexicon) and the government have extensive authority in cadre management. In reality, there is no state autonomy in personnel, and the state exercises its cadre management functions and duties through the party branches dispatched by the CCP committees. This study shows that the cadre management system is still highly centralized, a heritage with which all the reformists have to deal. This is the background to understand the evolution of the system reforms both at present and in the future.

This paper examines the Party’s monopoly of cadre management. The basic question to be answered is what the relationships among the Party, the state and the cadres are. Constitutionally, both the legislature (the people’s congress in Chinese lexicon) and the government have extensive authority in cadre management. In reality, there is no state autonomy in personnel, and the state can only exercise functions and duties in a very limited scope granted by the Chinese Communist Party (“the CCP”). The Party manages all the cadres directly or indirectly. “Directly” is used here in the sense that the party has the supreme authority to screen, investigate, approve, appoint, and remove important strategic cadres, and “indirectly” in that the Party, though exercising the genuine authorities upon cadre selection and removal, tends to cover up its real power over the legislature through “proper” legal procedures. The Party manages the cadres through three major means: ideological indoctrination, establishment, and organization. Ideological indoctrination through Marxist orthodox education plays a basic role in managing cadres as far as capturing their minds. Establishment control refers to how the Party, through its establishment institutions, determines the establishment of the party-state bureaucracies, the mass organizations, and the size, scale, and level of the staff of these units. Organizational control means that the Party, usually through its organization departments, controls individual positions and cadres. This paper mainly looks at the organization channel in cadre management, which can clearly demonstrate the supreme authority of the Party in cadre management. The other two factors will be examined in other papers. Three means of control have resulted in a highly centralized cadre management system, a heritage with which all the reformists have to deal. This centralized management system constitutes the institutional context within which the cadre-personnel reforms take place. It is the background needed to understand the evolution of the system reforms both at present and in the future.

The Party’s Management of Cadres by Grade (Rank) and by Department

The Party directly manages all important cadres. The party committee makes all important personnel decisions. “The appointment, removal, transfer, and sanction of cadres are major issues of a party organization…” (Manion, 1984, p. 42). The Party’s control of cadres means “basically that party committees should oversee the execution of cadre line and cadre policies, and based on the principle of democratic centralism and relevant regulations of the Party, manage, assign, and properly employ cadres” (Manion, 1984, p. 38). Organizational control shows that the CCP manipulates not merely the cadre policies or cadre line, but directly manages an individual position of the regime. (Manion, 1984, p. 38)

A management system means the division of cadre management authority among the party committees and the party core groups at various levels. Generally, the system is unified management by the party committee. “In principle, all cadres should be under the control of the Central Committee or party organizations in the various regions, departments, and units. On this premise, work related to cadre management can be centralized in the organization department alone or handled by other departments of the party committee” (Manion, 1984, p. 38). The division of labor in cadre management is conceptualized as “management by grade (rank, level) and management by department.”

Management by rank means that party committees at each level manage cadres one or two levels down the administrative hierarchy. This is in fact a division of labor, or management jurisdiction of cadres among the party committees at different levels. The CCP hierarchy has several layers from the CCCC down to the township committees.” Each party committee has its own jurisdiction of cadre management. According to the principle set in 1984, the party committee at a higher level manages cadres at a lower level. The CCCC manages cadres at and above the provincial level while the local party committees respectively manage cadres one level
The Party also manages cadres by departments in another sense. Management by departments means that the party committees and party core groups manage cadres in vertical systems. These vertical departments cover the functional departments, ministries, commissions, and offices of the party-state organs, and state-monopolized enterprises and public utilities, such as post, gas, rail, and civil aviation. Management by department also includes the judicial system, involving courts and procuratorates. The functional departments of the Party mainly include departments of propaganda and united front-line work. The department of propaganda is roughly in charge of ideological work, propaganda and education, theoretical research in the social sciences, mass communication media and publications, internet news communications, spiritual civilization construction, and the federation for social sciences. All the institutions related to the above-mentioned areas are put under the jurisdiction of the department of propaganda. Under the propaganda department are units and institutions related to education, culture, news and publications, television and broadcast, theaters, bookstores, internet administration, libraries, schools and colleges, hospitals, and many others. The department of united front-line work is in charge of affairs related to democratic parties, religious figures, non-party figures, entrepreneurs, overseas Chinese, patriotic personages in Hong Kong and Macao, and non-party membership intellectuals. Concretely, the Department of United Frontline Work is in charge of news releases and theoretical research regarding united frontline work, cooperation between multiple democratic parties, national minorities, religious circles, overseas Chinese, people from non-state-owned economies, and intellectuals outside the CCP.

Management by departments also refers to intra-governmental personnel management in systems like business administration, taxation, customs, and grain reserves. This is called vertical (line) management in some systems (xitong). So-called vertical management means that the party core groups of some intra-governmental institutions, mass organizations, and other systems of the public sector are in charge of the institutions, size of staff establishment, cadre management, salaries, and expenses of their respective systems, relatively independent of local party committees, or with local party committees assuming supplementary responsibilities. Under vertical management, authorities over cadres are concentrated in the central functional and professional institutions. In the administrative systems, a vertical management unit receives orders, orientations, and directives mainly from its vertically superior unit within the management and operational systems, regardless of local interventions, so as to ensure their independent enforcement of laws and regulations.

Leadership cadres in vertically managed systems are managed by their superior party core group (party committee). At the same time, they accept leadership by the local party committee. This is called dual leadership of cadres. The superior party core group (party committee) assumes principal responsibilities while the local party committee plays a supplementary role. The former party unit is called the principal-responsible party (PRP) while the latter is called the assisting party (AP).
The two parties have a division of labor in cadre management. Usually, the PRP assumes more important responsibilities with regard to cadre management. These responsibilities involve:

- Deployment and adjustment of leadership cadres;
- Examining and approving candidates for new party committee members, and results of election when elections are held; ideological and style construction of leading bodies; screening, appraisal, appointment and removal, transfer, check and approval for going abroad, remuneration, rewards and punishment, dossiers; political investigation; training and education regarding politics and professional knowledge; retirement and veteran cadre management; cultivation of reserve cadres; management of cadre contingent (The Central OD 15 Nov. 1991: Circular on Some Issues of Dual Management Work of Leadership Cadres. Zutongzhi [1991] No.35 Document 中共中央組織部關於干部双重管理工作若干問題的通知通知字[1991]35 号 1991 年 11 月 15 日).

The AP assumes assistant responsibilities related to the above-mentioned responsibilities assumed by the PRP (The Central OD, November 15, 1991). The AP just plays a role in raising some suggestions, doing some supplementary work required by the PRP.

This study observes that a leading cadre is strictly controlled by the CCP, either by a party committee at a certain administrative level or by a party core group (party committee) of a functional system. The strict control is achieved through a nomenklatura system.

The Party’s Nomenklatura System

What is a nomenklatura system? Harasymiw, when defining Soviet Communism’s cadre system, describes the term as “a list of positions, arranged in order of seniority, including a description of the duties of each office. Its political importance comes from the fact that the party’s nomenklatura—and it alone—contains the most important leading positions in all organized activities of social life.” (Harasymiw 1989) The CCP has instituted its own nomenklatura system by following the former Soviet Union’s model. When analyzing the CCP’s nomenklatura system, John Burns (1987) considers it “the critical feature of the cadre management system,” and defines the term nomenklatura as “the instrument of the Communist Party control of contemporary China’s political, economic, social, and cultural institutions” (p. 36). The system consists of lists of leading positions, over which party units exercise the power to make appointments and dismissals; lists of reserves or candidates for these positions; and institutions and processes for making the appropriate personnel changes (Burns, 1987, 1988).

The nomenklatura is a confidential and inside document, which is not open to the public. To some extent, it is mysterious. Barnett (1967) remarks that “cadre appointments, promotions, transfers and removals were deliberated and conducted in an atmosphere of secrecy.” There is no evidence to show that the CCP has ever publicly admitted the existence of its nomenklatura. When describing the principle of “the Party manages cadres,” the official discourse tends to be vague and ambiguous, simply stating, “The party directly manages some important cadres according to management jurisdictions.” A typical description of “the Party manages cadres” reads as follows:

That the Party manages cadres, mainly refers to that the party committees at various levels adhere to and implement the cadre line and policies, select and employ cadres strictly in accordance with the principles of the Party, and effectively manage and supervise cadres at various levels and of various categories. Concretely, it (the system of ‘the CCP manages cadres’) consists of four parts: First, it is that the Party strengthens the leadership of the Party on cadre work, and makes cadre policies; second, it is recommending and managing some important cadres; third, instructing cadre-personnel system reform; and fourth, conducting macro-management of cadres and supervision (retrieved January 1, 2004 from http://www.dqpi.net/zzb01/homepage/ganbu/6.htm).

Though the CCP instituted its nomenklatura system in 1950s, no students could confirm that there had existed such a name list before 1983, until the publication of a pamphlet called “Questions and Answers on Party Organization Work.” “Official reticence about personnel was broken …” (Manion, 1984, p. 3). Literally and structurally, a nomenklatura is made up of job titles flatly and vertically covering the party-state organs, enterprises, institutes, and social organizations. The 1984 nomenklatura consists of seven sections: (1) Party Central; (2) NPC, Chinese People’s Political Consultative Conference (CPPCC), judiciary, procuratorate; (3) the State Council, banks, corporations police and diplomats, institutions of higher learning; (4) mass organizations; (5) local organizations; (6) institutions of higher learning; (7) enterprises and service units. The 1990 nomenklatura has seven sections as well, but its structure differs slightly from that of the 1984 nomenklatura. However, the 1998 nomenklatura contains ten sections, three sections more than the 1984 nomenklatura (Burns 1987, 1994; Hon Chan 2004).

Substantially, the CCP organization has absolute authority over the positions appearing on the nomenklatura in its jurisdiction, including nomination, investigation, appointment, transfer, removal, punishment, and rewards. The hardcore implication of the nomenklatura system is that the CCP has exclusively monopolized authority over cadre management. The government and the legislature have no autonomy in cadre management, especially the posts deemed important by the CCP. Any appointment or removal from these
positions must be conducted on the basis of prior approval of the CCCCP (usually through its OD). Harry Harding (1981) remarks:

In authoritarian systems without active legislatures, the principal form of control over the bureaucracy has been the mass party, particularly its Leninist variant. The Leninist party exercises control over the bureaucracy by managing appointments and promotions, monopolizing leading posts, supervising the indoctrination of state officials, disciplining party members who hold government positions, and setting the bureaucracy’s principal policy guidelines. (p. 16)

This is exactly the case of China. The nomenklatura system is in fact an elite control system. The CCCCP controls only 4,000 to 5,000 top echelon cadres, which account for only one-millionth of the whole population. These ruling elite in turn control a huge cadre contingent in the middle echelon bureaucrats, and finally down to the operational level. A total of 6,932,000 cadres of the party-state organs are managed thus by a top-down-bottom pattern.

The State’s Lack of Autonomy in Cadre Management

Constitutionally, both the people’s congresses and other state organs have their respective authorities in personnel, which can be identified in the state constitution and other constitutional documents. The NPC is the highest organ of state power, exercising the following functions and powers to elect and remove positions of the state organs: the president and the vice-president of the People’s Republic of China (PRC), premier, vice premiers and state councilors of the State Council, ministers and the auditor-general and the secretary-general of the State Council; chairman of the Central Military Commission; president of the Supreme People’s Court; Procurator-General of the Supreme People's Procuratorate.

The permanent body of NPC is its Standing Committee (SCNPC), which also has constitutional power over personnel of the state organs. When the NPC is not in session, the SCNPC exercises its personnel power concerning appointment and removal of: the Vice-Presidents and judges of the Supreme People's Court, members of its Judicial Committee and the President of the Military Court at the suggestion of the President of the Supreme People's Court; the Deputy Procurators-General and procurators of the Supreme People's Procuratorate, members of its Procuratorial Committee and the Chief Procurator of the Military Procuratorate at the request of the Procurator-General of the Supreme People's Procuratorate. Additionally, when the NPC is not in session, the SCNPC exercises approval of: the appointment and removal of the chief procurators of the people's procuratorates of provinces, autonomous regions and municipalities directly under the Central Government; deciding on the choice of plenipotentiary representatives abroad (Article 67, Constitution of the PRC).

At the local levels, the people’s congresses also have power over the election and removal of the principal leadership cadres of the governments and other state organs, adopting a similar management framework as the center (Article 62 and 63, Constitution of the PRC). The state constitution also empowers the government to manage its own cadres. The “division of labor” in personnel of the government is clear. According to the Constitution of the PRC, the State Council has the functions and power “to examine and decide on the size of administrative organs and, in accordance with the law, to appoint, remove and train administrative officers, appraise their work and reward or punish them” (Item 17, Article 89). According to the Organic Law for Local People’s Congresses and Local Governments at Various Levels, the governments above the county level have the functions and powers to “appoint and remove, train, appraise, reward and punish the administrators of the administrative organs” (Item 4, Article 59). However, these regulations seem to be vague in that the governments exercise their functions and power “in accordance with the laws.” What are the laws stipulating the role of the governments in cadre management? There are no authoritative laws which define the role of the State Council, only administrative regulations. In 1995, the Ministry of Personnel issued regulations defining the role of the governments at various levels in appointing and removing state civil servants. According to these regulations, the jurisdictions of appointment and removal by the governments are very clear. Actually, all power over cadres is exercised by the Party organizations installed in the governments.

It is obvious that both the people’s congresses and the governments have legalized procedures to appoint and remove cadres in their related jurisdictions. One can be sure these procedures have been enforced in reality. As early as 1983, the Central OD emphasized that

Appointment and removal of the leading cadres of the state organs must be conducted in accordance with procedures provided by Constitution of PRC and laws. Any propaganda unit cannot publicize the appointment and removal of the leading cadres of the state organs until the legal formalities have been completed. (Central OD, September 8, 1983)

Here importance is attached to “legal formalities.” But “legal formalities” are just “formalities,” monolithic and powerful in form, but not in practice. The party committee controls the people’s congress and the government through its party core groups dispatched to these organs. A party core group is under the leadership of the party committee dispatching it. The elections are manipulated by the presidium when the people’s congress is in session. The presidium establishes an ad hoc party unit, which receives orders and directives from its upper unit—the party committee that approves its establishment. In addition, it is the party committee that screens, investigates, and nominates the candidates for the positions of the state organs. Other organs including the
people’s congress are not allowed to screen, appraise, and investigate cadres.

The Party Core Groups in the State Organs
After the 11th Party Congress, the CCCCNP reaffirmed that the party core groups should be installed in the party-state organs and the mass organizations (CCCCP, 1978). The role of the party core group is very authoritative and powerful. “The party core groups in the central organs and the mass organizations may lead the party units of the subordinate institutions and may manage the cadres, and examine and sanction the appointment and removal of the cadres of the subordinate organs” (CCCCP, 1978).

According to the 2002 CCP Constitution,

The party core group may be installed in the central and local state organs, the mass organizations, economic and cultural units, and other non-party leadership organizations. The party core group plays the role of leadership core. The tasks of the party core group are mainly taking the responsibilities of implementing the Party line and policies; discussing and determining the principal issues of these organs; doing a good job of cadre management; uniting with the non-party cadres and the masses, and fulfilling the tasks assigned by the Party and the state; instructing work of the party units of the organs the subordinate units. (Article 46, chap. 9)

Additionally, “[t]he party core group must obey the leadership of the party organization that sanctions its installation” (Article 47, chap. 9).

According to the 2002 CCP Constitution, the CCCCNP installed the party core groups in the NPC, the State Council, and other state organs like the judiciary. The relationship between the CCCCNP and the party core groups of the central state organs are that of the superior and the subordinate. The subordinate must accept the orders and instructions of the leadership organ. That is, the party core groups of the state organs must obey the orders and decisions of the CCCCNP, which sanctions its establishment. Then how is the party core group of the state organs made up of? Usually the top party member leadership cadres of an organ form a party core. The chairman and party member vice chairmen of the NPC might form its party core group. Among the 15 vice chairmen of the Standing Committee of the 10th NPC, five are democratic party heads and one is a non-party personage. So the party core group of the Standing Committee of the 10th NPC might be composed of a chairman and other nine CCP member vice chairmen. This is the “leadership core” of the NPC, which might exclude the other non-party CCP member vice-chairmen in determining the work of “doing a good job of cadre management.” A piece of news, entitled “The Party Core Group of the Standing Committee of NPC Learning Jiang Zemin’s ‘1 July 2001 Speech,’” is a vivid addendum to the explanation of the party-state relationship to date. The party core group of NPC began to learn (xuexi) Jiang’s speech only three days after it had been delivered, when it was still controversial within the party (it is said). Then the chairman of the NPC, Li Peng, delivered a long speech praising Jiang’s speech as a “classical Marxist document for the new and great project of constructing socialism with Chinese characteristics and advancing party-building.” This shows that the party committee leads the work of the party core group of the NPC, and the party core group of the NPC leads work of the NPC. All important affairs, like those related to the legislature and personnel, are determined according to this logic. The State Council organized learning activities four days after Jiang’s “1 July 2001 Speech.” Zhu Rongji (then premier and party core group secretary of the State Council), Li Lanqing (vice premier and deputy secretary), and other eight party core group members attended the learning session. Zhu Rongji, like Li Peng, highly praised Jiang’s speech. He pointed out that “Jiang’s important speech is abundant in substance, and of great significance. We must deeply study it, roundly understand it, and earnestly implement it.”

Candidate Nomination and Choice
Two questions are left now: Who nominates the candidates and how are these candidates “elected” or appointed? A comparison of the nomenklatura of the party committee and the jurisdiction of personnel authority of the people’s congress and the government indicates that a position may overlap, appearing on both the nomenklatura and the series of positions to be elected or appointed by the government. The premier and vice premiers are cadres managed by the CCCCNP, and are positions elected by the NPC as well. The NPC decides on the choice of the Premier of the State Council upon nomination by the President of the People's Republic of China, and on the choice of the vice premiers, state councilors, ministers in charge of ministries or commissions, the Auditor General and the Secretary General of the State Council upon nomination by the Premier (PRC Constitution 1982). The questions here are: Why does the State Council nominate A rather than B? According to what procedures and criteria does the premier nominate A rather than B? What has the premier done before nominating A or B as a candidate for a vacancy?

In fact, all the candidates, for standing committee members of people’s congresses, heads of constituent functional departments of the governments, presidents of the courts, and procurators-general for the procuratorates, are “recommended” by the party committee (CCCCP, January 12, 1990). The scope of cadres recommended by the party committee can be identified in terms of the nomenklatura. All the cadres appearing on the list are recommended by the party. The CCP claims “that the party committee recommends leadership cadres to the state organs is an important organizational guarantee to realize the party leadership upon the state affairs, and to maintain and consolidate the status of the ruling party.”
Operationally, the party committee will first solicit the mass opinions through “opinions polls”. The result is not open. Then the party committee determines candidates for screening. The OD will investigate in details the conditions of the candidate. The party committee discusses these candidates on the basis of “organizational investigation”, and chooses the candidate for recommendation, and then submits them to the party core group of the state organ. Here, head of the government just nominates the candidates chosen by the party committee, and introduces the candidates to the people’s congress. But judging by common sense, head of the government might know little about the candidates, since it is the party committee that screens, investigates, and recommends the candidate. Thus, “head of the government may either introduce, or entrust other related institutions to introduce the candidate to the people’s congress.” (Item 6, Article 4) Thus all candidates are “recommended” by the party committee and “nominated” by the government. The state organs are excluded in the whole process unless when they are required to offer some ideas and opinions. They are not allowed to set up an institution or organization to investigate directly cadres. After the recommended candidates have been submitted to the state organs, “the party core group of the people’s congress should, in line with the recommendations of the party committee, ensure the recommendations of the party committee be implemented.”

What about the result of the party committee’s recommendations then? A report by the Central OD to the CCCCP gives a vivid and authoritative description of the 1993 elections for new term of offices at the provincial level, which reads:

Thirty provinces, autonomous regions, and centrally administered municipalities have elected a total of 900 provincial level cadres. Among them, 272 are chairmen and vice chairmen of the people’s congresses, 226 governors and deputy governors of the governments, 342 chairmen and vice chairman of the political consultative conferences, 60 presidents and chief procurators of the court and procuratorates. Among those elected leading group members of the people’s congresses and governments, and the presidents and chief procurators, 98.6 percent of them were recommended by the party committee. All the elected leading group members of the political consultative conference are recommended by the party committee. (Central OD Report 1993)

This paragraph indicates that almost 100 percent of the total candidates “recommended” by the party committee are “elected”. It is really an amazing figure. How does the party committee gain such a splendid accomplishment? “After the candidates have been determined, the second step for the party committee is to ensure their ‘being elected’.” (CCCCP 12 January 1990) The party committee achieves its objective through the presidium of the people’s congress, and the party organization and ad hoc party organizations in the people’s congress, or even in the delegations.

**The Presidium of the NPC**

The presidium of the people’s congress is the leading body of the people’s congress in session, leading and presiding over the congress (Organic Law of the NPC, December 10, 1982). It is “elected” at a preparatory session one or two days before the formal opening of the people’s congress, and exercises its functions in the course of the session. Usually the presidium of the NPC is composed of the party and state leaders; the people of responsibility within democratic parties and the All-China Business Federation; people of responsibility within the central party; state, military organs, and mass organizations; delegates from the special economic zones, Hong Kong and Macao, and other social strata; deputies of national minorities; and people of responsibility from each delegation. In a local people’s congress, the presidium is usually composed of people of responsibility within the party and state organs, and deputies of various circles, and has a size of from 50 to 100 persons or so. Ad hoc party organizations are installed in the presidium even though it is just a temporary institution. According to a Party regulation,

When the local people’s congresses are in session, the congress presidium and each delegation should set up their ad hoc party organizations, and exercise their functions and duties under the leadership of the party committee. The primary tasks of the ad hoc party organizations in the course of elections are as 'propagating the party’s cadre line and policies; introducing the personnel placement plan of the party committee to the party members of the deputies, and implementing the purposes of the party committee; and reporting to the party committee the ideas and suggestions of the deputies. (CCCCP, 12 January 12, 1990, Article 6)

This means the presidium is under the leadership of the party branch in this period while the party branch is led by the party core group of the people’s congress, and the party core group of the people’s congress is led by the party committee. Non-party member presidium members are excluded in deciding major issues listed on the agenda of the congress, which include formally nominating candidates; dealing with bill submission and discussion; organizing delegations to examine and check the bills; determining the interpolation of cases and cases of recall; and so on. This is one of the major interpretations of the amazing figure that “the candidates ‘recommended’ by the party committee are elected by 100 percent.”

**Concluding Remarks**

When talking about totalitarian regimes, Walder (1986) pointed out that
There has never been a clearer image of communist society than that of totalitarianism. In totalitarian society, the party recognizes no legal or moral constraints on its actions: it strives for total power, total submission, and total social transformation as prescribed by its ideology. Aided by secret police, informers, and a wide variety of institutions designed for political communication and control, the totalitarian party pursues its aims by terrorizing selected elements of the population and keeping the rest in a state of habitual submission bred by caution and fear. (p. 2)

However, things have changed a lot, and China is becoming more open to the outside world. The CCP is no longer what it used to be. The main task for future reformists is to abolish some characteristics of a totalitarian regime which Walder defined. In present day China, however, there is still an absence of the state’s authority in personnel administration of state organs. The Communist Party absolutely monopolizes personnel power in screening, investigation, nomination, transfer, appointment and removal. The party committee mainly achieves this objective through organizational means. Dong (1992) points out that “The government personnel departments are no more than the Party’s executive arm in personnel management.” (p. 372). This is the basic feature of the Party’s cadre system, and also the background of the cadre system reforms. There still exists over-concentration of personnel power in the Party, which Deng Xiaoping criticized over twenty years ago. The Party substitutes for the state in cadre management. The government and the people’s congress just play the role of an aide or a secretary. Thus, there is no state autonomy at all. One can expect that instituting a state civil service in such a totalitarian regime undoubtedly has a long way to go. Interestingly, the cadre reform measures have come into being one by one in this context.

Notes

1 However, there are some exceptions. There are some 16 municipalities located between the province and prefectures, called deputy-provincial-level municipalities such as Guangzhou, Nanjing and Wuhan. But their existence does not affect the classification of the five hierarchical layers.


3 Central OD October 8, 2000. For more cases, see the websites of some local ODs such as Guangzhou (http://www.gzdj.gov.cn/style01/newsdetail.asp?news_sn o=7), Wenzhou (http://www.wzdj.gov.cn/Other/OrgIntro.aspx), and Ningbo (http://www.dfdj.gov.cn/info_show.asp?newstype_id=30 &sysid=33).


6 The Ministry of Personnel (March 31, 1995). However, something strange should be noted here. This management framework or jurisdiction of cadre appointment and removal procedures is enacted by the Ministry of Personnel, a functional ministry of the State Council. Since it is a constituent department of the State Council, how can it define the role of the State Council? The NPC or its SCNPC may have the authority to define the role of the State Council; the State Council itself may standardize its role as well. But how can Ministry of Personnel do that?


9 In Chinese lexicon, the term xuexi (“learn from” or “study”) is literally used to refer to the authority relationship between a master and an apprentice. Politically, the term implies the relationship between a superior and a subordinate. The subordinate and junior organs and cadres are required to xuexi (learn and study) the directives, orders, speeches, experiences and others of the superior and senior organs and cadres, especially those of the political leaders like Deng Xiaoping, Jiang Zemin.


11 Ibid.
A preparatory session of the people’s congress, according to the Organic Law of People’s Congresses and Governments at Local Levels, is usually held one or two days before the formal congress. This session is chaired by the standing committee of the people’s congress with all the deputies attending. The main tasks of a preparatory session are to elect the presidium and secretary general of the congress to be held, and to pass the schedules for the congress and other related matters. A preparatory session does not touch affairs beyond the congress. For related data, see the websites http://www.jyb.com.cn/gb/2001/03/09/zhxw/zt/zlxz4.htm (retrieved January 13, 2004); http://www.cnr.cn/home/column/2003meeting/rdzl/200302240055.html (retrieved January 13, 2004); and http://info.news.sinobnet.com/HTML/001/002/008/020/001/8790.htm (retrieved January 19, 2004).

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Ministry of Personnel

The People’s Congresses
Part A. National People’s Congress (NPC)
1) Organic Law for Local People’s Congresses and Local Governments at Various Levels (11 July 1979; 28 February 1995, The Third Amendment)
3) NPCs: Decision on Strengthening Comprehensive Governance of Social Security (2 March 1991)
Abstract: With its rapid economic development, China plays a key role in the world energy economy. Its future energy path will influence the world’s future. On February 28, 2005, China passed a comprehensive Renewable Energy Law, which was a major policy change for the Chinese government. This article investigates the legislative process of the law and uses this as a case to analyze the dynamics of policy change in China. Throughout this article, I try to explain two highlights of the process: that the law was passed quickly and overwhelmingly, and that the process included various actors, including international and domestic environmental NGOs, which is very rare in China. Applying two Western theoretical frameworks—punctuated-equilibrium theory and advocacy coalition framework—to analyze this case, I partly explain the process. However, I also find the inapplicability of these frameworks in China’s special political context. I argue that some exogenous pressures influenced both dominant core and advocacy groups. With few retarding forces, these strong driving forces made the law pass quickly and overwhelmingly. Generally speaking, the Chinese government is seeking to utilize these NGOs to achieve its own goals. Common interest is a key factor for the involvement of NGOs.

In February 28, 2005, the National People’s Congress of China (NPC) passed a new law—the Renewable Energy Law. Many observers regard it as a milestone for developing renewable energy in China because this policy will definitely be integrated into China’s forthcoming national energy strategy. Considering China’s huge and increasing energy appetite and consequent environmental and political outcomes, the passage of this law is no doubt a blessed event for both China and the world at large. If China changes its energy structure successfully, its future energy path will have a major impact on the world’s energy system during the 21st century; it will contribute considerably to the world’s environment, and possibly to world peace.

Drawing from the successful experiences of some industrialized countries, Sawin (2004, p. 52) argues that the key to the development of renewable energy is ambitious, forward-looking, consistent government policies that drive demand for renewable energy, creating a self-reinforcing market. That is to say, government’s will in developing renewable energy is the first impetus for this industry. The absence of political support from the government, especially the central government, is one essential reason for the underdevelopment of renewable energy in China. Until recently, renewable energy has never been treated seriously by national government. In fact, China is not a latecomer in the field of renewable energy; its research and application of wind power can be traced back to the late 1950s. The first wind farm connected to a grid was run in Shandong province in 1986 (Jiang, 2004). However, to date, there is no large-scale commercial market for renewable energy. Therefore, the passage of the Renewable Energy Law was a major policy change for the Chinese government because it indicates the formation of national consciousness of renewable energy. With the passage of the law, the government will strive to speed up the development of renewable energy, making the establishment of a large-scale national market for renewable energy very promising.

How did the Chinese government make such a policy change? What are the underlying dynamics for this change? To answer these questions, we must investigate the legislative process of the law. I focus on two highlights of the process. One is that the law was drafted, reviewed, and passed very quickly. It took only 20 months from its listing on the national legislation plan to its passage by the NPC (June, 2003 to February, 2005). The other is that the legislative process of the Renewable Energy Law started from the bottom and involved various actors including international NGOs and emerging domestic environmental NGOs. In contrast with other legislations in China, which are usually proposed by the central authority, such as the Central Committee of the Chinese Communist Party (CCP), and imposed, more or less, to the vote process of the NPC, the legislative process of the Renewable Energy Law indicates that some political pluralism has appeared in Chinese legislation, at least in some special fields. Why was the law passed so quickly and overwhelmingly? And why was the government willing to include various actors, especially NGOs, in the process? The analysis of these puzzles will help us to understand the dynamics of policy change as well as the change of dynamics in China.

In section two, I will introduce the legislative process of the Renewable Energy Law in detail. Section three is an analysis of this policy change based on two popular Western policy theories. The following sections are explanations of the policy change under special Chinese context; respectively, in section four, I will
answer why the law was passed so quickly and overwhelmingly, and in section five I will answer why the government is willing to involve various actors, especially NGOs, in the policy-making process. Applying Western policy theories to Chinese policy analysis is a challenging task for Chinese scholars in the field of public policy and administration. In conjunction with this case study, I will discuss this problem in the conclusion.

The Passage of the Renewable Energy Law
Although China began the exploration and employment of renewable energy very early, a large-scale commercial market for renewable energy has never been established. The government had always pursued the development of regular energy resources and did not regard renewable resources as reliable energy supply. Before the passage of the Renewable Energy Law, there were no national policies to develop renewable energy and some relevant government agencies and local governments advanced all the projects. In addition, most of the establishments were invested in and run by the state. Although there were a few policies that were enacted by relevant agencies to encourage various investors, these policies were sporadic, inconsistent, and poorly enforced.

According to Sawin (2004, pp. 34-44), government should be responsible for five major categories of relevant policies to support renewable energy. First of all, policy instruments must be implemented to guarantee market access to renewable energy. Two main types of regulatory policies are pricing laws and quota systems. Second, government should provide financial incentives, such as tax credits and low-interest loans to renewable energy producers. Third, governments must assume the responsibility to educate its citizens about the potential of renewable energy, including training and certifying workers, as well as disseminating relevant information. Fourthly, government is responsible for setting industry standards, permitting systems, and building codes to prevent inferior technologies from entering the marketplace. Last but not least, public participation in policymaking, project development, and ownership also increases the chance of success. Therefore, government should recognize the function of civil society and encourage public participation in the development of renewable energy. With the market growth of renewables, the cost will decrease due to economy of scale and learning experience. Eventually, renewable energy will become competitive with or cheaper than conventional energy. It is obvious that the Chinese government did poorly in all of these five areas, which is why renewable energy has been underdeveloped in the fifty years since the establishment of the PRC.

For years, some Chinese energy experts and international institutions, such as the World Bank and some NGOs, have suggested the Chinese government enact systematic policies to enhance renewable energy. In 2003, Chinese policymakers started to integrate renewable energy into their energy strategy planning. The Environmental Protection & Resources Conservation Committee of National People’s Congress (EPRCC) capitalized on this opportunity and took charge of the legislative process as general coordinator. Of the nine committees of the NPC, the EPRCC is not the most noticeable committee; therefore, to enact a far-reaching new law would definitely enhance its status and popularity.

In June 2003, as a response to the EPRCC’s overture, the Standing Committee of the NPC listed the Renewable Energy Law into its legislative plan and decided that the EPRCC should act as the coordinator and organizer for drafting this law. In August, the EPRCC consigned the National Development and Reform Commission (NDRC) and Tsinghua University to draft the prepositional version of the law. In fact, the Energy Research Institute (ERI), an institute affiliated with the NRDC and composed of a group of the country’s best energy specialists, played a major role in drafting the document. In addition, its official background makes it easier to incorporate opinions from researchers, officials, enterprises and other stakeholders. Ten months later, the two drafts were completed and presented to the EPRCC, and in August 2004, the EPRCC combined the two drafts together and designed a formal draft. This draft was sent to 130 institutions and individuals to obtain their reactions and suggestions. According to the feedback received, the EPRCC organized a meeting to investigate the viability of the draft. At this meeting, only two major revisions were made. One was the deletion of targeting total volume of renewable energy and the other was the final rejection of a quota system.

In December 2004, the EPRCC presented the revised draft to the 13th session of the Standing Committee of the NPC, and the latter reviewed it for the first time. Two months later, in 14th session, the Standing Committee of the NPC reviewed the draft for the second time and eventually passed the law on February 28, 2005. The law was passed overwhelmingly; except for one abstention vote, all congressmen approved the draft. In China, legislation usually faces three reviews before going up for a vote, but widespread support for this law resulted in acceptance after only two reviews. From its listing on the national legislation plan to its passage by the NPC (June, 2003 to February, 2005), it took only 20 months to form a law, a record in the legislative history of China.

This is a comprehensive law that includes nearly all aspects of developing renewable energy rather than just regulating one field or setting up one specific mechanism. The basic principle of this law is to establish a market-based system for the development of renewable energy. The highlight is that grid enterprises are required to purchase electricity from renewable sources at classified prices set by government. The
prices are usually higher than those of conventional energy resources. But the excess cost will be shared in the selling price throughout the grid. Everyone who is going to buy electric power from the grid will share the excess cost of renewable energy, keeping the average price of power from increasing too much. In addition, the central government will establish special funds for research of renewable energy, as well as work out a catalog of renewable energy industries and give them favorable tax rates and subsidies. Moreover, according to Article 11, standardization authorities of the State Council should set and publicize technical standards for renewable energy electric power and relevant renewable technology and products. Therefore, the law has included nearly all policy measures mentioned by Sawin (2004).

The Energy Foundation (EF), located in San Francisco, is one of the international non-governmental organizations which have participated in Chinese energy and environment development. It has announced that its geographic focus is on the United States and China and environment development. It has announced that its organizations which have participated in Chinese energy research of renewable energy, as well as work out a catalog of renewable energy industries and give them favorable tax rates and subsidies. Moreover, according to Article 11, standardization authorities of the State Council should set and publicize technical standards for renewable energy electric power and relevant renewable technology and products. Therefore, the law has included nearly all policy measures mentioned by Sawin (2004).

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The World Wide Fund for Nature (WWF) is another active international environmental NGO in China. It carried out a global program called Power Switch in 2003, aimed at pushing power industries to shift from fossil fuels to clean energy. In China, the WWF intends to establish the Green Power System in big cities such as Beijing and Shanghai. With the cooperation of former Beijing Economic Commission, the WWF and EF funded a research program to investigate the viability of carrying out the Green Power System in Beijing. A research report was compiled in November, 2003, and also became one of the references for the draft of the law.

Emerging Chinese environmental NGOs also played important roles in putting the policy onto the agenda. The Global Village of Beijing and Friends of Nature are two main environmental NGOs in Beijing. The former always keeps in contact with the media and has developed good relationships with many reporters. Since September 2003, it has held 15 forums with reporters who are interested in renewable energy and issues awards to outstanding reporters every year. These forums are partially funded by the EF and WWF. The Global Village usually invites some relevant government officials, energy specialists, and managers of enterprises whose products are related to renewable energy to the forums as well. These forums provide a good chance for these groups to communicate with each other and establish relationships, which is important in Chinese social context.

The Global Village of Beijing and Friends of Nature are also partners of the WWF’s Power Switch Program in China. They helped the WWF train volunteers and organize propagandistic activities. In fact, main domestic environmental NGOs maintain good relationships with international environmental NGOs, resulting in good cooperation. In doing so, they have successfully promulgated environmental consciousness to the masses as well as to the policymakers. These NGOs also had formal access to the formation of the law.

After finishing the first draft of the law in August 2004, the EPRCC sent the draft to 130 institutions and individuals, including some environmental NGOs, to solicit feedback. The feedback received helped the EPRCC revise the draft. Moreover, the EPRCC held a symposium on the draft of the Renewable Energy Law on from October 27 to 28, 2004. It invited some NGOs, including the Global Village of Beijing and Friends of Nature, to attend the symposium. These NGOs contributed their ideas to the draft, which had some influence on the formation of the law.

In addition, other institutions and individuals also exerted some influence on the law. The Chinese Renewable Energy Industries Association (CREIA), which was initially funded by the United Nations Development Program (UNDP) and the Global Environment Facility (GEF), represents the voice of enterprises related to renewable energy. Out of the aim of making profits for the member companies, it also lobbied for the passage of the Renewable Energy Law in the name of energy structure change and environmental protection. Huang Ming, the owner of Huang Ming Group of Shandong province, was elected as a national congressman in 2003. His group is the largest producer of solar water heaters and photovoltaic cells in China. It is not surprising that he has become an activist in calling for the passage of such a law. As a congressman and a rich entrepreneur, his influence cannot be underestimated. He was one of the main proponents of the law. It was he who allied with the other 56 congressmen to bring forward the motion and traveled all over the country to promote the benefits of green energy. In addition, energy specialists continue to appeal for this type of legislation through various venues, such as publications and conferences. Furthermore, experts from the Energy Research Institute (ERI) of the NDRC, Tsinghua University, and China’s Energy Research Association have had substantial influence on the decision-making process.
The law is a result of a combination of these forces. These actors not only created a very positive atmosphere for renewable energy, but also exerted their influence directly on the process of agenda setting, formation, and adoption of the law. As mentioned above, the passage of the law was a big policy change for the Chinese government. Since then, the government has changed its half-hearted measures on the development of renewable energy and created an opportunity for a promising future for a large-scale market. How did this change come into being? What are the dynamics for this policy change? I begin with two Western theoretical frameworks as tools to analyze the case.

Analysis Based on Two Western Theoretical Frameworks
The two frameworks I use are the punctuated-equilibrium theory and advocacy coalition framework. Both were created by American scholars and based on policy practice in the U.S. These two frameworks are widely cited or applied to analyze policy change over fairly long periods. However, most studies were conducted in the context of Western policy areas, especially the U.S. Few studies use these two frameworks to analyze Chinese policies. As a developing country and as a transition economy, China is a new policy area to test the generalizability of these frameworks. On the one hand, the application of Western theoretical frameworks may explain Chinese policy practice. On the other hand, it allows us to test the generalizability of these frameworks.

Punctuated-Equilibrium Theory
Since Charles Lindblom published his article “The Science of ‘Muddling Through” in 1959, incrementalism has become the dominant perspective on policy change. However, Baumgartner and Jones (1993) found incrementalism is an incomplete or even misleading explanation of policymaking when it is tested empirically. After analyzing a number of policymaking cases, they found that although political processes are often driven by logic of stability and incrementalism, occasionally they also produce large-scale departures from the past. Policymaking both makes leaps and undergoes periods of near stasis. In order to explain these observations of both policy stasis and dramatic change, they created punctuated-equilibrium theory. This theory accentuates the interaction of subsystem politics and behavioral decision-making.

Institutional structures and the agenda setting process serve as a basis for the punctuated-equilibrium idea. American political institutions can be basically divided into two parts—political subsystems and macropolitical institutions. Political subsystems can be understood as various bureaucracies, congressional subgroups, interested parties, and other institutions, while macropolitical institutions are mainly composed of Congress and the public presidency.

Political systems cannot simultaneously consider all the issues at hand, so decision-making includes both parallel processing and serial processing (Simon, 1957). Parallel processing means some decision structures are able to handle many issues simultaneously, while serial processing means issues can only be handled seriatim, one or a few at a time. So the policy subsystems can be viewed as a mechanism that allows the political system to engage in parallel processing (Jones, 1994). Most of the time, the majority of the issues are treated within political subsystems of experts. Within these subsystems, policy can only change incrementally due to bargaining among interests. The other reason for these marginal moves is that these issues are not in the public’s attention. Parallel processing does operate against larger policy changes, because it tends to be insulated from the glare of publicity associated with high-agenda politics (True, Jones, and Baumgartner, 1999). These subsystems may be called iron triangles, issue niches, policy subsystems, or issue networks (Baumgartner and Jones 1993, p. 6). When dominated by a single interest, the subsystem is best thought of as a policy monopoly, which is supported by some powerful idea or policy image. This policy monopoly contains a negative feedback process so that it usually dampens pressures for change (True, Jones, and Baumgartner, 1999).

However, issues are not locked in political subsystems forever. Sometimes the parallel processing of issues breaks down and they must be handled serially. The macropolitical institutions constitute governmental serial processing where high-profile issues are considered, contended over, and decided one at a time or a few at a time. Within the spotlight of macropolitics, some issues catch fire, dominate the agenda, and result in changes in one or more subsystems (True, Jones, and Baumgartner, 1999). The question is how an issue moves higher on the political agenda. Baumgartner and Jones (1991, 1993) explain this by pointing out relatively open access to mobilizations in the United States. Some newcomers appear and become proponents of change in the status quo, often overwhelming the previously controlling powers. Once these mobilizations are under way and pressures are sufficient, they may lead to a massive intervention by previously uninvolved political actors and governmental institutions. This is a positive feedback process and may make policy monopolies collapse. As a result, dramatic policy changes occur; one or more policy subsystems may be disrupted, and a new agency or program may be created. These changes may have long-term effects. The new institutions remain in place after public and political involvements recede, often establishing a new equilibrium that lasts well after the issue recedes back off the agenda and into the parallel processing of a policy community that may be newly altered (True, Jones, and Baumgartner, 1999).
During this process, new participants may apply the strategy of issue definition, venue shopping, or apply a combination of the two. Defining or redefining an issue allows them to change the policy image (i.e., the public perceptions toward the issue), so that the issue may become “hot” and move upward on the macropolitical agenda. The media is often involved in this process. “When a policy shifts to the macropolitical institutions for serial processing, it generally does so in an environment of changing issue definitions and heightened attentiveness by the media and broader publics” (Jones 1994, p. 185). The other strategy is venue shopping. Venue shopping is the process of “finding a decision setting that offers the best prospects for reaching one’s policy goals” (Pralle, 2003, p. 255). Congress, the executive branch, the courts, and local government are all different venues where new participants can choose to advance their cases. Multiple venues in the American political system provide policy entrepreneurs multiple opportunities to disrupt policy monopolies and push dramatic policy changes (True, Jones, and Baumgartner, 1999).

As we have mentioned previously, the passage of the Renewable Energy Law is a major policy change for Chinese government. It is a leap rather than a cumulative result of incremental policy changes. Before the passage of the law, policies underwent a long period of stasis. Although there were more and more state-run or state-led projects, they were specific programs rather than systematic, consistent government policies. Therefore, the whole process is a punctuated-equilibrium process. We can use this theory to analyze the case.

Before the passage of the law, several national agencies and local governments controlled existent policies relevant to renewable energy. According to the concepts of Baumgartner and Jones, these are political subsystems. For many years, this issue was locked in these subsystems with an image that renewable energy could only be used as a solution for providing power to isolated communities and as scientific experiments. No one believed that it was a reliable supply that could be used to meet the country’s huge energy demand. There was an obvious negative feedback process that precluded a major policy change; therefore, those who wanted to promote it hesitated to bring forward their ideas. As a result, although China began to explore and employ renewable energy very early, it failed to develop any large-scale commercial market and effective enforcing policies.

During the past two years, things have changed dramatically. A group of newcomers, including research institutions and energy experts, industrial associations and influential entrepreneurs, international NGOs, and domestic environmental NGOs, has come to this policy area and tried to exert its influence on public policies. These newcomers successfully moved this issue out of the control of subsystems and put it on the agenda of a macropolitical institution—the National People’s Congress—for serial processing. During this process, they employed the strategy of issue definition. Energy specialists proved that renewable energy would meet a large part of the future energy demand if effective enforcing policies were enacted and implemented. Their research reports had crucial effects on changing the attitude of policymakers. Businessmen argued that this promising industry would enhance the economic growth rate and create many employment opportunities. International and domestic NGOs claimed that it was a good means to avoid environmental deterioration and emission of more greenhouse gases. Moreover, they often borrowed arguments from each other and accentuated all the benefits as a whole. Thanks to the efforts of these actors, the policy image of renewable energy has been dramatically changed. It has become a hot issue related to several big problems of the country and has received attention from the macropolitical institutions. Media also played a role in the issue definition process. The reporter forums held by the Global Village of Beijing helped to heat up the issue in recent years. The involvement of the media promoted public attention on this issue. Furthermore, they also chose the right venue—the NPC—to address the problem. The NPC itself is a macropolitical institution and is able to move the issue out of the control of various subsystems. When all of these mobilizations were under way, a positive feedback process appeared and led to a major policy change.

As a result, a new national law came into being and some relevant institutional changes, such as a cost-share mechanism and a special fund from the annual budget, were confirmed. These institutions will have long-term effects. Even after the public attention and enthusiasm recede, these institutions will remain and will guarantee the continuous development of renewable energy.

So far, we have explained this case successfully using punctuated-equilibrium theory. However, this theory does not tell us where these new participants came from and why they tried to push the policy change. Another theoretical framework—the Advocacy Coalition Framework (ACF)—provides us with clues to answer these questions. Sabatier developed this framework in the 1980s. I will introduce the main points of this theory and then use it to analyze the case of the Renewable Energy Law in China.

The Advocacy Coalition Framework (ACF)
The ACF also relies on a structural basis. It assumes that the most useful unit of analysis for understanding policy change in modern industrial societies is not any specific governmental organization or program, but a policy subsystem (or domain). A subsystem consists of those actors from a variety of public and private organizations that are actively concerned with a policy problem or issue and regularly seek to influence public policy in the domain (Sabatier and Jenkins-Smith, 1999). Although the term “subsystem” is also used in this framework, the
meaning of it is different from that of the punctuated-equilibrium theory. The subsystem in the ACF is a much broader conception that includes not only administrative agencies, legislative committees, and interest groups, but also journalists, researchers, policy analysts, and actors at all levels of government. Within the subsystem, the ACF assumes that actors can be aggregated into a number of “advocacy coalitions.” Advocacy coalitions are defined as “people from a variety of positions (elected and agency officials, interest group leaders, researchers) who (1) share a particular belief system (i.e., a set of basic values, causal assumptions, and problem perceptions) and who (2) show a non-trivial degree of coordinated activity over time” (Sabatier, 1988, p. 139; Sabatier and Jenkins-Smith, 1993, p. 25).

One of the characteristics of the ACF is that it accentuates the importance of technical information in the process of policy change. Another characteristic of the ACF is the understanding that the process of policy change requires a time perspective of a decade or more (Sabatier and Jenkins-Smith, 1999, p. 118).

The belief systems of each coalition are organized into a hierarchical tripartite structure. The highest level is deep core, which includes basic ontological and normative beliefs. The second level is policy core beliefs, which represent a coalition’s basic normative commitments and causal perceptions across an entire policy domain or subsystem. The policy core is the fundamental glue of a coalition. The third level is called the secondary aspects of belief system, which is composed of a large set of narrower beliefs. Deep core beliefs are very resistant to change; policy core beliefs are somewhat less rigidly held; and beliefs in the secondary aspects are assumed to be more readily adjusted (Sabatier and Jenkins-Smith, 1999, p. 118).

There is a set of factors exogenous to the subsystems, which are a critical prerequisite to major policy change. These factors include: (1) major socioeconomic changes, such as economic dislocations or the rise of social movements (Eisner, 1993); (2) changes in the systemic governing coalition (Burnham, 1970; Brady, 1988); and (3) policy decisions and impacts from other subsystems.

These are the structures and basic elements of the ACF and they help to analyze what causes policy change. In the ACF, policy change results from a change in the belief system of coalition members. Basically, there are three forces that can lead to changes in belief system. The first is policy-oriented learning; the second involves changes in the real world, particularly the three exogenous factors to subsystems; the third is turnover in personnel. The basic argument of the ACF is that policy-oriented learning often alters secondary aspects of a coalition’s belief system and changes in the policy core aspects of a governmental program require a perturbation in non-cognitive factors external to the subsystem. Major policy changes only come from the change of policy core (Sabatier and Jenkins-Smith, 1999). Just like the punctuated-equilibrium theory, the ACF also takes venue shopping as the main strategy of coalitions to achieve the policy objectives, but it does not include issue definition.

Compared with punctuated-equilibrium theory, the ACF answers who the newcomers are in a policy area—advocacy coalitions—and why they seek to change policies—some forces have changed their belief systems—and ad hoc exogenous factors may change policy core beliefs so that major policy changes may occur.

Using the ACF to analyze the case of the Renewable Energy Law, we should discern whether there exist some advocacy coalitions. From the analysis we conducted for punctuated-equilibrium theory, we know that newcomers, including research institutions and energy experts, industrial associations and influential entrepreneurs, international NGOs and domestic environmental NGOs, have come to the policy area and tried to exert their influence on public policies. Based on the definition of advocacy coalition, these actors do share a particular belief system. They put the environmental value before economic value, or at least believe they are equally important, and they have basic normative commitments to push the policies for the development of renewable energy. Furthermore, according to my record of the policy process, they did have a number of coordinated activities. Government officials seemed to interact closely with energy specialists and some entrepreneurs, while the interactions between domestic NGOs, international NGOs, and the media are more detectable. There were also activities among all the actors, such as the symposium held by the EPRCC and the reporter forums held by the Global Village of Beijing. Therefore, we can find an advocacy coalition before and during the legislative process of the Renewable Energy Law. But the coalition is nascent rather than mature because it cannot meet three of the four criteria sufficient for mature coalitions.

The ACF underlines the role technical information plays in the policy process. This fits this case well. As we analyzed before, energy specialists proved that renewable energy would meet a large part of the future energy demand if effective enforcing policies were enacted and implemented. Their research reports were instrumental in changing the attitude of policymakers and the mass public.

Because this group is a new advocacy coalition, its belief systems were created rather than changed by some forces. Stone (1988) argues that subsystems may also emerge out of a new issue or a new conceptualization of a situation. Therefore, in this case, it was the creation of deep core beliefs and policy core beliefs of the new advocacy coalition that led to a major policy change. Sabatier and Jenkins-Smith (1999) argue that changes in the policy core aspects of a governmental program require a perturbation in non-cognitive factors external to the subsystem. We may infer that creation of policy core and deep core beliefs
also requires exogenous perturbations or shocks. Therefore, the logic becomes clearer: some exogenous shocks led to the creation of belief systems of a new advocacy coalition, then its belief systems guided its advocacy behaviors, which finally achieved a major policy change. However, this leads to the next question: What are those exogenous shocks? I will dissect this in the following section of this article.

Reflections

So far, it seems that the the punctuated-equilibrium theory and advocacy coalition framework explain the case very well and they complement each other in some sense. However, if we go back to the two main questions I posed in the introduction—Why was the law passed so quickly and overwhelmingly? and Why was the government willing to include various actors, especially NGOs into the process?—neither framework can provide persuasive explanations.

The first question is about the speed of the policy change. Punctuated-equilibrium theory does not address this problem, while the advocacy coalition framework says policy change will take a decade or so. More importantly, when we apply these Western theoretical frameworks to the Chinese decision-making process, we must not neglect the special political context of China. The major difference between China’s political system and the American political system is that the U.S. has a structure for the separation of the three powers (the legislative, executive, and judicial powers) and a bipartite system, while China has a single party system and its executive institution and judicial institution are de jure subject to the legislature—the NPC (Gao and Tian, 2003). In fact, the Chinese Communist Party serves as the dominant political power in China. It can effectively control the legislature, executive branch, and judiciary. So, the Chinese political system has a dominant core. The existence of this dominant core may paralyze some major mechanisms of the two frameworks. In other words, a dominant core is not a part of the two frameworks, but it is a concrete part of China’s policy practice. Excluding this factor, we cannot really understand the dynamics of policy change in China. Furthermore, punctuated-equilibrium theory assumes that open access to mobilizations is a key mechanism for drastic policy change, and advocacy coalition framework also implies a free institutional environment for advocacy coalitions. However, China’s interest groups lack free access to mobilizations and the whole institutional environment is not favorable to them. Usually the Chinese government will inhibit any mobilization that is not initiated by itself. Why did the Chinese government support the mobilization of the new coalition for the Renewable Energy Law? In contrast to research institutions and enterprises, NGOs are the weakest members in the coalition. Why was the government willing to include them into the policymaking process? This is very rare in the history of legislation in China and deserves further study. I will try to answer this question further on in this article, while in the next section I will focus on the question of why the law was passed so quickly and overwhelmingly.

The Dynamics of Policy Change: Pressures and Retarding Forces

Exogenous Pressures

In Chinese political context, there exists a dominant core that de facto controls other political institutions. As a result, it has final determination over the direction and speed of policy changes. In other words, the core’s direct or indirect support is the prerequisite for any major policy change. According to this logic, the passage of the Renewable Energy Law must have been supported by the dominant core. I interviewed Fengchun Wang, Deputy Director General of the EPRCC and the main coordinator of the legislative process of the law. According to Wang, there were no top leaders of the CCP involved in the process. However, that does not mean they were kept uninformed about the process and the law, only that they supported the law indirectly and left the institutions with relevant jurisdiction to deal with the problem. At last, it was Hu Jintao, president of the state and the General Secretary of the CCP, who signed the law.

During the long period of policy stasis of renewable energy, the core did not attach much importance to its development. Now it supports renewable energy wholeheartedly. How did it change its attitude? We know that exogenous shocks, including dramatic changes of socioeconomic conditions, can change the policy core of advocacy coalitions, and in China, some exogenous shocks did create policy core or even deep core for the new coalition, which contributed to the big change of policy. We may infer reasonably that the same exogenous shocks pressed the core to change its attitude toward renewable energy. I argue that these exogenous factors do exist and exert great influence on both the dominant core and the advocacy coalition (i.e., the whole system). As a result, these groups achieved consensus on changing the status quo due to common interests, which provided strong dynamics for the policy change. That is the main reason why the law was passed so quickly and overwhelmingly. These exogenous factors are not hard to detect.

The first factor is the problem of energy security that has emerged in recent years. With the rapid growth of China’s economy, the country is consuming more and more energy, most of which comes from combustion of fossil fuels, directly or indirectly. China’s 30 years of energy self-sufficiency prior to 1995 has drawn to a close, and the country has become a net importer of oil. Due to the rapidly increasing demand for oil and nearly stagnant domestic production, China will import about 150 million tonnes of oil by the year 2010 (i.e., China would be importing some 50% of its
Oil requirements). This number will go up to 250 million tonnes by 2020.\textsuperscript{11} Since the mid-1990s, energy security has become a popular topic in academic, business, and governmental colloquia because of China’s rapidly increasing oil dependence in the world market. However, this problem did not become very serious until the worldwide oil price surge that began in early 2004, and continues. China’s economic expansion is suffering more and more pressure from oil price fluctuations. This has rung an alarm bell for Chinese policymakers and Chinese energy consumers, both individuals and companies. There is little doubt that the oil price rise accelerated the legislative process of the Renewable Energy Law. Out of consideration for energy security and relief from the pressure of oil dependence, Chinese policymakers have begun to integrate renewable energy into their planning energy strategy.

The second factor is the countrywide shortage of electricity. Economic renascence after the East Asian Financial Crisis has led to a dramatic rise in electricity demand. Since 1999, the supply of electric power has hardly kept pace with demand. This has led to interruptions in the power supply from time to time, especially during the summer. In 2002, 11 provinces temporarily stopped power supply, and this number went up to 19 in 2003 and more than 20 in 2004.\textsuperscript{12} Although emergent measures have been taken from time to time to guarantee the power supply in big cities such as Beijing and Shanghai, the problem remains.

Beijing has suffered much from energy shortage. In the summer of 2004, continuous hot weather made the demand for electricity increase sharply, and several provinces, such as Inner Mongolia and Shanxi, were forced to stop part of their own power supply to guarantee Beijing’s supply. Shortage of electricity has become a very serious problem for Shanghai in recent years as well. In 2004, Shanghai created a discriminating power price system, charging higher prices for electricity use during rush hours. In 2005 Shanghai carried out more radical measures to balance power demand and supply. Some factories were required to stop working on some weekdays and to run on the weekends, while others were required to run at night. Additionally, all recreation centers had to stop using air conditioning before 6:00 p.m. This countrywide electricity shortage emergency prompted various actors to come to the consensus that renewable energy was a viable solution to the problem, and it hastened the ongoing legislative process of the Renewable Energy Law.

Environmental deterioration is the third catalyst of the law. Although Chinese governments have done a great deal to address this problem, China’s environment remains undesirable. Energy consumption is one of the main causes of air pollution in China. In fact, the only abundant fossil fuel in China is coal.\textsuperscript{13} This coal-based energy structure has led to serious air pollution, from agents such as sulphur dioxide, nitrogen dioxide, and suspended particulates, in addition to the emission of greenhouse gases. According to the statistics of the State Environmental Protection Administration of China (SEPA), in 2004, only 132 cities, or 38.6% of the total cities under monitoring, met the second level of the national standard. The population exposed to polluted air (i.e., which fails to meet the national standard) is 66.9% of the total city population under monitoring. Acid rain appeared in 298 cities.\textsuperscript{14} In Beijing, a coal-based energy structure\textsuperscript{9} and dramatically increasing numbers of automobiles\textsuperscript{10} have led to serious air pollution. Although the city’s annual environmental investment exceeded 10 billion RMB Yuan in 2001, air pollution in this urban area is still serious, especially for particle concentration.\textsuperscript{15} In China, the damage caused by this serious and lasting environmental deterioration has outweighed the relevant economic profit. Policymakers in China have realized that changing the energy consumption structure is the only way to eliminate this dilemma; a shift to renewable energy would result in a clean and safe energy structure. Although there has been no popular environmental movement in China, people, from ordinary citizens to top political leaders, have become more and more concerned about environmental issues. Emerging Chinese environmental NGOs and the increasing involvement of the media mirror this trend.

Last but not least, international norms of environmental protection also exert influence on the shift of Chinese policymakers’ attitudes and the creation of new values and beliefs for emerging advocates. Since the birth of the Kyoto Protocol\textsuperscript{18} at a 1997 U.N. Conference on Climate Change, the prevention of global warming has become an international norm. China signed the document in 1998 and ratified it in 2002. Although the agreement exempted developing countries’ responsibilities for reducing greenhouse gas emissions, some of them, especially China, India, and Brazil, may become the focus of debate in the second round negotiations. The first stage of implementation will end in 2012. After that, it is very possible that China will be required to assume responsibilities for reducing emissions of greenhouse gases. With about one-eighth of the global total, China is currently the world’s second largest producer of green house gases.\textsuperscript{19} This is related directly to its increasing energy consumption. Although it is hard to measure the pressures felt by China’s top policymakers, some government officials announced that China would take concrete measures to reduce the emission of greenhouse gases. On February, 16, 2005, Liu Jiang, Deputy Chief Director of the NDRC, announced seven measures that China had taken to prevent climate change. Supporting the development of renewable energy was one of the seven measures.\textsuperscript{20}

Beijing serves as another example. Considering the global trend of environmental consciousness, conflict existed between the city’s bidding for the Olympics and its seriously polluted air. In 2000, the Beijing 2008 Olympic Games Bid Committee (BOBGC), Beijing municipal government, and some environmental NGOs
developed a document called the Green Olympics Action Plan. Since then, Green Olympics has become a guiding principle for the 2008 Olympic Games in China. According to the promises of the BOGBC, during the Olympic period in 2008, concentration of SO₂, NO₂ and O₃ in an urban area should reach the WHO guidelines and the particles should be comparable to that in the major cities in the developed countries. In addition, Beijing would use a large amount of green power in the Olympic Village and complexes, 20% of which would come from wind power. In July 2001, Beijing became the home city to hold the 2008 Olympics. Since then, the Beijing municipal government has made every effort to fulfill its promises during the bidding process. The government has put a great deal of energy into replacing coal and coke with natural gas and electricity. Some heavily polluted factories have been shut down; quite a number of heavy industries will move out the city; and a number of heating boilers have been reconstructed. Several wind farms and a photovoltaic system is being built, and solar water heaters will be installed in the Olympic Village and complexes.

These exogenous shocks come from different sources—the rapidly growing economy at the expense of energy waste and environmental detriment, the shortage of electricity supply, the fluctuation of the international oil market, and the constraints coming from international norms—and exert great pressures on the dominant core of China. In June 2005, Hu Jintao himself presided over the collective study of the Political Bureau of the Communist Party, which is composed of the top leaders of the party. The topic of the study was the status of international energy and resources and Chinese energy strategy. Hu accentuated that energy is a momentous strategic problem that connects to the whole Chinese economy. Moreover, the International Renewable Energy Conference was held in Beijing on November 7 to 8, 2005. Hu Jintao sent a written address to the conference and reiterated the decision of the Chinese government to develop renewable energy. These actions indicate that pressures from exogenous shocks have changed the attitudes of major policymakers in China toward renewable energy.

As we have previously analyzed, exogenous shocks also created the policy core of the new advocacy coalition in China. The policy image of renewable energy has been changed considerably. As a result, the major policymakers of China and the new advocacy coalition achieved consensus on developing renewable energy based on their common interests. This consensus provided strong dynamics for the dramatic policy change. Considering China’s special political context, the support of the dominant core can easily break down the previous policy stasis and push the issue onto macropolitical agenda. With the help of the members of the coalition, the EPRCC drafted the law quickly and because of the dominant force of the party in the legislature, the law was passed very quickly and overwhelmingly.

Retarding Forces

Generally speaking, reform measures that do little harm to most groups will go ahead smoothly. The Renewable Energy Law is just such a policy. We cannot find major interest groups who acted as retarding forces. The underdevelopment of renewable energy has made it a marginal industry in China so that few powerful groups have been involved in this field. Green power only provides an additional part of the total electricity supply. On the one hand, it will not exclude the use of conventional energy for a long time; on the other hand, traditional energy companies can also invest in this new industry. Under the protective measures of the government, the market for this new industry is stable and profitable. Therefore, there was no drastic objection to this law in the legislative process.

The main principle of the law is that government determines the prices of renewables and forces grid operators to buy green power at such prices. However, grid operators will not object to the law, although prices are usually higher than those of conventional energy resources. According to the law, the excess cost will be shared in the selling price throughout the grid. Everyone who is going to buy the electric power from the grid will share the excess cost of renewable energy. So, the extra cost of the grid enterprises can be covered by the higher selling prices so that they do not suffer a loss. Under this arrangement, consumers of green power will not spend much more money because the average price of power has been shared among all electricity consumers. Moreover, the proportion of green power will be relatively small at the beginning stage. As a result, the average price of electricity will only increase a little. In the long run, the price will drop down due to the economy of scale and learning experience.

Therefore, no major retarding forces of renewable energy can be found in the whole process. This policy change is a Pareto improvement. That means, given a set of alternative allocations and a set of individuals, a movement from one alternative allocation to another that can make at least one individual better off, without making any other individual worse off. No actors will be worse off from renewable energy. Although consumers of electricity should pay a little bit more for the power they purchase, they get compensation from positive externality of renewable energy, such as cleaner air, less greenhouse gas emissions, economic growth, and more job opportunities.

Now the dynamics of the policy change are clear. The exogenous pressures led to the attitude change of policymakers and the mobilization of a new advocacy coalition. The common interests made them cooperate for the change of status quo. These served as driving forces. Because of the dominant status of the political core, the support for change was very strong. At the same time, no major interest groups objected to
the development of renewable energy. This policy change is a Pareto improvement. The combination of strong driving forces and few retarding forces made the law passed quickly and overwhelmingly.

However, we have not answered the second question raised in the introduction. Why was the government willing to include various actors, especially NGOs, into the process? As the ACF suggests, technical information is important for policy changes. Because of the importance of the technical dimensions of renewable energy, it was not a surprise that the government needed the advice of energy specialists. Furthermore, this is a market reform and, inevitably, relevant enterprises will be involved. But the involvement of NGOs in the policymaking process is very rare in China, and deserves more investigation.

**Involvement of Environmental NGOs**

According to Yang (2005, p. 57), it was not until the late 1990s that many INGOs (International NGOs) began to launch projects or offices in China. According to a recent source there are 33 INGOs with 91 environmental projects in China, and there are seven environmental INGOs with offices or branches in Beijing, including the Jane Goodall Institute, the World Wide Fund for Nature, Friends of the Earth (Hong Kong), and Greenpeace. As I have indicated, Chinese environmental NGOs maintain good relationships with international environmental NGOs. They build partnerships to run a number of programs and activities. Domestic NGOs receive funding, prestige, and expertise from INGOs. From 1996 to 1999, 85% of the funding for the Global Village of Beijing (GVB) came from INGOs and foreign governments. In 2000, 52% of the total revenue (RMB 2.5 Million) of Friends of Nature (FON) came from foreign sources (Yang, 2005, p. 57).

On the issue of developing renewable energy, there are no conflicts between international NGOs and the Chinese government. On the one hand, once the government made a decision to develop renewable energy, it found that foreign aid, including investment, expertise, information, institutional designs, management experience, were both valuable and accessible. On the other hand, developing renewable energy has no political dangers, which could collapse the existent authorities. As a result, the Chinese government embraces these international NGOs wholeheartedly and basically sets no limits on their activities in China.

From the perspective of these NGOs, environmental values outweigh political values. They know that if they carried out these programs with political pressures, the Chinese government would refuse their involvement. Their purpose is to help China change its energy structure to save the world’s environment. Therefore, they also support China’s development of renewable energy wholeheartedly without any political considerations. The common interests of both sides result in genuine double-win cooperation. Chinese authorities, including both national and local government, need the participation of international environmental NGOs in policy-making processes. By contrast, they are alert to or even disgusted with religious and human rights organizations because they see them as a menace to the political system.

Since the 1990s, some Chinese scholars have organized NGOs to promote environmental awareness. The FON, founded in 1994, and the GVB, founded in 1996, are the most famous ones. The number of ENGOs increased dramatically from 1997 to 1999, when at least 69 environmental NGOs were founded, 43 of which were student organizations. By April 2001, the total number of student environmental organizations had reached 184, and by 2002, non-student ENGOs had grown to 73 (Yang, 2005, pp. 50-51).

In contrast to their counterparts in Western countries and Eastern and Central European countries, Chinese green social organizations do not seek a potentially dangerous confrontation with the national state (Ho, 2001). Yang (2002) also points out that they typically avoid confrontational methods and adopt approaches that encourage learning, cooperation, and participation. The general tendency has been to shy away from radical issues and tactics. Citing the words of Liao Xiaoyi, the founder of the GVB, Ho proves this tendency of aloofness to politically sensitive topics: “We will adhere to our principles: guide the public instead of blaming them and help the government instead of complaining about it…I don’t appreciate extremist methods. I’m engaged in environmental protection and don’t want to use it for political aims. This is my way, and my principle, too” (Ho, 2001, p. 916).

Because of the political cautiousness of these domestic environmental NGOs, Chinese authorities perceive them to be less threatening. Furthermore, the government recognized gradually that they could work on some issues the government has had difficulty tackling. For example, Chan (2004) points out that these NGOs work more efficiently to motivate individuals to take steps to protect their environmental interests. The government found it was beneficial to include environmental NGOs in some official activities. For instance, during the campaign to compete for the hosting of the 2008 Olympic Games, the Beijing Olympic Organizing Committee for the first time invited environmental NGOs to attend proceedings as advisors, in order to promote the green image of the Beijing Games (Chan, 2004, p. 78).

However, the government always keeps alert for these emerging NGOs. They may raise the level of public awareness over some sensitive social and environmental issues, which is a threat and challenge to the government. Furthermore, the government worries that these groups may eventually lead to the establishment of some political parties, similar to what has happened in many other countries (Chan, 2004, p.
In 1998, the central government proclaimed new regulations for the administration and registration of social organizations, which aimed to increase control over social organizations through stringent registration procedures (Ho, 2001, p. 903).

Under this political context, these NGOs must be cautious about their activities and seek to develop relationships, formally or informally, with the government. However, these NGOs also make efforts to enter the decision-making process and influence government policy, though they try to avoid those politically sensitive areas. Zhao (2005) finds that guanxi is the most important and popular means for Chinese NGOs to influence government policy. It is an non-institutional way to get things done for the Chinese. However, they also have a few officially formal means to exert influence on policy-making. The NPC and the Chinese People’s Political Consultative Conference (CPPCC) are two open and institutional channels of public participation in China. As previously noted, Huang Ming, a national congressman, successfully proposed the enactment of the Renewable Energy Law. Another example is Liang Congjie, the president of Friends of Nature and a standing member of the committee of the CPPCC. Representing FON, he can submit proposals to the CPPCC more easily (Zhao, 2005, p. 62). The government, however, treats these proposals in an ambiguous way; they will adopt some proposals, but may ignore or refuse others.

In short, the interactions between the Chinese government and emerging environmental NGOs are complicated. On the one hand, the government is seeking to utilize these NGOs to achieve its own goals. On the other hand, it excludes these NGOs from the policy-making process when their advice conflicts with the government’s agendas. Furthermore, the government treats these NGOs as potentially suspicious and seeks control and regulation over their activities.

Under these circumstances, it is rare for the government to include environmental NGOs in the legislative process of a law. In the case of the Renewable Energy Law, at least their advocacy did not conflict with governmental agendas. We have analyzed that the government is seeking to utilize these NGOs to achieve its own goals, which leads us to ask: What are the government’s goals in this case?

Just like the objectives of those international environmental NGOs, the domestic environmental NGOs are also eager to develop renewable energy in China. This proposal has no political colors, posing no threat to the government. Generally speaking, the government excludes NGOs from the policy-making process because they clash with the government’s plans or they conflict with some vested interests. In the case of renewable energy, the government’s plans are consistent with these NGOs’ proposals. Additionally, as I have previously analyzed, there are few vested interests in this field because it is a new industry for China. So the government does not need to exclude these NGOs from the policy process. However, why did the government actively include these NGOs?

The first reason lies in the fact that the NGOs can perform some functions that the government cannot. According to Sawin (2004), the commercialization of renewable energy needs public participation. It requires not only the participation of some organizations, but also that of the mass public. In other words, some green mobilization is necessary to push the public to accept renewable energy. Although the government can mobilize consumers to pay a bit more money for renewable energy, this approach will be less effective than leaving part of this job to the NGOs. Ordinary citizens would feel it as governmental pressure if the government alone touted renewable energy. However, the involvement of NGOs makes the promotion of renewable energy a more voluntary action. In other words, the policy image of renewable energy can be improved greatly due to the involvement of environmental NGOs. This is even more important given the usual top-down model of implementation of Chinese policies. Chinese people will feel less coerced by the government when they see the participation of NGOs, which have grown from the grassroots.

The other reason that the government included the NGOs is that states feel a necessity to conform to international norms in both environmental and energy problems. In addition to responding to those pressures from international society that we have discussed, the Chinese government also intends to enhance its international legitimacy and improve its international image. In some sense, inclusion of environmental NGOs in relevant decision-making processes is also an international norm. The Chinese government cannot ignore this norm if it seeks to address its energy and environmental problems in the international context. In addition to this, taking into consideration the close partnership of domestic environmental NGOs with international NGOs and some foreign governments, the inclusion of these NGOs will bring China more resources to develop renewable energy.

Therefore, the Chinese government will include domestic environmental NGOs and adopt their proposals selectively. If they do no harm to the political dominance of the government’s authority, and even help it deal with some difficult problems and consolidate its legitimacy, the government will be very active in including the NGOs in the policy-making process.

The common interests among the government, international NGOs, and domestic environmental NGOs serve as the tie that draws all of the actors together. In this special case of renewable energy, the NGOs participated in the policy-making process due to the permission and even welcome of the authorities and acted as a dynamic, though relatively weak, of the dramatic policy change. Without the participation of these NGOs, the law might not have been formed and adopted so quickly; and I predict that without active public participation, of which the participation of the
Conclusion and Discussion

The passage of the Renewable Energy Law initiated a national policy framework to develop renewable energy and will change the energy structure of China. After a long period of policy stasis, the National People’s Congress unlocked this issue from various political subsystems and formed and adopted a new law quickly. This dramatic policy change resulted from many complicated and interrelated factors. To understand the dynamics of the policy change, I apply two Western theoretical frameworks of policy change—punctuated-equilibrium theory and advocacy coalition framework—to this case. I find, to some extent, both frameworks can explain the case well. Due to the efforts of newcomers, the policy image of renewable energy has been changed and the issue was moved out of the control of subsystems to the serial processing of a macropolitical institution. Policy monopoly was broken down and dramatic policy change occurred. In the whole process, we can find an advocacy coalition, though a nascent one, composed of a broad range of actors, including energy specialists and research institutions, enterprises and entrepreneurs, congressmen, government officials, international organizations, and emerging domestic non-governmental environmental organizations. Exogenous shocks changed or created the coalition’s belief system and led to their actions, which eventually resulted in major policy change.

However, I find some important elements that have been left out of the analysis. The two frameworks cannot explain the speed of the policy change. Most important, the analysis neglects the existence of a dominant core in Chinese political context. Given its existence, any policy change must be attributed to the change of attitudes of the dominant core. In the case of renewable energy, I find some great exogenous pressures that led to this critical change. These pressures include energy security, shortage of electricity, environmental deterioration, and international norms. In addition, these pressures also created new beliefs and values for the nascent advocacy coalition, which articulated these problems and proposed to develop renewable energy as an appropriate policy alternative. At the same time, this policy change encountered few retarding forces because there are no entrenched interest groups, which may potentially block the process. Strong driving forces and few retarding forces made the law pass quickly and overwhelmingly.

The other highlight of the case is the inclusion of NGOs in the policy-making process. I argue that the common interests between the government and international organizations lead to a genuine and double-win cooperation between them. Common interests are also partly responsible for the inclusion of domestic environmental NGOs. However, the government seeks to make use of these NGOs to achieve its own goals. In the case of the Renewable Energy Law, the government intended to improve the means of mass mobilization and to enhance its international legitimacy and image. The participation of these NGOs served as a dynamic, though a relatively weak one, for the policy change.

From this case we can draw some general conclusions about the dynamics of policy change in China. First of all, given the existence of the dominant core, any policy change must be attributed to a change of attitudes toward the issue. Advocacy groups must seek to persuade important political leaders by different means to achieve any policy goals. Second, exogenous pressures can exert great influence on various actors, including the dominant core. Some policy proposals as responses to exogenous pressures may become policy priorities of Chinese policymakers. Third, those policies that involve few vested interests are more likely to be adopted because they will meet with few objections. Last but not least, common interests of various actors, especially common interests between advocacy groups and the dominant core, can cause a policy to be formed and adopted very quickly and overwhelmingly. The last point can also explain the change of policy dynamics in China. The emerging advocacy coalition, including domestic and international environmental NGOs, served as a driving force in this case. This bottom-up process indicates some political pluralism has occurred in China. However, it seems that this pluralism is based on common interests between the dominant core and emerging advocacy groups. If their proposals can benefit both without doing harm to the dominant core, those proposals can be easily adopted. If their proposals conflict with the interests of the dominant core, they will not be adopted.

In this case, I apply Western theoretical frameworks to Chinese policy area. I find they can explain some aspects of the process very well. Although they were developed under a totally different political context from China’s, they can, to some extent, explain Chinese policy practice effectively. This indicates that Western policy theories have some kind of universal explanatory powers. Students of public policy may make more efforts to apply various policy analysis theories to different policy areas. On the one hand, they can test the effectiveness of the theories. On the other hand, they can explain policy practice in these areas. However, I also find inapplicability of the Western theories, especially in the political context of non-democracy. With a dominant power in the political system, some assumptions of those theories are destroyed. So, we must understand the policy process and underlying dynamics in a different way. It indicates that when we use Western theories to analyze policy process in a different policy area, we must pay attention to the specific context to avoid any biases or misunderstandings. We cannot embrace these theories uncritically. However, we cannot reject them generally.
under the excuse of Chinese special context, either. Chinese scholars should make every effort to create some native theoretical frameworks to analyze Chinese policy practice. It is a challenging task for all of us.

Notes

1 China does have large projects on hydropower, but I will not include it into my discussion of renewable energy because ecological crises related to dams make it hardly a way of sustainable development. In this article, renewable energy means energy from wind, solar (solar thermal and solar PV), geothermal, tidy, and biomass power. Discussion will focus on wind and photovoltaic power.

2 Those laws guarantee renewable producers fixed, minimum prices and obligate electric utilities to provide grid access to renewable energy plants.

3 Under this system, governments mandate a minimum share of capacity or generation of electricity to come from renewable sources (i.e., any power producer must generate a certain portion of electricity from renewable resources.

4 http://www.ef.org/home.cfm.

5 According to this system, green power consumers will select green power suppliers and purchase green power voluntarily. By doing so, they will usually receive a certificate from relevant government agencies or other authorized institutions.

6 According to Xiliang Zhang (2004), a professor in Tsinghua University and one of the main drafters of the Renewable Energy Law, China’s total reserve of wind energy is about one billion KW, and the total solar energy reserve is equal to 2.4 trillion tce. In addition to these, China’s sea energy, geothermal energy and biomass energy are also very rich. If all of these kinds of energy could be used effectively, renewable energy would take the place of fossil fuels in the future.

7 These three are traditionally viewed as the iron triangle in policy analysis. However, this iron triangle is different from the conception under the same term used by Baumgartner and Jones (1993).  

8 Policy-oriented learning refers to relatively enduring alterations of thought or behavioral intentions that result from experience and/or new information and that are concerned with the attainment or revision of policy objectives (Heclo, 1974, p. 306). The ACF assumes that such learning is instrumental, that is, that members of various coalitions seek to better understand the world in order to further their policy objectives (Sabatier and Jenkins-Smith, 1999, p. 123).

9 (1)The participants regard themselves as a semiautonomous community who share a domain of expertise; (2) They have sought to influence public policy within the domain over a fairly long period of time (i.e., seven to 10 years); (3) There exist specialized subunits within agencies at all relevant levels of government to deal with the topic; (4) There exist interest groups, or specialized subunits within interest groups, that regard this as a major policy topic (Sabatier and Jenkins-Smith, 1999 136).

10 I use the term exogenous factors in the same sense as Sabatier and Jenkins-Smith. They are external to political subsystems as well as the dominant core. “Exogenous” does not mean these factors all come from abroad.

11 These numbers come from Philip Andrews-Speed, Xuani Liao, and Roland Dannreuther, The Strategic Implications of China’s Energy Needs, Oxford University Press, 2002, pp. 31-32. They compute these numbers based on a number of specialists’ estimates.


13 According to Smil, the verified coal reserves of China are roughly 115 billion tonnes, ranking third in the world. It takes up one-third of the world total. However, at the end of 1996, the total of 3.3 billion tonnes of China’s proved oil reserve amounted to just over 2% of the global total (ranking 11th in the world), and the country’s proved natural gas reserves are amounting to a mere 0.8% of the global total, ranking only 23rd worldwide. At the extraction rate of 1998, China’s coal reserves could support nearly a century of extraction, while its oil reserve is only enough for no more than two decades’ extraction at the rate of 1996. Vaclav Smil, Chinese Energy and Resource Uses: Continuity and Change, The China Quarterly, No. 156, December. 1998, p. 936.


16 The total number of automobiles in Beijing was 1 million in 1998 and increased to 2.4 million in 2005. http://news.xinhuanet.com/comments/2005-07/11/content_3204452.htm

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From Wiipedia, the Free Encyclopedia.
http://en.wikipedia.org/wiki/Pareto_efficiency#searchIn


The Chinese word guanxi means literally “a relationship” between objects, forces, or persons.

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Productivity Changes in the Chinese Provincial Governments

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Abstract: This paper applies a Data Envelope Analysis (DEA) method to the measurements and evaluations of Chinese provincial governmental productivity. It defines operationally the inputs and outputs of the government and governmental productivity in terms of eight indicators, and calculates the changes in governmental productivity with the DEA method for the period of 1985 to 2003. It decomposes the total factor productivity (TFP) into efficient changes and technical changes, and illustrates the characteristics of the changes in governmental productivity from periods to periods, and analyzes theoretically the characteristic patterns. It compares the differences in changes of governmental productivity among the different regions. In the processes of analysis, we emphasize the effects of administrative and economic reforms on governmental productivity, and the relationship between governmental productivity and administrative and economic reforms.

Government performs multiple roles and provides a host of goods and services to its populations, to achieve various economic and social objectives, by combining labor with other inputs, in a modern mixed economy. The efficiency with which these goods and services are provided has been termed governmental productivity or public productivity, which refers to “a ratio between inputs and outputs. Productivity is improved when increases of output are achieved per unit of input” (Birnbaum, 1990). Governmental productivity is total factor productivity (TFP) because of government being an organization with multiple inputs and multiple outputs.

It is common in China to regard the government, both at central and local levels, as too large, too clumsy, and too costly to perform public functions appropriately. With its inception of reform and opening the door to the world since 1978, China has staged government reforms five times to adapt the government to a market economy and to enhance governmental productivity.

Concerns about governmental productivity among policymakers and researchers alike have been receiving a new boost in China since the middle 1990s.

This paper proceeds as follows: Section 2 provides a selective overview of the literature on the definitions of government inputs and outputs, and defines the indicators used in this paper. Section 3 lays out the paper’s methodology. Section 4 calculates the Malmquist productivity indices and provides an analysis of changes in Chinese provincial governmental productivity and different productivity patterns among different regions. Section 5 summarizes the results and recommendations for further studies.

The Definitions of Government Input and Output

Theoretical Definition of Government Outputs

With the introduction of wide-ranging institutional reforms arising from the Western world since the late 1980s, government administration innovations and productivity-enhancing measures have been staged and imitated in succession by the various provincial governments.

This paper, for the first time, takes stock of the effects of those innovations and reforms on provincial governmental productivity. It applies a Data Envelope Analysis (DEA) method to the measurements and evaluations of provincial governmental productivity in China. It defines operationally the inputs and outputs of the government and governmental productivity in terms of eight indicators, and calculates the changes in governmental productivity with a DEA method for the period of 1985 to 2003. It decomposes the total factor productivity into efficient changes and technical changes, and illustrates the characteristics of the changes in governmental productivity from periods to periods, and analyzes theoretically the characteristic spatial patterns. It compares the differences in changes of governmental productivity among different regions.

In the process of analysis, we emphasize the effects of administrative and economic reforms on governmental productivity, and the relationship between governmental productivity and government administration.
Anderson’s (1989) proposed seven basic functions of government, which he claims are general roles of every government. Hughes (2002) viewed this set of government roles as more pragmatic and broader. Anderson’s general roles of government include: (1) providing the basic institutions, rules and arrangements necessary for the satisfactory operation of a modern market system; (2) providing various collective goods and services which market fails to provide; (3) providing fair mechanisms and procedures for the resolution and adjustment of group conflicts; (4) providing suitable regulation and effective monitoring for the maintenance of competition; (5) making and carrying out effective policies for protection of natural resources; (6) taking measures for individuals’ minimum access to the public or collective goods and services of the economy; and (7) making policies for stabilization of the economy.

Hughes (2002) observed that this set of government roles is more pragmatic and broader. In our opinion, the common essential features between Anderson’s general roles of government and the World Bank report’s fundamental tasks of government are that both define government functions in the terms of government outputs. We follow these definitions of government functions as our guidelines of defining government outputs.

**Empirical Definitions of Government Inputs and Outputs**

There has been a wide range of literature on measuring and evaluating the performance of government as a whole both in national and sub-national levels since the late 1980s (Tanzi and Schuknecht, 1997; Harbison and Hanushek, 1992). This literature falls into two broad categories in designing the indicators measuring and evaluating government performance: One category scores the scale indicators, the other measures inputs and outputs quantitatively.

A typical example of the second category is the program for measuring productivity change staged in Sweden in 1982 (Murray, 1987). The program covered 70% of the governmental sector in Sweden, 75% of the municipal sector and 55% of the national government sector. In this program, as far as possible, definitions and evaluations of output and quality were made from the consumer perspective. Wherever possible, outputs were measured in conformity with how government consumption was recorded according to the purpose of the national accounts. This means that large sections of the government sector were measured across several agencies. The program included sectors such as general administration, police and justice, education, health, social security, child, old-age care, libraries, roads, etc. Costs were measured in the same way as in the national accounts.

The Government Performance Project—a collaboration between Governing and the Maxwell School of Syracuse University, funded by the Pew Charitable Trusts, started in 1999—is a good example of scoring the scale indicators. The project measures government performance in 32 sub-indicators which are categorized into 5 broader indicators: financial management, capital management, human resources, managing for results and information technology. Governing has reported the score cards for the 50 states of the U.S. for several years.

Each of the two methods mentioned above has its own advantages and disadvantages. Scoring scale indicators, which are more suitable to countries which have hard budgeting institutions, emphasize the results, while the input-output method considers both inputs and outputs at the same time. China is a developing country and is known for its soft budgeting arrangements. Therefore, we choose to use the input-output method.

**Measurements of Government Inputs and Outputs**

Government inputs and outputs used in this paper follow the scope of government outlined in the *System of the National Accounts* developed by United Nations, based on the input and output indicators used in the above empirical studies and specific situations of Chinese government operation.

In the classification of the *System of National Accounts*, government inputs are defined in terms of the following two aspects: government expenditure and administration staff.

Government expenditure is one government input. The efficiency and effectiveness of government performing its functions in a market economy has to do with every branch of the public domain—for instance, education, health, welfare, and so on. So the government expenditure as a government input includes government investment and consumption, which includes transfer payments.

Administration staff is another kind of government input. We chose this factor as government input for several reasons. Classic economic theory has considered administrative staffs as non-productive. If the number of total labors is fixed, then the more administrative staffs there are, the less productive labor there is in an economy, and therefore the less the economy’s potential exists to create wealth. Modern economic theory holds, on the other hand, that government activities are similarly productive. According to this theory, administrative staffs cannot be distinguished by whether they are productive or not, but by how productive factors are best disposed. In addition, administrative staffs as an independent input take a critical or irreplaceable role in government production, although the number of administrative staffs positively influences the government’s expenditures. The administrative staffs here include, taking into account
the Chinese political system, staffs of government agencies, political party institutions, and social organizations, without taking institutional staffs (e.g., teachers, doctors, nurses, and so on) into consideration.

As far as the output is concerned, considering the fact that China is a developing and economic transition country, as well as economic growth ability and speed, we use the following five indicators for measuring government output on the basis of Anderson’s definition about government functions.

The first indicator of the output reflects economic growth potential, which is measured by GDP growth rate. This is a composite indicator, not only showing the efficiency and effectiveness of government performing its functions, but also revealing the effects of combinations of different inputs. The second indicator is about the effects of government regulation. Because of the difficulties in comparing regulations, many studies measure the effects of regulation with instrumental variables, especially with subjectively perceptive investigating data. Limited by the inaccessibility of subjective investigating data, the effects of regulation are measured by the ratio of the average laborers’ incomes from all non-agricultural sectors, to that in the natural monopolistic sectors in a province. The third indicator is a reflection about quality and quantity of public goods provided by a provincial government, and we chose two kinds of public goods, education and public health. The former is measured by the ratio of teachers to students in primary and secondary education. The latter is assessed by the number of medical staff per million people and the number of medical beds per million people. The fourth output indicator reflects local citizens’ social economic welfare and fairness, measured by the reciprocal of the citizen’s Engel coefficient and Gini's coefficient. The last output indicator reflects quality of infrastructures and conditions of law and order for economic activities, captured by non-governmental investment growth rate.

All in all, the set of government inputs and outputs in this paper mainly goes with the conceptual framework in the following Table 1.

The data for the paper all comes from the Chinese statistics yearbook. Due to insufficient data from Tibet, however, the samples here do not include this province. Therefore, the number of samples from 1985 to 1996 is 29, and from 1997 to 2003 is 30, including Chongqing.

Table 1. Government Inputs and Outputs

<table>
<thead>
<tr>
<th>Government input</th>
<th>Government output</th>
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</thead>
<tbody>
<tr>
<td>1. Monetary input</td>
<td>1. Economic growth</td>
</tr>
<tr>
<td>Governmental fiscal expenditures /GDP</td>
<td>potentials</td>
</tr>
<tr>
<td>2. Labor input</td>
<td>2. Regulation effects</td>
</tr>
<tr>
<td>Administrative staffs / Total employment or Administrative staffs /total population</td>
<td>3. Education</td>
</tr>
<tr>
<td>3. Administrative staffs</td>
<td>4. Public health</td>
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<tr>
<td>Total population</td>
<td>5. The level and</td>
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<tr>
<td>4. Administrative staffs</td>
<td>fairness of residential</td>
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<tr>
<td>total population</td>
<td>welfare</td>
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<tr>
<td>5. Total population</td>
<td>6. Infrastructures and</td>
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<td>6. Total population</td>
<td>law environment for</td>
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<tr>
<td>7. Total population</td>
<td>economic activities</td>
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</tbody>
</table>

The Specification of the Model and Decompositions of TFP

DEA Models and Advantages

DEA is a new way to analyze the relative efficiency and managerial performance of the productive organizations with the same multi-inputs and multi-outputs. Charnes, Cooper and Rhodes firstly published their preliminary research, “Data Envelopment Analysis,” in order to develop a more effective evaluating method while the effectiveness of some governmental projects that supported a vulnerable children’s study in public schools was assessed. This method immediately attracted the attention of scholars in management and operation fields, and thus developed quickly within a short period of time. So far, the initial CCR ratio model has branched out into a variety of famous models, like the “multiplicative model” (Charnes, et al., 1982); the “BBB model” (Banker, Charnes, and Cooper, 1984); the “additive model” (Charnes, et al., 1985); the “FG model” (Fare and Grosskopf, 1985); the “CCWY model” (Charnes, Cooper, Wei, and Yue, 1988); “the CCWH model” (Charnes, Cooper, Wei, and Huang, 1989); the “ST model” (Seiford and Thrall, 1990); etc.

Recently, the DEA method has been widely used in performance evaluation situations, such as the maintenance moves of a United States Air Force base, English and Welsh police station public security work, the operational works of banking and university organizations, and the activities of different cities and countries (Seiford and Thrall, 1990). It can be said that there is no area in which DEA does not play its powerful performance assessing role, for it has outgrown the frailty of the traditional methods and opened new areas for performance evaluation. The reason for this is due not only to its special effectiveness for multiple-input and multiple-output activities, but also to its formidable ability to process different data types, unit types, and the same type of units of different scales. Besides, it works not only in quantitative evaluation but also in qualitative evaluation, either in efficiency evaluation or in effectiveness evaluation.
The Specification of the Models

In this paper, one province is taken as one decision-making unit. The DEA method improved by Fare, et al. (1994, 1996) is adopted to construct the production frontiers composed of total factor productivities of all provincial governments in China for every period. The changes in efficiency and in the technical achievements of every provincial government can be measured by comparing a provincial government’s productivity to the production frontier. According to Fare, et al., the production frontier or the referential technology can be expressed in the following three equivalent ways: the input requirement set \( L(y) \) (i.e., all the input combinations that can form output vector \( y \)); the output possibility set \( P(x) \) (i.e., all the output combinations that are formed by input vector \( x \)); and the graph (i.e., the combination of all technical feasible input vector \( x \) and output vector \( y \)). In this paper we choose the input requirement set as the basic model.

Suppose that a decision-making unit has an input vector \( x'_k = (x'_{k1}, x'_{k2}, \ldots, x'_{kn}) \), and an output vector \( y'_k = (y'_{k1}, y'_{k2}, \ldots, y'_{km}) \), where \( x'_{kn} \) means the \( n \)th input of the \( k \)th decision-making unit and \( y'_{kj} \) is its \( j \)th output. As a result, the input requirement set will be

\[
E(y' | x) = \{x'_1, x'_2, \ldots, x'_k\}: \text{subject to some conditions}
\]

that is, to solve the following programming under some constraints:

\[
F_i(y', x' |) = \min \{ \lambda : \lambda x' \in E(y' |) \}.
\]

According to Fare, et al. (1994, 1996), \( F_i(y', x' |) \) is referred as technical efficiency. The technical efficiency model has different forms; the model in this paper was chosen to use the strong disposability of constant returns to scale:

\[
F_i(y', x' | C, S) = \min \{ \lambda : \lambda x' \in E(y' | C, S) \}
\]

where \( C \) refers to Constant returns to scale, \( S \) to strong disposability of constant returns to scale. \( 0 < F_i(y', x' |) \leq 1 \) by the definition of \( F_i(y', x' |) \). A decision-making unit \( k \) is technically input efficient (simply as “relative efficiency”), if and only if \( F_i(y', x' |) = 1 \). A decision-making unit \( k \) is technically input inefficient (simply as “relative inefficiency”), if \( F_i(y', x' |) = 1 \) (Fare, et al., 1994, 1996).

The Changes of TFP

Technical efficiency measures the relative efficiency of different provincial governments in the same period. In order to get government productivity change index with time (Malmquist productivity index, or simply productivity), it is necessary to define input distance function. Fare, et al. (1994, 1997) defined input distance function as the reciprocal of the Farell technical efficiency, that is, the input distance function under the referential technology is:

\[
D_i(y', x' | C, S) = 1/ F_i(y', x' | C, S).
\]

Geometrically speaking, input distance function can be considered as the projection of the combination of inputs and outputs on the production frontier. According to Fare, et al. (1994, 1997), \((x', y')\) is on the production frontier if and only if \( D_i(y', x') = 1 \).

If \( D_i(y', x') > 1 \), \((x', y')\) is out of the production frontier, and accordingly the activity of the unit is technically inefficient. If \( t \) is replaced with \( t+1 \) in all the previous formulas, the input distance function in period \( t+1 \) is

\[
D_i^{t+1}(y'^{t+1}, x'^{t+1})
\]

The total factor productivity index on the basis of input-orientation, following Caves (1982), can be defined as Malmquist index:

\[
M_i^{t} = D_i^{t}(y', x') / D_i^{t+1}(y'^{t+1}, x'^{t+1})
\]

which is used to measure the technical efficiency in \( t+1 \) period, taking the technical efficiency in \( t \) period as a benchmark, namely projecting the combination of inputs and outputs in \( t+1 \) period onto the production frontier in \( t \) period. Similarly, the technical efficiency in \( t+1 \) period can be defined as benchmark as well to measure the technical efficiency of \( t \) period:

\[
M_i^{t} = D_i^{t+1}(y', x') / D_i^{t+1}(y'^{t+1}, x'^{t+1})
\]

The Decomposition of TFP

Total factor productivity of \( t+1 \) period can be obtained through \( t \) period in accordance with method proposed by Fare, et al. (1994, 1996), who applied Fisher’s (1922) method and constructed the “ideal index”. Fisher’s ideal index is the geometrical mean value of the Paache index and Laspeyres index, which are, respectively, the upper and lower bound of the true index. Therefore, as the geometrical mean value of the two indexes, the Fisher
ideal index is the better evaluation of the true index. For the above reasons, Fare and others took the geometrical mean value of Malmquist index in \( t \) period and \( t+1 \) period as the Malmquist productivity index on the basis of input-orientation. See the following function:

\[
M_i(x^{t+1}, y^{t+1}, x^t, y^t) = \left[ \frac{D_i(y^t, x^t)}{D_i(y^{t+1}, x^{t+1})} \right] \left[ \frac{D_i(y^{t+1}, x^{t+1})}{D_i(y^t, x^t)} \right]^{1/2}
\]

Through some simple algebra manipulations, the above formula can be decomposed as the following:

\[
M_i(x^{t+1}, y^{t+1}, x^t, y^t) = \frac{D_i(y^t, x^t)}{D_i(y^{t+1}, x^{t+1})} \cdot \frac{D_i(y^{t+1}, x^{t+1})}{D_i(y^t, x^t)}^{1/2} = EC(x^{t+1}, y^{t+1}, x^t, y^t) \cdot TC(x^{t+1}, y^{t+1}, x^t, y^t)
\]

where \( EC(\cdot) \) expresses the relative efficiency change index under the condition of constant returns to scale as well as free disposability of factors. It is the efficiency change of a decision-making unit in \( t \) period as the benchmark and it also means the horizontal effect of productivity change of different decision-making units.

\( TC(\cdot) \) is the technical change index, which measures the change of the best production frontier from \( t \) period and \( t+1 \) period. It reflects the expansion of the best production frontier (i.e. the growth effect of productivity).

Empirical Analysis of the Calculated Results
In order to compare the government productivities of different provinces in different periods, we divide the different provinces in a same period into three subgroups: provinces with government productivities ranking ahead in the current period, provinces with government productivities above the average, and provinces with government productivities below the average.

According to the sequence and process of administrative and economic system reforms, the variation of local governmental productivities with times is divided into three periods: 1985 to 1991; 1992 to 1996; and 1997 to 2003. From 1985 to 1991 is the exploring period for the administrative and market economic system reform of China, and this period is characterized in aggregate by the reform of government agencies and the activating of a market economy. From 1992 to 1996 is the period of keeping orientation of the market economic system firmly and redefining governmental functions thereof. The central characteristics of this period lie in the redefinition of governmental interventions, the transformation of governmental functions, the reform of administrative systems, and the restructuring and simplification of government agencies and their procedures. From 1997 to 2003 is the period of China carrying out reforms of the administrative and regulative system for accession to the WTO. This period is characterized by that of loosening or recovering governmental regulation, carrying out WTO requirements gradually, and reforming the relationships between government and the state-owned enterprises. Theoretically speaking, these three periods are reflected in three different stages of the transformation of governmental functions and the improvement of government efficiency. Hence, corresponding variations in government productivity are expected theoretically.

Meanwhile, to find out the regional characteristics of variation of local Chinese governmental productivities, the patterns of governmental productivities in different regions are divided into three areas: the eastern, the middle and the western.

The Overall Patterns of Local Chinese Governments’ TFP
Table 2 illustrates the average time sequence data of the whole country, the mean annual growth of local Chinese governments’ TFP is 1% since 1985. From the average point of view, this growth comes completely from the efficiency variation, for the mean annual growth of efficiency variation is 2% while the growth of technical variation is 0 since 1985. It suggests that, since 1985, local Chinese governments’ TFP has actually witnessed a considerable variation and this variation is a horizontal effect in the main; that is to say, there is a catch-up effect or convergence effect in the government total factor productivities of different provinces. This catch-up or convergence effect indicates that, there are leaders and followers in the reform of local Chinese governments: One province takes the lead in carrying out reform in respect of efficiency, and after a certain period of time, this reform is imitated by other provinces; therefore, the variation of efficiency sees an effect of diffusion.

Meanwhile, this horizontal effect in the government total factor productivities of different provinces shows that the administrative system reform of local governments is in a stable period and there is no individual province that has significant efficiency or technical advantage. The calculated results show that, from 1999 until 2002, the number of provinces with best productivities continued at about 10, just 1/3 of the total samples studied in this paper. In 2003, this figure amounted to 13, accounting for 40.3% of the total samples. There are only two provinces, namely, Guangdong and Gansu, showing an efficiency decline in 2003, and the efficiency variation of all the other provinces is greater than or equal to 0. At the same time, only 9 provinces saw a positive technical variation and all the others negative. Hence, in the aggregate tendency, the horizontal effect of efficiency variation must be greater than the growth effect of the productivity frontiers.

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The Variation of Local Chinese Governments’ TFP During 1985 to 1991

The TFP of Chinese local governments showed a general tendency of continuous growth during the period of 1985 to 1991. It can be concluded from Table 2 that the mean annual growth of local governments’ TFP reached 2% during this period. This growth comes from both the efficiency variation (2%) and the technical variation (2%). Therefore, in this period, local governments’ TFP saw both the horizontal effect and the growth effect. That is to say, there are leaders and followers in the reforms of local government administrative systems and economic systems.

During this period, the increase of TFP mainly came from four periods: 1986 to 1987 (6%); 1989 to 1990 (1%); 1990 to 1991 (7%); and 1991 to 1992 (20%). Horizontal effect was seen in four periods, 1985 to 1986 (3%); 1987 to 1988 (5%); 1989 to 1990 (22%); and 1990 to 1991 (4%), and growth effect was seen in the following four periods: 1986-1987 (11%); 1988-1989 (5%); 1990 to 1991 (3%); and 1991 to 1992 (29%). Obviously, the four periods of growth in total factor productivity correspond to the four periods of technical variation in the aggregate; therefore, in this time the increase of local governments’ TFP mainly came from technical variation (i.e., the growth effect).

During this time, the local government TFP of the following provinces saw a relatively rapid growth: Guangdong (10%); Hainan (5%); Shandong (4%); Beijing, Tianjing, Shanxi, Guangxi, Sichuan, and Guizhou (3% respectively). Besides, the government total factor productivity of Hebei province saw an annual mean growth of 2%, and Jiangsu, Heilongjiang, and Fujian 1% each. It is evident that this result perfectly conforms to the process of experimenting and expanding of the reforms of local governments and economic systems.

The local governments’ TFP shows obvious regional structural patterns during this period. Table 3 illustrates that the annual average growth of government TFP in the eastern regions amounts to 6%, while the figure is -1% in the middle and the west regions. The efficiency variation is 1% in the east and the middle areas, while it is 4% in the west area: The horizontal effect of the west area is much greater than that of the east and the middle areas. The technical variation of the east is 6%, while there is no change in the middle and the west areas. The growth effect of the east is much greater than that of the middle and the west areas. Meanwhile, in this period the horizontal effect and the growth effect go one after another; that is to say, the former appears after the latter comes out. This suggests that, averagely speaking, the east area was expanding the productivity frontiers effectively, while the middle and the west areas were keeping pace with the frontiers. Therefore, the east area always played the role of leader in the reforms of the administrative system and economic systems, while the middle and the west areas always played the role of follower in this period.

The Variation of Local Chinese Governments’ TFP in 1992 to 1996

As mentioned above, the period from 1992 to 1996 was important for China to keep the market-orientated system reform firm and carry out administrative system reform centered on the transformation of governmental functions. Reform in this period made active contributions to the enhancement of the TFP of local governments. Table 4 illustrates this clearly.

As shown in Table 4, the total factor productivity of local Chinese governments saw a mean annual growth of 1.8%; the efficiency variation (i.e., horizontal effect), saw a mean annual growth of 1%; and the technical variation (i.e., growth effect), 1.8%. Therefore, similar to the 1985 to 1991 period, horizontal effect and growth effect coexist in this period, and they are both lower than the previous period.

<table>
<thead>
<tr>
<th>Year</th>
<th>Malmquist productivity index</th>
<th>Efficiency variation index</th>
<th>Technical variation index</th>
<th>Year</th>
<th>Malmquist productivity index</th>
<th>Efficiency variation index</th>
<th>Technical variation index</th>
</tr>
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<tr>
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<td>0.96</td>
<td>0.99</td>
<td>1994-1995</td>
<td>0.95</td>
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<td>0.94</td>
<td>1990-1991</td>
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<td>0.91</td>
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<td>1989-1990</td>
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<td>0.91</td>
<td>0.96</td>
</tr>
<tr>
<td>1989-1990</td>
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<td>0.95</td>
<td>1988-1990</td>
<td>0.91</td>
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<tr>
<td>1988-1990</td>
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<td>0.91</td>
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<td>1987-1988</td>
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<td>0.91</td>
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<td>1987-1988</td>
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<td>0.95</td>
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<td>0.91</td>
<td>0.91</td>
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<td>1986-1987</td>
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<td>0.91</td>
<td>0.95</td>
<td>1985-1986</td>
<td>0.91</td>
<td>0.91</td>
<td>0.96</td>
</tr>
</tbody>
</table>

Table 2. Mean Malmquist Productivity Index of Chinese Local Governments and its Decomposition During 1985 to 2003

Table 4. Mean Malmquist Productivity Index of Chinese Local Governments and its Decomposition During 1992 to 2003
Table 3. The Variation of Local Chinese Governments’ TFP and its Decomposition in 1985 to 1991

<table>
<thead>
<tr>
<th></th>
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<td>1.06</td>
<td>1.06</td>
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<td>0.98</td>
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<td>1.07</td>
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<td>1.04</td>
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<td>1.13</td>
<td>1.06</td>
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<td>1.01</td>
</tr>
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<td>0.93</td>
<td>1.1</td>
<td>0.74</td>
<td>1.5</td>
<td>1.01</td>
<td>0.94</td>
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<td>1.05</td>
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<td>1.22</td>
<td>1.04</td>
<td>0.94</td>
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<td>0.94</td>
<td>1.09</td>
<td>1.54</td>
<td>1.06</td>
</tr>
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<td>1</td>
<td>0.92</td>
<td>0.95</td>
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</tr>
<tr>
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<td>1.04</td>
<td>0.94</td>
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<td>0.72</td>
<td>1.05</td>
<td>1.14</td>
<td>1.00</td>
</tr>
<tr>
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<td>1.11</td>
<td>0.94</td>
<td>1.05</td>
<td>0.86</td>
<td>1.03</td>
<td>1.29</td>
<td>1.02</td>
</tr>
</tbody>
</table>

Table 4. The Variation of Local Chinese Governments’ TFP and its Decomposition in 1992 to 1996

<table>
<thead>
<tr>
<th></th>
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<td>0.993</td>
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<td>1.01</td>
<td>1.00</td>
<td>0.97</td>
<td>1.035</td>
</tr>
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<td>0.95</td>
<td>1.025</td>
</tr>
<tr>
<td>Mean</td>
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<td>0.95</td>
<td>0.95</td>
<td>1.018</td>
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<td></td>
<td></td>
</tr>
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<td>1.07</td>
<td>0.91</td>
<td>1.04</td>
<td>1.023</td>
</tr>
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<td>Mean of the middle</td>
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<td>1.03</td>
<td>0.99</td>
<td>1.09</td>
<td>1.035</td>
</tr>
<tr>
<td>Mean of the west</td>
<td>1.04</td>
<td>0.99</td>
<td>0.99</td>
<td>1.02</td>
<td>1.01</td>
</tr>
<tr>
<td>Mean</td>
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<td>1.03</td>
<td>0.96</td>
<td>1.05</td>
<td>1.023</td>
</tr>
<tr>
<td>Technical variation Mean</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Mean of the west</td>
<td>1.19</td>
<td>0.86</td>
<td>0.98</td>
<td>0.89</td>
<td>0.98</td>
</tr>
<tr>
<td>Mean of the middle</td>
<td>1.13</td>
<td>0.98</td>
<td>1.01</td>
<td>0.9</td>
<td>1.005</td>
</tr>
<tr>
<td>Mean of the west</td>
<td>1.2</td>
<td>0.95</td>
<td>0.98</td>
<td>0.94</td>
<td>1.018</td>
</tr>
<tr>
<td>Mean</td>
<td>1.17</td>
<td>0.93</td>
<td>0.99</td>
<td>0.91</td>
<td>1.001</td>
</tr>
</tbody>
</table>

The variation of local governments’ TFP in this period mainly comes from the years 1992 to 1993, with a 22% growth rate, where the growth rate of efficiency variation is 5% and technical growth rate 17%, while the TFP growths of other years are all negative (see Table 4). A comparison of Table 2 to Table 4 illustrates that the local governments’ TFP sees a relatively high annual growth from 1990 to 1993. This can be explained in several ways: One is that the anti-corruption movement in 1989 brought deterrence restraint to the authorities’ behavior during the following years, and therefore exerted a certain influence on the government’s efficiency; another is that the governance improvement conducted after 1989 might have promoted the enhancement of government efficiency and the improvement of economic environment; and the last one lies in the fact that the
economic system reform of China has encountered some problems and the scope of government interventions has been narrowed since 1989. The government’s financial expenditure is, therefore, reduced and the decreasing of return to scale is relieved; the government’s TFP is relatively improved.

Individually, the government’s TFP for Guangdong and Hainan saw 48% and 46% growth, respectively, from 1991 to 1992. From 1992 to 1993, the government’s TFP for Zhejiang, Fujian, Guangxi, Guizhou, Yunnan, and Shaanxi witnessed a growth of 45%, 47%, 54%, 49%, 44%, and 33% respectively, while that of Beijing, Shandong, Jiangxi, and Hubei saw a growth of 22%, 18%, 31%, 29%, and 22% respectively. Notably, the government’s TFP for Hainan Province saw 135% growth. This high growth rate might be related to Hainan’s specific government reforms (i.e., building "small government and great society") in the early 1990s. If this is true, the reform of Hainan’s government should be an important orientation for the structuring reform of local Chinese governments in the next period; that is, to eradicate the traditional practice of setting functional agencies corresponding to those of upper-level government, so as to adapt the agency structures and sizes of government to economic development levels.

Seen from different regions, during the period from 1992 to 1996, the TFP of governments in the east region saw a mean annual growth of -0.7%, while the figure reached 3.5% and 2.5% in the middle and the west respectively. This pattern is a significant contrast to the previous period. As to the efficiency variation (i.e., growth effect), a mean annual growth of 2.3%, 3.5% and 1% was respectively seen in the east, middle and west. As to the technical variation (i.e., growth effect), the east, middle and west areas separately witnessed a mean annual growth of -2%, 0.5% and 1.8%. Meanwhile, the staggered patterns of growth effect and horizontal effect, which was seen in the previous period, disappeared. This suggests that there is a significant convergence effect in the government’s total factor productivities among different regions. The growth rates of the east and middle become negative or slow down, while that of the west are accelerated. In other words, the reforms of administrative and economic systems become sluggish in this period, while the provinces in the middle and west accelerate their reforms to catch up to the east.

**The Variation of Local Chinese Governments’ TFP in 1997 to 2003**

The variation of local governments’ TFP in 1997 to 2003 differs from that of the previous two periods. Average local Chinese governments’ TFP growth staggered from 1997 to 2003. Table 5 illustrates that the local governments’ TFP saw a positive growth in the following years: 1999 to 2000 (10%); 2001 to 2002 (4%); and 2002 to 2003 (1%), and a negative growth in 1997 to 1998 (-5%); 1998 to 1999 (-4%); and 2000 to 2001 (-8%). In this period, the horizontal effect was significant, with a mean annual growth of 1% in efficiency variation, and negative efficiency variation was seen in only one year. This is consistent with the evident convergence effect in the local governments’ TFP of the previous period. On the other hand, the growth effect became negative, with a mean annual decline of 1%, and the growth effect only existed in two years (i.e., 1999 to 2000 and 2001 to 2002, with a technical variation of 15% and 2% respectively). These two years happen to be the years of positive TFP growths.

**Table 5. The Variation of Local Chinese Governments’ TFP and its Decomposition in 1997 to 2003**

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Total factor productivity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean of the eastern</td>
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<td>0.95</td>
<td>0.99</td>
<td>0.95</td>
<td>1.03</td>
<td>1.01</td>
<td>0.98</td>
</tr>
<tr>
<td>Mean of the middle</td>
<td>0.89</td>
<td>0.93</td>
<td>1.11</td>
<td>0.92</td>
<td>1.07</td>
<td>0.99</td>
<td>0.99</td>
</tr>
<tr>
<td>Mean of the western</td>
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<td>1.19</td>
<td>0.9</td>
<td>1.01</td>
<td>1.02</td>
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<tr>
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<td>0.96</td>
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<td>1.01</td>
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<tr>
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<td></td>
</tr>
<tr>
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<td>1.03</td>
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<td>1.09</td>
<td>1.02</td>
<td>1.01</td>
<td>1.01</td>
</tr>
<tr>
<td>Mean of the middle</td>
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<td>0.99</td>
<td>0.95</td>
<td>1.07</td>
<td>1.04</td>
<td>1.01</td>
<td>1.01</td>
</tr>
<tr>
<td>Mean of the west</td>
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<td>0.98</td>
<td>0.9</td>
<td>0.98</td>
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<td>1.01</td>
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<tr>
<td>Mean</td>
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</tr>
<tr>
<td><strong>Technical variation</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>0.88</td>
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<td>1</td>
<td>0.97</td>
</tr>
<tr>
<td>Mean of the middle</td>
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<td>0.94</td>
<td>1.16</td>
<td>0.86</td>
<td>1.03</td>
<td>0.98</td>
<td>0.98</td>
</tr>
<tr>
<td>Mean of the west</td>
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<td>0.95</td>
<td>1.19</td>
<td>0.98</td>
<td>1.03</td>
<td>0.98</td>
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<tr>
<td>Mean</td>
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<td>0.94</td>
<td>1.15</td>
<td>0.91</td>
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The variation of local Chinese governments’ TFP in this period embodied the following characteristics. First, a great decline of local governments TFP was seen in 1997 to 1999 and 2000 to 2001, and it was the provinces in the east or middle regions that experienced a relatively great decline. This might be related to the Southeast Asian Finance Crisis, or to the slowdown of government reform in the east area. Second, most of the provinces that saw great growth in these years are located in the middle or west area. For instance, in 1997 to 1998 when the whole country on average saw a decline, Ningxia witnessed 69% growth; Hunan 8%; Inner Mongolia 7%; Qinghai 7%; and Guangdong and Guangxi 5%. In 1998 to 1999, relatively high growth was seen in the following provinces: Shaanxi (20%), Gansu and Qinghai (15%), Hainan (14%), Ningxia (7%), Jiangxi and Shandong (5%), and Xinjiang (4%). This pattern also appeared in the other years of this period. Third, the west area, as a whole, saw powerful TFP growth. In 1997 to 2003, the mean annual growth of the government’s TFP in the west area reached 3%, in which the growth rate amounted to 19% in 1999 to 2000 and 2% in 2002 to 2003. Fourth, the increase in the TFP of local governments in the west provides a great contrast to the decline in the east; therefore, an obvious convergence effect is shown in the government TFP between different regions.

The above characteristics originate from several factors. First, during the Southeast Asian Finance Crisis, the east area suffered a much greater influence than the west area did; therefore, the government TFP of the west area improved continuously at the same time when that of the east area declined. Second, the implementation of the strategy of developing the west brings a lot of resources into the west area, not only improving the productive capability greatly, but also affecting the government’s behaviors and enhancing the government’s efficiency. Third, while carrying out the strategy of developing the west, the local governments in the west area accelerated reforms of the administrative and economic systems, and the institutional level of government management and the economic development environment improved much. Fourth, through the 20 years of reform and openings, the economic and social agents in the west area have not only changed their cultural attitudes and behaviors, but also stepped on the developing roads more appropriate to them than before.

Conclusions and Discussions
The paper applies a Data Envelope Analysis to the measurements and evaluations of the Chinese provincial governmental total factor productivity. DEA has a strong advantage in evaluating the performance of non-market decision-making organizations; it has explored some fields which in the past is unsolvable using tradition methods.

This paper takes advantage of this method to survey provincial government productivity changes for the period of 1985 to 2003 in China, and has carried on decomposition on the provincial government productivity to the efficiency change and the technical change; it has analyzed the productivity changes at different times and in different provinces, and has carried on theoretical analysis of this kind of condition; it has explained the influence upon the governmental relative efficiency brought by reforms of administrative systems and the interdependence between governmental relative efficiency and governmental administrative systems.

Due to non-access to data resources, this paper has not established subject perceptions indicators, which are similar to public satisfaction indicators, to evaluate government performance. In fact, the subject perceptions indicators which are used to evaluate government performance and government quality could definitely be melded into the model in this article. The lack of subject perceptions indicators is an obvious insufficiency of this paper.

Notes
1 Due to the limited space herein, no more detailed data about the yearly productivities of provincial governments is reported in this paper. Interested readers may refer to the author for such information (yqq@bnu.edu.cn).
2 According to the definition of the Malmquist index, the indexes in the table minus 1 are productivity change; similarly hereinafter.

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