POLITICS, POLICY, AND CHINA'S FUTURE COURSE

Thomas Fingar

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Prepared for the Office of Technology Assessment, assessment of Technology Transfer to China. This paper was prepared while the author was a Senior Research Associate in the International Strategic Institute at Stanford University. He is currently chief of the China Division in the Bureau of Intelligence and Research, U.S. Department of State. Views expressed in this paper do not necessarily reflect those of the Department of State.
INTRODUCTION

When Mao Zedong died in September 1976, China had both an opportunity and the necessity to address serious economic, social, and political problems caused by shortsighted, misguided, and ineffectual policies. Pressures for reform had been building for years, but they were held in check by the reluctance of most leaders to modify significantly the institutions and procedures established in the 1950s, and by Mao's unrivaled authority and commitment to the radical alternatives of the Cultural Revolution. By the time of his death, the situation had become so bad that there was little support for the status quo. When change finally came, it came with remarkable speed and has probably gone further than anyone had anticipated. Despite their speed and magnitude, however, changes have proceeded smoothly and with an aura of stability and continuity. Indeed, Chinese leaders point to stability as a if not the major achievement of the post-Mao era.

How are we to explain declarations of stability in the midst of obvious and extensive change? Are Chinese leaders engaged in wishful thinking or deliberate deception, or has the very process of change engendered greater stability and predictability? More to the point, will the opening to the outside world and fundamental domestic reforms endure, or will they prove as fragile and transitory as earlier efforts to transform China? If the outcome is still uncertain, what developments inside and outside of China will determine whether the reforms continue to evolve in the same direction or will
be abandoned or reversed? The analysis presented below indicates that prospects for stability and continuity, and for the reforms to achieve their intended objectives, are both good and improving. The four factors that appear to be most important are:

1. Whatever their other differences, all political leaders attach high priority to the maintenance of economic, social, and political stability.

2. The skill with which personnel and policy changes have been made has minimized and isolated opposition, and given most players a greater stake in the reforms than in any available alternative course.

3. The reforms have brought tangible benefits to the nation as a whole, to a wide range of constituencies and interest groups, and to individual citizens. These achievements enhance the legitimacy of the reforms and the regime that has put them into effect.

4. Over time, a growing number of senior and second-echelon leaders seems to have accepted the idea of a "worldwide technological revolution" with a dynamic and requisites of its own. To participate in and take advantage of this revolution--and to avoid falling dangerously far behind--China must abandon the structures and policies of the past and is constrained in the choice of options for the future.
Each of these factors will be examined in the analysis that follows, but before turning to that analysis, it will be useful to present a broad overview of the post-Mao period and macro-level developments shaping China's approach to the acquisition and assimilation of new technologies. Rather than identify differences in approach or emphasis in individual policy areas or from one region of the country to another, this summary will describe overall trends. It will also introduce and define descriptive terms used later in the paper.

OVERVIEW: 1976-1986

For the purposes of this paper, the post-Mao era can be divided into three periods. The first period or phase of policy evolution began immediately after the Chairman's demise and lasted until late 1978. This phase was characterized by tension between defenders--and beneficiaries--of structural and policy changes introduced during the Cultural Revolution, and former victims determined to restore much of the system extant in early 1966. Despite significant policy differences and personal animosity between those who had gained power during the Cultural Revolution and the "veteran cadres" they had replaced, there was a shared commitment to restore order, revitalize the economy, and regain the confidence of the people. Restoring legitimacy and the capacity of the system to meet the challenges of modernization took priority over settling old scores.

Although the removal of the "gang of four" and their most prominent supporters eliminated those most determined to maintain the practices and organizational forms adopted during the "ten years of chaos," a number of senior leaders and most of those holding official positions were reluctant to
jeopardize their careers or discard all of the so-called "socialist new-born things." They recognized the need for change to raise efficiency and restore legitimacy, but they also wanted to preserve as much as possible of the existing system. This group, later called the "whateverists" by their opponents because of their opposition to changes that violated anything that Mao had said or done, is referred to as preservationists in this paper. The leader and in many ways the symbol of the preservationists was Hua Guofeng.

Opposing but cooperating with the preservationists was a loose alliance of rehabilitated cadres and senior officials who had been eclipsed but not removed entirely during the Cultural Revolution. For ideological and personal reasons, or because they perceived China's problems differently than did the preservationists, this group wanted to discard many of the changes introduced after 1966. Some, here called the restorationists, wanted to reestablish the economic and administrative system extant in the early 1960s because they believed that only comprehensive central planning and control could enable China to meet the social and economic challenges confronting the nation. Others in this category were less wedded to the structures and approaches of the past but regarded restoration of the 1966 system as a necessary step toward development of a more effective approach to modernization. In other words, they regarded restoration as a useful step toward eventual transformation. In the pages that follow, this group is called the transformationists. During the 1976-78 period, differences between the restorationists and the transformationists were minor or muted and much of the time they acted as a single group or coalition. Chen Yun, Nie Rongzhen, and after his rehabilitation, Deng Xiaoping, were prominent members of this coalition.
The 1976-78 period was characterized by determined efforts to restore the credibility and capability of the Party and the successor regime. Policies and pronouncements emphasized the restoration of stability and predictability, termination of the most noxious of the Cultural Revolution innovations, and measures to win time and support from skeptical cadres and citizens. To forge as large a coalition of supporters as possible—and to avoid alienating any more than absolutely necessary, Party leaders promised something for everyone and avoided decisions that would invite opposition. Only a small number of people were to be excluded from their grand coalition, namely, those who were closely identified with Viang Qing and her principal allies. The key to national strength and prosperity, it was argued during this period, was removal of the "gang of four." With their removal, and the abolition of the most irrational practices of the Cultural Revolution, China could realize its full potential. Having "unfettered" the nation's workers, peasants, soldiers, and intellectuals, China could quickly improve economic performance and raise living standards. The key to achieving this goal, it was said, was to modernize science and technology. New technologies were to be developed indigenously or imported from abroad. Since China needed "everything," acquisition could be relatively unplanned. Moreover, assimilation of new technologies was assumed to be relatively easy. The difficulties inherent in such an approach were doubtless recognized by some in the leadership, but, for political reasons, it was deemed essential to minimize their importance.

Phase two began with the Third Plenum of the Eleventh Central Committee of the Chinese Communist Party in December 1978 and lasted until early 1982.
when long-discussed administrative and personnel changes were actually put into effect. During this period, the coalition of restorationists and transformationists scored a decisive victory over the preservationists and began to discard not only most of the "socialist new-born things" of the Cultural Revolution, but also many of the structural forms adopted during the Great Leap Forward (1958-60). Under the banner of "practice is the sole criterion of truth," the coalition of restorationists and transformationists criticized virtually every "Maoist" innovation. Although the formal assessment concluded that Mao had been seventy percent correct and only 30 percent wrong, his "errors" included such hallmarks of New China as communes, egalitarianism, and reliance on people's war.

As one might expect from a coalition comprised of groups with different visions of the future, the policies adopted during this period evince both compromise and discontinuity. Thus, for example, greater decentralization in certain policy areas (e.g., rural organization and agricultural policies more generally) was accompanied by tighter central planning and control in others (the energy sector and foreign trade, for example). This was also a period of experimentation in which those who wanted to update the system of the First Five-Year Plan to meet the changed circumstances of the 1980s, and those searching for a new Chinese form of socialism could test their ideas and determine the limits and advantages of each approach. Thus, the restorationists seem to have had a relatively free hand in "readjusting" the urban economy and the transformationists appear to have enjoyed similar latitude in the countryside. This is obviously an oversimplification of a very complex process, but, as in the earlier phase, those with different views
and policy preferences appear to have worked out a modus vivendi designed to maintain stability and identify the most effective solutions to China's formidable problems.

Protagonists on both sides wanted to avoid the kind of "unprincipled struggle" and ad hominem attacks that had characterized the Cultural Revolution. There were many reasons for wanting to do so. One was to disabuse the people of the notion that Party leadership meant little more than a struggle for power and position in which the interests of the nation were secondary. Another was that most leaders were probably uncertain what course of action would best meet China's needs. Undue self-confidence had gotten the Party and the country into difficulty twice in the recent past; prudence was clearly warranted because the consequences of another major policy error could be disastrous. Cautious experimentation, willingness to admit mistakes and make necessary modifications, and a stronger commitment to results than methods characterized this period.

Policies governing the acquisition and assimilation of technology during this period differed from those of the preceding one in three respects. First of all, trade officials and enterprises authorized to purchase equipment and technology from abroad were encouraged to obtain know-how as well as products. Whereas 1976-78 guidelines had permitted and even encouraged the acquisition of equipment embodying advanced technologies, those issued in the second phase of reform emphasized that it was "better to import hens than to buy eggs." A second change from the earlier period was that policies paid more attention to the assimilation and application of imported equipment and technology.
China's leaders had learned the limitations of "out of the box" purchases and began to authorize more expensive but ultimately more valuable cost plus contracts that included installation and training programs. Similarly, they learned that reverse engineering can be as difficult and time consuming as invention and that China would have to enter into joint ventures, licensed production, and other active modes of technology transfer if the country was to realize its developmental goals fast enough to fulfill government promises and to satisfy rising expectations. The third difference between the technology transfer policies of phases one and two is that the central government reasserted control over imports of technology and equipment. This was done to reduce the expenditure of foreign exchange for equipment no better than that obtainable from domestic suppliers, to reduce duplication and acquisition of systems utilizing incompatible technologies, and to ensure that the equipment and technologies that were imported could be assimilated and used to full advantage. As will be shown below, these policies were sound in theory but proved difficult to apply in practice.

The division between phases two and three is less clear-cut than that between the first and second phases because the rate and magnitude of change increased significantly after 1978. Indeed, Chinese commentators divide the post-Mao era into just two periods: before and after the Third Plenum. There is a certain utility to their periodization, but it masks important developments that have shaped and will continue to shape the course of reform and the strategy of technology transfer.
The administrative and personnel changes that began in early 1982 and continue today have had three primary objectives: removal of superfluous, superannuated, underqualified, and politically unreliable cadres; simplification of administrative organizations and procedures to improve efficiency and overall system performance; and preparation for additional reforms needed to "meet the challenge of the new technological revolution (NTR)." In the course of removing and replacing Party and state cadres at all levels of the system, transformationists managed to remove not only the preservationists who had been retained through the first two phases, but also many rehabilitated veteran cadres who tended to side with the restorationists. At the same time, as part of the drive to make cadres younger, better educated, more technically competent, and more revolutionary, the transformationists added a new generation of technocrats (such as Li Peng and Song Jian) who better understand the requirements of the NTR.

Depicting developments of the past four years as the partial triumph of the transformationists over the restorationists is warranted, but it oversimplifies what actually happened. For one thing, it obscures the fact that both restorationists and transformationists learned valuable lessons from the experiments conducted in the preceding phase and that members of both groups seem to have concluded that it was no longer possible or desirable to merely tinker with the system China had adopted during the period of Soviet tutelage. Restorationists who disagreed with this conclusion have been---or soon will be---excluded from the policymaking process. The second way in which it oversimplifies the situation is to mask or mischaracterize the new cleavage that has emerged as leaders have assessed and addressed the results of prior
reforms. The new and now principal cleavage or issue concerns the pace, not the direction, of reform.

Most foreign analysts have characterized the latest split in the leadership as a struggle between conservatives (manifesting most of the traits this paper ascribes to the restorationists) and reformers (similar to those I have called transformationists). This is misleading because, in my view, virtually all those who now occupy leading positions in China consider themselves, and deserve to be called, reformers. The difference is that some are more cautious than others, or, stated differently, that some favor a step-by-step approach while others think it essential to take many steps simultaneously or in rapid succession. At the risk of further terminological confusion, I have described these two loose groupings as moderates and reform-mongers.

Moderates and reform-mongers differ in their approach to many aspects of reform. For example, whereas moderates want to solve one problem before tackling another, reform-mongers maintain that most problems are linked and must therefore be addressed at the same time. Moderates want to solve problems completely; reform-mongers are content to alleviate them and go on to other matters. Unanticipated and unwanted side effects are very disturbing to the moderate, but the reform-monger accepts them as additional problems to be tackled in due course. The list of differences could easily be extended, but doing so would exaggerate their magnitude and significance. To be sure, the differences are both real and important, but they are less important than is the shared commitment to effective reform of China's economic, social, and political institutions.
One could point to many examples to demonstrate that present policies reflect restorationist as well as transformationist approaches to modernization, but this overview will cite only a few. Perhaps the clearest illustration is the mixed approach to planning and market mechanisms, and to centralization and decentralization that characterizes the current strategy of development. Despite broad and substantial devolution of authority and responsibility to lower levels of the political system and to individual enterprises, factory directors, and households, the center has retained control over those activities and sectors of the economy considered most important for the attainment of national objectives. Thus, for example, the center and central planning still play a dominant role in the energy, transportation, and telecommunications sectors; in the development of critical technologies such as microelectronics, computers, bioengineering, telecommunications, energy, and advanced materials. Most other sectors and technical fields are now monitored or administered by lower-level units. The center exercises little or no control over, and does not attempt to plan for, a growing number of economic units. These units, which range from specialized households in the countryside to medium-sized factories and mines, have considerable authority to manage their affairs and respond to market signals. Another and very different example of this mixed approach concerns the mobility of technical specialists. Although general policies enable technical specialists to change jobs, persons working on key national projects (i.e., those of greatest concern to and controlled by the central government) are prohibited from doing so.
Despite their differences, the reformers have initiated a number of changes that go beyond what was possible before 1982. Examples include the introduction of taxes on enterprise profits, limited but nevertheless significant price reform, and fundamental reform of the management and funding of scientific research. Implementing these and other recent reforms has proven to be more difficult and the results less clear-cut than was the case in the previous two periods, but pressure to abandon the effort appears minimal. Critics want the reforms to work better or faster, they do not want to roll back the clock.

As in the overviews of the two previous phases, this section will conclude with a brief look at policies governing the acquisition and assimilation of technologies. Here, too, recent measures evince features of both the restorationist and the transformationist approach. On the one hand, the central government is attempting to exercise greater control over the expenditure of foreign exchange in general and for technology acquisition in particular. The objectives are similar to those of earlier periods, namely, to avoid duplication, ensure compatibility and ease of assimilation, and to target acquisition of critical technologies. On the other hand, individual units in China now enjoy considerably greater latitude, and have more resources, to acquire equipment and technology from Chinese sources through the new "technology market." Moreover, they can contract with research institutes or other enterprises to develop specialized equipment or techniques.
Another change from the previous period is that policies now call for the acquisition of appropriate rather than advanced technologies. Rather than always seeking state-of-the-art equipment and know-how, trade officials and plant managers are encouraged to seek technologies appropriate to China's present conditions. In some fields, such as telecommunications, China still seeks the best available, but in others (e.g., the petrochemical industry), responsible officials are permitted and encouraged to procure less advanced, lower cost, but still useful equipment and know-how. This approach enables China to acquire more technologies and to assimilate them more easily than was possible under the approach of the previous phase.

Before concluding this introductory section, it will be useful to add one additional definitional note concerning use of the terms technology and technology transfer. When juxtaposed to words such as equipment or products, technology refers to the know-how required to manufacture a particular product or achieve specified parameters. This, of course, is the normal meaning of the word. At other times, however, technology is used is the less precise and more inclusive way common in Chinese discussions of science and technology or the new technological revolution. The principal difference is that Chinese usage often combines or equates product and know-how. It is not surprising, therefore, that many enterprises and foreign trade officials responded to calls to acquire new technology by procuring products rather than know-how.

Technology transfer refers to the assimilation as well as the acquisition of a new technology. Unless and until the recipient has mastered use of the technology, its transfer is incomplete. It has taken Chinese officials some
time to appreciate the difficulties and requirements of technology transfer, but they now attach equal importance to acquisition and assimilation. With this as background, we will begin the more detailed analysis of the interplay of politics and policy, and their implications for technology transfer to China.

POLITICS, PERSONNEL, AND POLICIES

The developments outlined above were the product of many interactive factors including luck, shared commitment to restore stability and Party legitimacy, determination to modernize China as rapidly as possible, and growing confidence derived from the success of early reforms. From the first days of the post-Mao era, political leaders, including Hua Guofeng and others later criticized for slavish devotion to the late Chairman's words and deeds, understood and emphasized the need to restore stability and to improve the credibility and capability of the Party-led state apparatus. Both the Party and the state had been previously weakened by the Cultural Revolution. China had stagnated and looked increasingly capable of providing adequately for its exploding population. To make matters worse, on almost every dimension (e.g., economic strength, military might, scientific and technical capabilities), the PRC had fallen increasingly far behind not only the superpowers but also a growing number of developing countries. This was an affront to China's national dignity, but, more importantly, it endangered China's sovereignty and independence. The first priority was to restore order, stability and confidence; the second was to get the country moving again.
As part of the effort to restore stability and the confidence of cadres and ordinary citizens, Mao's immediate successors appear to have made a conscious decision to defer resolution of many "questions left over from history," and avoid even the appearance of retribution against those who had benefitted from the excesses of the Cultural Revolution. Personal rivalries and the settling of old scores had to be delayed or set aside entirely if the Party and state were to regain lost legitimacy and the capability to meet the challenge of modernization. These twin goals were entirely compatible: power struggles and personal rivalries would have further debased the Party's already shaky authority; cooperation brought together skills and information needed to revitalize the economy and restore military strength.

During the first phase of the post-Mao era, senior leaders sought to win as much support as possible for the regime and its efforts to revitalize the nation. By restricting the target of criticism to the tiny group most closely associated with the "gang of four" and to practices that were distasteful to most citizens, and by promising specific benefits to virtually every interest or constituency in the nation, Hua and his associates managed to forge a loose but effective coalition. In certain respects, this coalition resembled that established in the early 1950s when all but a handful of "counter-revolutionaries" were united to build a "New China." The analogy should not be pushed too far, but it is appropriate in so far as the the successor regime used patriotism and the promise of stability and better living conditions to enlist the support of those whose skills were essential to the attainment of developmental goals. Appeals for support resurrected in the late-70s and reiterated to the present affirm the importance of national self-strengthening.
through modernization, and affirm that the purpose of modernization--and the
goal and purpose of Party leadership--is to raise the material and cultural
level of the Chinese people.

To raise the capacity of the state to meet the challenges of the "four
modernizations" (agriculture, industry, national defense, and science and
technology), it was necessary to restore and expand bureaucratic agencies at
all levels of the system. During the Cultural Revolution, the scope of
governmental responsibilities was drastically reduced as, under the banner of
local self-reliance, responsibilities and revenues devolved from the center to
provinces, cities, communes, and individual enterprises. The resultant system
worked, but it was extremely inefficient. Growth kept pace with population
increases, but living standards remained stuck at a level only slightly higher
than mere subsistence. The coalition of preservationists, restorationists,
and transformationists was determined to restore the capacity to plan,
monitor, and administer the economy, schools, S&T activities, and all other
sectors and facets of everyday life.

As part of this rebuilding effort, they created many new positions and
adopted a strategy that greatly expanded the size of the bureaucracy. This
was done for both practical and political reasons. Since the bureaucracy was
expanding, there was no immediate need to remove persons who had become
officials during the decade of turmoil. This group was later scathingly
criticized on grounds of incompetence and political unreliability, but during
phase one the leadership needed the Cultural Revolution appointees. Whatever
their faults, these people had been running the system for nearly a decade and
knew better than anyone how to make things happen. The new regime needed these people because it needed their knowledge and contacts, but they were kept on for another reason as well. By retaining them, the Hua Guofeng leadership was able to reduce fears of retaliation and make concrete its pledge of stability.

A second group of people assigned to positions in the restored bureaucratic structure consisted of "veteran cadres" who had been criticized or deposed during the Cultural Revolution. Restoring them to positions of responsibility was, in part, a way of acknowledging that they had been unfairly criticized. This was not mere cronyism or a gesture of exoneration, however, because rehabilitated former officials were presumed to know how to restore and operate the pre-Cultural Revolution system which was being rebuilt. These were, after all, the colleagues and subordinates of Chen Yun, Li Xiannian—and later Deng Xiaoping—who were regaining influence in Hua's transitional administration. Restoring them to official posts was part spoils system and part search for specific areas of competence. It was also an effort to place in key positions persons thought to hold a particular attitude toward the role of the state.

A third group recruited to fill positions in the expanding bureaucracy consisted of technocrats who had been trained China or abroad during the 1950s and early 1960s. These technocrats had been too young to assume positions of importance prior to the Cultural Revolution, but they were believed to have skills vital to the drive for modernization. The importance of this group was limited in phase one, but it has increased steadily in the years since they entered the bureaucracy.
Expanding the bureaucracy at all levels of the system produced practical and political benefits, but it also entailed substantial costs. On the benefits side of the ledger, it unquestionably improved the capacity of the central government to monitor and manage economic, social, and political developments throughout the country. It also helped to win the support of significant political groups by giving them tangible benefits and a personal stake in the new regime and whatever policies it might adopt.

Bureaucratic expansion had drawbacks as well. One, which became increasingly significant in later years, was the financial cost. Another was the uneasy juxtaposition of veteran cadres and their former Red Guard tormentors. Personal animosities die hard in China; many former Red Guards remained distrustful—and fearful—of those they had displaced, and former victims were uneasy about cooperating with those with whom they had scores to settle. Personal feelings could be put aside for a time in order to move ahead with vital programs, but these scores eventually had to be settled. A third cost was inefficiency. There were, quite simply, too many people, decision points, overlapping jurisdictions and responsibilities, and too much redundancy. This was a textbook prescription for delay and indecision. Eventually, that is, by late 1981, it was clear that something had to be done to alleviate these problems.

The coalition building efforts of phase one were also reflected in the Hua Guofeng-Yu Qiuli program for national development and the various multi-year plans adopted by national conferences on education, science and
technology, and many industrial other constituencies. Two characteristics of these plans and programs stand out more than any others: they were all overly ambitious and they all avoided making difficult or meaningful choices. These were not real plans, they were wish lists promising something for everyone. Educators were promised better facilities, more disciplined students, and higher salaries; agriculture would be "basically mechanized" by the mid-80s; scientists would have more time and better equipment for research; factories would obtain new and more advanced equipment; workers would receive higher wages and everyone would have access to more and better consumer goods. It is easy to deride these plans and promises as unrealistic, but to do so misses the point. That they were unattainable was unimportant; their existence and the way they were presented bought time and support for the new regime which enabled it to pull up its socks and put together more realistic policies with real priorities.

Although the "plans" of 1977-78 ultimately proved to have greater political than practical value, the leadership did attempt to put them into effect. Much was learned or relearned in the process. Several lessons are germane to the subject of this paper for they altered both perceptions of and policies toward the acquisition and assimilation of technology. For example, senior leaders learned that it can take a long time and substantial investment to translate research findings into production technologies, and even longer to put the new technologies into effect. Whether because they were largely ignorant about research to production processes, were deliberately or unintentionally misled by scientists drawn into the policymaking process for the first time, regarded the plans as primarily political documents, or for
some combination of these reasons, senior political leaders regularly spoke as if China's scientists and engineers would quickly score breakthroughs in basic research and immediately translate their discoveries into beneficial technologies. During phase one, these leaders, factory managers, young engineers, and many others learned that the process is not that simple. This discovery was an important step toward the later (beginning in 1981) emphasis on applied research and closer links between economic and S&T planning.

Another important lesson was that it is often easier to acquire than to assimilate a new technology. Having largely abandoned turnkey acquisitions of the kind that had brought China modern petrochemical plants earlier in the decade, Beijing pursued a strategy that emphasized acquisition of products embodying newer technologies and eschewed installation and training programs. As noted in the overview section, it was during this period that China's decision makers learned the limitations of such an approach and began to develop and implement measures to facilitate absorption and application as well as the acquisition of technologies.

This brings us to yet another lesson of the 1976-78 stage of policy evolution, namely, the importance of distinguishing between equipment and know-how. Although political leaders and policy statements called for procurement of technologies, foreign trade officials and others responsible for acquisition frequently responded by buying products. Indeed, there was very little meaningful technology transfer during this stage even though China did begin to purchase a good deal of equipment. Subsequent policies and procedures have attempted to correct this problem, but the results have been mixed at best.
Despite the premium the leadership placed on personnel, policy, and
general political stability, intra-elite differences began to surface quite
early in the post-Mao period. Those differences became more apparent after
Deng Xiaoping was rehabilitated and resumed an active public role in late
1977. At issue was whether to retain or discard practices and personnel
associated with the Cultural Revolution. The struggle between
preservationists and restorationists (in alliance with the transformationists)
was intense, but it proceeded almost entirely out of public view because all
protagonists were eager to preserve the facade of unity. There was simply too
much at stake to risk an all out struggle for power. Neither side was willing
to retire without a fight, but when the dust settled, both sides were able to
live with the results.

Several factors contributed to the triumph of the restorationist-
transformationist alliance. One was surely the political skill and will of
Deng Xiaoping and his allies who enjoyed a clear edge over the more cautious,
less experienced Hua Guofeng. By providing a mix of positive and negative
inducements, Deng not only coopted or neutralized many individuals who had
once stood with the preservationists, he managed to do so with such skill that
few "losers" departed in anger or determined to renew the fight at a later
time.

Deng's strategy was to begin by attacking the most vulnerable of the
preservationists—a group typified by Chen Yonggui. By making it clear that
they could not win and giving them a graceful way to retreat—applying
political muscle when needed—Deng managed to remove or neutralize those who might have championed the preservationist cause at the apex of the political system. Shortly after launching his rolling campaign to remove opponents and obstructionists from the top of the system, Deng and his allies began a more difficult and far-reaching assault on actual and potential opponents in grassroots positions. Both parts of this high-low strategy utilized three linked but distinct approaches.

One approach was to remove opponents in the course of a broader drive to simplify and streamline administrative organs by clarifying responsibilities and removing redundant positions and the incumbents who filled them. What might otherwise have been regarded as a vindictive or personalized attack on Cultural Revolution appointees or those associated with particular leaders or factions was explained—and widely accepted—as necessary to increase efficiency. Since the system was unquestionably inefficient and incapable of meeting the challenge of the new technological revolution, there was widespread support for the campaign if not necessarily for the individual targets. At any rate, people were removed, reassigned, retired, or otherwise dismissed without detriment to their reputations. Administrative reform and personnel change continues (additional retirements and personnel changes are anticipated at the forthcoming session of the National People's Congress) and appears to have been accomplished without great difficulty or effective opposition.

A related program was conducted under the banner of Party rectification. Aimed more at lower-level cadres than at senior officials, this program has
several goals, including removal of those who had committed serious offenses during the Cultural Revolution and those who oppose reform. The latter category is aimed at obstructionists, incompetents, and those more interested in personal gain than public benefit. Removing such persons from Party and state positions has helped to restore the prestige of the Party. It is noteworthy that persons removed through this and other methods designed to achieve personnel reform were given alternatives that may well have appeared favorable to continued service in the bureaucracy (e.g., contracting to become a specialized household or taking advantage of opportunities created by the reform of commercial policies). Moreover, they were given plenty of advance warning and ample opportunity to step aside gracefully. Many in fact did so.

As noted in the introductory overview, personnel and administrative reform continues and, in phase three, has been directed principally at persons who could reasonably be assumed supportive of the restorationist approach. Not everyone has gone without a struggle. There are reports, for example, that Deng and his lieutenants had to conduct long and difficult negotiations to persuade senior leaders to step down at the September 1985 Party Conference. But they have stepped down and appear uninterested in--and incapable--of storming back onto the scene to thwart the reform process. This is perhaps the most important aspect of the many personnel and policy changes that have occurred since 1976; they have been conducted in such a way as to make it difficult if not impossible for potential opponents to mount a serious counterattack. Many of those who have been removed now have a stake in the reform program. This enables the reformers--both the moderates and the reform-mongers--to proceed with confidence and considerable latitude. They
can afford to make mistakes because they have an increasingly significant reservoir of support from the public and know that there is no antagonistic group of "losers" waiting in the wings to pounce upon any and every error or unanticipated development. Individuals can--and do--continue to disagree about the pace, composition, timing, and other dimensions of reform, but the basic idea that reform is necessary and beneficial enjoys wide support.

In addition to removing actual and potential opponents of reform, personnel changes have also brought into the system a large and growing number of new administrators and technical specialists. Three characteristics of this group merit attention here. First of all, those entering official positions in the Party, government, and economy are younger and better educated than the people they have replaced. Youth is not a guarantee of diligence, but remaining and newly appointed functionaries are healthier and more capable of devoting more time and attention to their responsibilities. They are younger, but they are not young or inexperienced. Many have labored for decades in posts just below the top ranks of their current units. Moreover, their better educations presumably make them better able to understand and respond to the "requirements of the new technological revolution." Some of them do, in fact, have technical backgrounds (Vice Premier Li Peng is generally regarded as the senior and therefore model "young" technocrat); even those who do not are presumed to be more sensitive to the needs of science and technology than the cadres they replaced. Rather than betray their own low level of understanding, those without technical training may defer to those with more technical expertise or experience. betray their own low level of understanding. Among other consequences, this
has opened the way for more formal and informal consultation of technical specialists and altered the terms of discourse in policy debates. Those who can marshall technical arguments have an advantage over those who cannot.

A second important characteristic of the "new" group of leaders is that they can and must work in an environment very different from that of the past. Responsibilities are clearer, the number of coordination and decision points has been reduced, and the demand for action is greater than it has been for decades. Delay and indecision will no longer be tolerated; it is both possible and necessary to exercise real leadership. In addition, individuals have greater personal incentives to act decisively; cadres who show results will be selected for promotion in a system that promises to be much more fluid and dynamic than in the past. Those who do nothing of consequence can no longer sit back secure in their positions; they might well be reassigned or demoted. Ideological orthodoxy and the ability to quote or interpret the canons of Marxism-Leninism-Mao Zedong Thought are neither required nor very helpful in climbing the ladder of success in Deng's China.

As noted above, the "strategy" of phase one consisted of promising something for everyone with no real priorities. By the latter part of 1978, however, it had become clear to the top leadership, probably including the preservationists, that the ambitious goals and politically motivated promises proclaimed only a short time earlier had to be replaced by attainable targets and meaningful plans and priorities. This realization, together with more careful studies of what was actually needed in different sectors of the economy and what could be attained within specified periods gave rise to a
mixed strategy that continues to shape policies in general and technology transfer in particular.

Reduced to its simplest terms, this strategy calls for narrowing the scope of central control by devolving responsibility for many activities to lower levels of the system. Devolution is depicted as having two advantages: the center can more effectively manage those units and activities remaining within its purview; and lower levels of the system can more easily and more fully tap their full potential. The assumption here is that lower-level units will pay closer attention to and provide more effective supervision of matters falling within their jurisdictions than the center could if it still had to deal with "everything." In other words, the approach calls for Beijing to do less to ensure that what it does do is done well. It also requires local units to assume more responsibility and authority for matters no longer controlled by the central government. By reducing the scope of its own activity, the central government has been able to reduce the size and complexity of the bureaucracy, make better use of limited resources, including technical and administrative specialists, and better promote the four modernizations.

Restorationists such as Chen Yun endorsed this change because it promised to make planning and central control more effective; transformationists like Zhao Ziyang also approved the change because it provided greater latitude for local initiative and market mechanisms than was heretofore possible. Top leaders of both the restorationist and transformationist schools seem to have regarded narrowing the scope of central planning as an experiment and to have
reserved judgment as to whether it was a temporary expedient or a long-term change.

Since the first stage of decentralization did not go much beyond what had been championed by Chen and others in the mid-1950s and early 1960s (except in the countryside), it was relatively noncontroversial. Moreover, it was quite logical for the center to retain--some would say regain--tight control over those sectors of the economy considered critical for the attainment of developmental and political objectives. What was really important--such as key infrastructural projects, factories that generated high profits for the state, and facilities serving the military--remain firmly in the hands of central planners and administrators. Less critical activities--common consumer items for the domestic market, small coal mines, vegetable sales, etc.--are left to local governments, individual enterprises, or specialized households.

Over the past seven years, the logic and underlying motivation behind this approach--and the retirement, conversion, or neutralization of many restorationists--has led to a steady reduction in the scope of central planning and control. More and more facilities and activities have passed from central to local control. As ministries have transferred responsibility for and financial revenues from a growing number of facilities to local jurisdictions, the span of control has been reduced and administration has been made much easier. They have retained control over the largest, best equipped, and most productive facilities (measured in gross output) and shed those plants that chronically operated at a loss, required extensive and
expensive technological modernization, and produced little of real importance to the national economy. This reform, like the personnel changes described above, was accomplished with minimal opposition and ill will. In general, large facilities have welcomed continued inclusion in national economic plans, priority access to imported technology and equipment, and other benefits of central control. Conversely, smaller facilities that were treated as second or third class citizens in the past and now have better opportunities to acquire technology, skilled workers, and markets have also welcomed their greater independence.

Although there has been a steady decrease in the number of activities and facilities directly controlled by the central government, the degree of control exercised by the center has shown periods of increase as well as decrease. For example, all enterprises, including those still under central control, enjoyed considerable leeway to develop markets, seek new suppliers, acquire new technologies, and dispose of their retained earnings during most of phase two. By 1982, however, key leaders had concluded that the devolution of authority had gone too far. One of the reasons they reached this conclusion—and responded by reasserting greater control—was dissatisfaction with the course of technology transfer.

As China abandoned the unrealistic targets and developmental strategy articulated in 1977-78 and scaled down plans to import entire plants equipped with the latest equipment available, officials began to call for "technological transformation" of existing enterprises. Special funds were established to cover retrofitting costs, and enterprises were given numerous
incentives and methods to invest funds of their own in the retrofitting process. For a time, many enterprises even had access to foreign exchange which could be used to purchase foreign technology without obtaining permission from Beijing. The result of these and other changes and incentives was an expensive but uncoordinated drive to buy equipment, and extensive diversion of funds for "technological transformation" to capital construction projects that utilized old technology or, worse, were entirely nonproductive. Other problems arose because enterprises and foreign trade organizations were acquiring equipment with incompatible technologies, thereby further complicating the task of absorption.

To overcome these and other deficiencies, the central government reimposed tighter restrictions on the import of technology and equipment. In doing so, officials acted in ways typical of the way policies have been changed in the 1980s; they addressed specific problems with specific remedies. They did not pull back from reforms granting greater financial resources and decision making authority to enterprise managers, for example. Rather, they left most of the other reforms in place and reinstated tighter controls on the acquisition and expenditure of foreign exchange for technology transfer, introduced new review procedures to ensure that proposed acquisitions were "needed," and compatible with earlier purchases. They also took steps to reduce duplication and ensure that adequate efforts would be made to assimilate and apply new technologies.

Fluctuations and inconsistencies in general trends toward greater liberalization and reliance on market mechanisms, on the one hand, and toward
greater central control and reliance on planning, on the other, are partly a reflection of the shifting fortunes of restorationist and transformationist sentiments in the leadership, but they also reflect a pragmatic, nonideological approach to problem solving and policymaking. The changes and adjustments that have been made since 1976, especially those made since 1978, seem to make sense to most officials and observers in China. On the whole, they have not been controversial because the problems they address have been real and apparent and, as importantly, the solutions have generally alleviated the problems they were designed to address.

This paper has argued that opposition to specific reforms and to the reform program in general has been held to a minimum by political skill and the fact that the reforms have achieved sufficiently positive results to retain the support of cadres and ordinary citizens alike. Even when the results have fallen short of what was hoped or anticipated, the gains have been sufficient to buy time for adjustment and reformulation of specific policies. Political leaders and the reform program have also benefitted from a constantly expanding pie that has brought concrete benefits to most regions, economic sectors, and societal groups. Real achievements have enhanced the legitimacy of the regime and this, in turn, has made it easier for the reformers to push ahead with further changes. Recent history has therefore made it likely that the reforms will remain in force for the foreseeable future. This rather sanguine assessment requires immediate qualification, however.
The reformers will continue to benefit from their past successes, but as has already become quite clear, maintenance and extension of the reforms will require increasingly difficult choices and will take longer to produce desired benefits. One important question for the future, therefore, is whether expectations will rise faster than the reforms and the regime can satisfy them. The ability of the regime to meet expectations and demands has been enhanced by the restoration of stability, greater legitimacy, and, ironically, the personal stature and increasingly charismatic authority of Deng Xiaoping. But the logic of the reforms and the experience of other nations suggest that the character of politics will change as the reformers are forced to adopt more zero-sum and redistributive policies. It may not be as easy to placate those disadvantaged by one set of policies by pointing to others which bring added benefits. How easily and how successfully China is able to cope with these new challenges will depend on how long Deng remains at the helm, how effective his successors are at playing the delicate political game entwined with the reforms, and, to some extent, the policies of other nations.

CURRENT TECHNOLOGY TRANSFER POLICIES: AN OVERVIEW

A complete catalog of the policies adopted by the reformers to facilitate the acquisition and absorption of technologies from both domestic and foreign sources would be almost as long as the list of all reforms introduced since 1976. One reason this is so is that from the earliest days of the post-Mao era political leaders have declared that advances in science and technology are the key to the four modernizations. After a brief period in which basic science was treated as equal in importance to applied science, engineering, and technology, commentaries and policies have devoted more attention to
technology than to science. It is only a slight exaggeration to state that almost every one of the reforms introduced since 1976 has been justified—and perhaps conceived—as useful or necessary to promote technological change. At times declarations of the contribution that a given reform will make to the four modernizations are mere rhetoric, but at other times they appear to reflect the thinking of many senior officials. Although we cannot state with certainty which possibility pertains in individual cases, but we can say that, over time, more pronouncements have referred explicitly to the "requirements of the worldwide technological revolution" and depicted modernization as if there were but a single path. This does not mean that China's leaders believe the PRC must follow precisely the same steps as have Japan, South Korea, or other successful Asian modernizers, but it does mean that they see more or less clear boundaries on either side of the path. Spokesmen continue to stress that China must and will devise its own strategy and course of development, but policies and the range of choice are becoming increasingly similar to those found elsewhere.

Since it is neither practical nor useful to list even a large subset of technology transfer policies, the summary presented here will focus on those measures that pertain most directly to imported technologies. First, however, it will be useful to recall two general characteristics of the current strategy of technology transfer. One is that China seems to be following a two-track strategy that combines centrally targeted acquisitions by agencies of the central government responsible for obtaining critical equipment and know-how for keypoint projects and enterprises, and a shotgun, market-driven approach for the acquisition of equipment and technologies by non-key facilities and the purchase of non-key items by keypoint enterprises.
The second feature of the current strategy is that it places equal emphasis on acquisition and absorption. Whereas in the past assimilation of new equipment and techniques was regarded as a trivial matter, would-be purchasers are now enjoined to make sure that what is acquired can be mastered within a reasonable amount of time. This is supposed to mean, inter alia, that the acquiring firm has adequate technicians to maintain and, if possible, copy the equipment involved, that the workforce can understand and master new procedures, and that the requisite supporting factors (e.g., complementary machinery, reagents of sufficient purity, adequate supplies of fuel and power, necessary cooling, heating, or water purification facilities) are available.

Guidelines governing technology acquisition (including and especially foreign acquisition) have also become clearer. Central planners and their counterparts in lower-level planning and financial agencies, the People's Bank, and trading companies, as well as other bodies empowered to review technology import requests, are supposed to pay attention to the following considerations:

1. Does the equipment or technology satisfy a critical need in a high priority field of endeavor (e.g., microelectronics, telecommunications, computers, energy, or bioengineering)?

2. Does the item satisfy a critical requirement in a key national (or local) project?
3. Does the item facilitate the production of a commodity (raw material or manufactured good) which can be exported to earn foreign exchange?

4. Can the item be absorbed or mastered without expensive or difficult to obtain complements (e.g., training, equipment, spare parts)?

5. Will the item make a significant contribution to China's economy in the near term?

6. Can the item be acquired, immediately or with minimal delay and investment, from a Chinese supplier?

The conditions enumerated here are neither rigid nor exhaustive, but they are articulated (albeit not in the terms used here) sufficiently often that they are likely to be applied with increasing frequency. That they can be applied more consistently and more effectively is, in part, a consequence of the many reforms that have been adopted since the Third Plenum. For example, limiting the direct role of the central government to those sectors and activities critical to the success of the developmental strategy of the Deng regime means that efforts to obtain foreign technology for those facilities will have both high priority and political importance. Efforts to restrict access to technologies deemed critical by the center will have an immediate and possibly profound impact on domestic politics and, possibly, political relations with other nations.
The sectors and technical fields reserved to the central government include major infrastructural projects such as those for energy, transportation, and telecommunications; national priorities such as microelectronics and computers; and military systems and equipment. This paper has not commented on the role of the military or defense industries in detail because that is the subject of a companion study, but it should be noted that the acquisition of equipment and technology for the PLA is tightly controlled by the central government. The center (here the National Defense Science, Technology, and Industry Commission) plays the decisive role in targeting technologies with important and urgently needed military applications. Not all dual-use technologies are targeted for acquisition and absorption because they have military applications, but, given the competition for foreign exchange and other scarce resources needed to absorb new technologies and equipment, it certainly does not hurt to be able to point to possible military applications.

Assigning greater authority and more resources to lower-level officials, especially factory managers and chief engineers, means that more technical decisions are being made without interference from the political system. It also means that targets for acquisition have been carefully selected, can probably be utilized effectively, and that preparations have already been made to assimilate the technology once it has been acquired.

Reforms making enterprises responsible for their own profits and losses, making local governments more dependent on tax revenues from plants in their area, policies linking worker bonuses to profit levels, and many other
policies contribute to a climate in which greater care is taken to ensure that
technologies procured on the domestic or international market are appropriate
to the needs and capabilities of the recipient. The same is true of measures
governing the supply of fuel and power and rewarding installation of energy-
saving equipment. Indeed, the special importance attached to energy
conservation provides additional incentives to retrofit existing facilities,
alter production practices, and limit new construction in ways that make for
greater energy efficiency. This has both positive and negative consequences
in China’s still imperfect market. For example, saving energy still means
primarily saving BTUs or kilowatts rather than reducing costs. Investments
that save energy may be made even though the technological changes involved do
not raise the quality of output. Saving energy while producing more of an
unwanted commodity is not particularly helpful.

Manpower reforms, including those permitting scientists and engineers to
accept contracts for work performed outside of normal working hours, and to
change jobs permanently or for temporary periods, and other reforms allowing
firms to compete for experienced professionals and recent graduates are
beginning to make it easier for enterprises to obtain informed advice about
what equipment or technologies to purchase, and how best to absorb them.
Thus, for example, if a firm needs mechanical engineers to help identify and
absorb specific types of technology, it can go out and hire them. Like the
many other changes that have occurred under the broad heading of S&T reforms,
those increasing the mobility of technical specialists are important but their
impact on technology transfer must not be exaggerated. This note of caution is
necessary because Chinese commentators typically suggest that the myriad
changes designed to foster creativity and entrepreneurial behavior are much more effective than is actually the case. If these policies remain in effect—and there is a good possibility that they will—they could have a significant impact in the future, but only if the other reforms mentioned in this paper also remain in effect.

The success of efforts to acquire technology from abroad will also be determined by the content and efficacy of China's trade and investment policies. Since 1979, Beijing has introduced a steady stream of trade reforms and economic laws designed to attract foreign investment. In the first part of this decade, spokesmen often treated trade and investment as totally separated from technology transfer. Now however, officials appear to have learned that few transfers of technology occur for reasons of altruism or foreign aid; most occur as part of commercial transactions. Companies own and control most technologies; their decisions to sell, license, or otherwise make available proprietary information are made in the context of overall business strategies and in response to commercial opportunities. China's leaders have been surprised and disappointed by the slow pace of technology transfer and by the limited number and character of foreign investments in the PRC. Their disappointment and dismay have increased as they have taken ever more steps to encourage investment. Since China has moved very far from its closed-door, exclusionary and, by Western standards, highly unreasonable trading practices, it is understandable that those pushing for reform and the open door should be disappointed by the results. In their view, they have done much but accomplished little.
Despite the opening of more coastal cities and economic zones, adoption of a patent law, and similar measures, China still has not done enough to persuade foreign businessmen to invest heavily or to transfer significant technologies to the PRC. Investing in China is still a risky business. Assimilation of new equipment and technologies has proven difficult because of conservatism and lack of discipline in the workforce, shortages of engineers and technicians, and restrictions imposed by COCOM and other agencies. Moreover, limited access to China's domestic market, the necessity for the foreign partner to bear most of the risk and upfront financial costs of any venture, and growing protectionism that could make it impossible for the joint venture to recover costs induce caution in the international business community. This caution, and the difficulty China has had and will likely continue to have in bring about more fundamental changes in the economic system (especially price reform and opening the market to foreign goods), will pose formidable obstacles to the acquisition of technology for years to come. So long as these obstacles remain, the S&T reforms, however laudable and important to China's scientific community, will have only limited impact.

GENERAL CONCLUSION

The foregoing analysis of developments since the death of Mao suggests the following general conclusions about the stability and future course of China's technology transfer policies:

1. China's current leadership, characterized here as a coalition of reformers with different views on the proper pace of reform, seems to have accepted the idea of a worldwide technological revolution with certain
universal requirements. In order for China to take advantage of the NTR, they seem to argue, it is essential to "open to the outside world" and invigorate the domestic economy. It is further necessary to reduce administrative interference in decisions that are inherently technical in nature. It is also necessary to create the requisite conditions for acquiring and assimilating new technologies. Virtually every reform introduced during the past decade has been justified as necessary to facilitate the transfer of technology. If efforts to acquire and assimilate technologies prove unsuccessful or technology transfer fails to produce the anticipated results, there will therefore be a strong initial predisposition to make still further reforms.

2. By narrowing the scope of centrally directed activities to make it easier to plan, monitor, and control developments, the central government has increased the importance of doing well those tasks which it has reserved to itself. The rationale for central control, state management of key sectors of the economy, and, in a fundamental sense, Party rule, is predicated on an assumption that central control will enable critical sectors and enterprises to outperform those devolved to lower levels of the system and relying more heavily on market mechanisms. This same rationale suggests that top leaders believe China can and will modernize more rapidly than Japan, South Korea, and Taiwan because the degree of central control is greater in China and because only China is led by a Communist Party. Since the central government has reserved to itself control over the most modern and most technology-intensive segments of the economy, it is particularly sensitive about commercial or foreign governmental efforts to restrict access to technology for key projects and priority sectors. Thus, for example, US and COCOM
restrictions on the export of technologies that China wants--and feels it needs--to modernize its telecommunications system are especially sensitive because they jeopardize more than a single project or industry; they threaten the capability and legitimacy of the entire reform program and the regime that has put the reforms into effect.

3. The fact that the central government and functionaries at lower levels of the system are increasingly sensitive to the problems of assimilation and the need to avoid ill-considered acquisitions of technology means that future efforts to procure equipment, form joint ventures, and so forth will be better informed and, possibly, less plagued by the kind of problems that have surfaced to date. It also suggests that when China--the central government or an individual manager--has decided what technology to acquire, that decision is likely to be a firm one. This should simplify commercial negotiations, but it will also increase the likelihood of harsh Chinese reaction if transfers are blocked or delayed.

4. Opponents of reform and leaders who have not subscribed to the idea that the NTR requires fundamental transformation of the system China established under Soviet tutelage in the 1950s have been defeated and are not a significant political force. Chinese leaders continue to jockey for power and to have different policy preferences, but there appears to be near unanimity on the need for technological change and substantial agreement about the kinds of reform necessary to achieve the four modernizations. Sharp differences exist, but they center on the pace, timing, and sequencing of reform and not on the basic direction the reforms should take. Both the
moderates and the reform-mongers are concerned about unwanted side effects of
the reforms—spiritual pollution, corruption, abuse of position, and loss of
enthusiasm for political study, for example—but they both also seem persuaded
that these side effects can be managed well enough to persist in the opening
to the outside world and the transformation of the economic, social, and
political system they had helped to create.

5. China's technology-based strategy of modernization and the prevailing
interpretation of the new technological revolution pushes the country toward
the OECD nations and away from the centrally planned economies. The name of
the game is rapid technological progress; the countries with the best track
record are the United States and Japan with the West Europeans and Canadians
not far behind. The Soviet Union and other COMECON states, the Chinese say,
have an unimpressive record and seem to be falling further behind. This does
not mean that China will not attempt to acquire technology from the Warsaw
Pact; indeed, it will almost certainly do so in order to modernize the
equipment and facilities acquired in the 1950s. It does suggest, however,
that China sees its own future as tied more closely to the United States and
Japan than to the Soviet Union.

For these and many other reasons suggested above, technology transfer
will remain near the top of China's political and policy agenda for at least
the remainder of this century. That will make it a visible and politically-
charged subject, and Chinese leaders can be expected to react strongly to any
actions by foreigners that can be construed as a deliberate effort to
interfere with China's quest for modernity.
ALTERNATIVE DESCRIPTIVE AND PREDICTIVE MODELS

By focusing on the interplay of personnel and policy change during the post-Mao era, the analysis presented above has developed a process-dominant model of Chinese politics. Although not fully articulated, this model suggests that reforms, and policy change more generally, evolve from a continuous process in which issues and decisions are shaped by the cumulative effects of previous rounds. Skillful players and chance developments influence both the process and the outcome of specific decision making rounds, but the process itself tends to be more influential in determining the content and efficacy of policy decisions. According to this interpretation or model of politics and policy making, Deng Xiaoping enjoys unrivaled authority and influence not because of who he is but because of the way in which he—and others—have reshaped the policy making process. Mastery of that process has given him growing charismatic authority; he did not have that authority until he had mastered the process.

Although the process-dominant interpretation of developments has considerable descriptive utility, its value as a predictive model has yet to be determined. As noted above, the process-dominant model suggests that reform (i.e., marginal policy and structural modification) will continue, but that the magnitude of change from one stage to the next will decrease. Among the factors contributing to essential stability despite continuous policy adjustment are the constraints imposed by previous coalition-building efforts, the expectations of and promises made to numerous bureaucratic, social, and political constituencies, and the fact that maintaining and improving the new system has replaced creating a new system as the principal political challenge.
Several alternatives to the process-dominant model have been proposed to explain recent developments in China and, more to the point, to predict what will happen in the future. The pages that follow will examine four alternatives which have been or could be developed into systematic descriptive and predictive models. The reasons for doing so are to note where they differ from the process-dominant model, and to expand the list of factors that could lead to outcomes different from that suggested by the foregoing analysis. Since space limitations preclude detailed analysis, the discussion that follows focuses on generic types and does not address the arguments of specific analysts.

**Deng in Command.** Most Chinese and Western commentaries on China's reforms ascribe a decisive role to Deng Xiaoping. Without Deng, reform would have been impossible; whether the reforms can survive his passing is uncertain. Two analytically distinct but complementary factors are frequently cited to explain why Deng plays such a central role. One factor is his unrivaled stature as China's preeminent leader. That he would enjoy this status was far from certain in 1976 when he was once again in political eclipse. Nevertheless, during the past four-five years he has eclipsed Chen Yun, Li Xiannian, Ye Jianying, and other Party elders and now commands unchallenged--and almost complete--authority. That he has attained this stature is partly a function of good health (potential rivals have been less fortunate), but it is also a function of the second factor, namely, his political skill and will. Unlike Chen Yun, for example, Deng is a consumate politician. He knows how to play to the galleries, but, more importantly, he also knows how to win in the backrooms of politics. By all accounts, he is extremely adept at winning over or outmaneuvering opponents. Moreover, he appears to be an effective leader who commands loyalty from his supporters and
offers specific marching orders as well as a vision of what China can become.

These personal attributes are reinforced, it is said, by a cultural and ideological need for a single strong leader. To the extent that Chinese tradition still holds sway—as it seems to do in the countryside, for example—Deng has succeeded Mao as China's latest emperor. For those in the Party who believe that effective leadership of the revolutionary vanguard requires a single strong leader (in Mao's succinct formulation, "If there were no Stalin, who would give the orders?") Deng fills that role. He is, in other words, the perfect man for the times and the situation.

According to this analysis, China has embarked upon the road of reform because Deng has determined that it is necessary to do so and has the political stature and authority to get what he wants. Fundamentally, then, the reforms rest on Deng's charismatic authority and political skill. For the reforms to survive him, therefore, Deng must ordain others who will inherit his stature and authority. As many inside and outside of China have noted, Deng has taken steps to ensure that his successors will share his power as well as his vision of the future. But Hu Yaobang and Zhao Ziyang just do not appear to have Deng's style or political instincts. There is real question, therefore, that they and others likely to play a role in the post-Deng era will be able to persist and to triumph in the face of opposition from those who dislike the reforms.

Those concerned about the future of the reforms after Deng's passing—including many in China—see problems ahead on two fronts. On the political front, opponents of reform, often labeled conservatives, are depicted as in temporary retreat but prepared to pose a formidable challenge as soon as Deng is gone. Since his successors will lack Deng's skill and power, bureaucratic, generational, regional, and ideological opponents of reform will attack with
renewed vigor and enhanced prospects for success. The second problem they will face derives from the reforms themselves; the very success of the reforms will raise expectations and increase the demand for successful governmental performance beyond what can be satisfied. Deng can deal with such side-effects because of his stature; lesser leaders will be less capable of doing so.

This approach or model has merit, but it probably overstates the significance of Deng's role. As noted briefly above, those who see the reforms as based on Deng's charisma confuse cause and effect. Deng has acquired charisma because the reforms have proven quite successful; the reforms have not succeeded because of Deng's charisma. Over time, the reforms have acquired a momentum of their own and a growing constituency of beneficiaries and supporters. Also, support for Maoist and Soviet alternatives has eroded further with the passage of time and the fact that the Soviets have embarked upon a reform program of their own. Finally, the model may exaggerate the importance of a single charismatic leader to the Chinese political system. Distaste for the excesses of Mao's personality cult and the fact that there is no clear opponent of reform with the potential to crystalize opposition in the post-Deng era. Deng's successors may not have his personal authority, but possessing such authority may be less than an essential condition for success in managing the challenges of the future.

Power Struggle. This approach subsumes factional, bureaucratic, generational and other competitions for power and resources that relegate policy matters to secondary importance. What these approaches have in common is a tendency to depict rivalry among competing groups as essentially a struggle for power in which issues and policy options are merely instruments and outcomes of a more fundamental contest. Analyses using this model of
politics generally refer to the contest between "reformers" and "conservatives," but other cleavages include those between the military and civilians, Party versus state, technocrats and ideologues, coast and interior, heavy and light industry, and so on. Some cleavages center on policy issues, others do not. The division between struggles for the sake of power and struggles for the power to implement preferred policy alternatives is, of course, imprecise.

Cleavages and competion of this sort are found in all political systems, but are often depicted as having a special character in China where debate over policy issues has often taken the form of a titanic struggle between good and evil with dire consequences for those on the losing side. Since losing has often carried heavy costs, winning is perhaps more important than in other political systems. Moreover, the political process in China - like other social relationships - is frequently shaped by the desire for revenge; since winners have seldom treated losers graciously, losers are anxious to retaliate if they can turn the tables on their opponents. Indeed, some would argue that revenge can be a stronger motive than the desire for any particular policy alternative.

Viewed against this background, efforts to minimize intra-elite differences and the costs of losing a policy debate characteristic of the post-Mao era are anomalous and the product of very special circumstances, primarily the especially distasteful memories of the Cultural Revolution and the shared intentions of Deng and other senior officials. Only the absolute imperatives of restoring political authority and enhancing economic performance after a decade of near chaos impelled leaders to bury political differences--albeit only temporarily--and to forge an uneasy coalition that obscures personal animosities, factional rivalries, and other deep divisions.
This coalition is inherently unstable and destined to become less stable as it is forced to confront the issues ahead.

Two such issues that will severely strain the bonds of coalition are the treatment to be accorded children and other relatives of senior leaders judged guilty of criminal acts, and the need to make more decisions with redistributive consequences. The first issue could prove most destabilizing in the short run because cracking down on corrupt behavior even--especially--if perpetrated by officials and their families has become a major plank in the Party's platform. Having asserted that no one is above the law and defined many once commonplace activities as corrupt, the leadership must now live with the consequences. It should be noted, however, that this issue appears to have been used by at least some senior officials to attack their opponents. Once started, this practice could prove very difficult to check. Even if the unstable coalition can be held together through the current anti-corruption campaign, it could fall apart as it becomes necessary to make more difficult choices concerning the allocation and reallocation of resources. Budgetary constraints will force the Center to concentrate available resources on expensive "key" projects, but doing so will limit the ameliorating effects of porkbarrel distribution.

If the coalition and present rules of the game come unstuck, the future is uncertain. Paralysis and frequent policy shifts with deleterious effects on China's economy and relations with other nations seem more likely than a return to any particular program or policy set developed in the past, but no one can be certain. If more were known, this model might predict which of many competing groups would emerge victorious and what policy preferences that group would hold: in the event, however, it predicts merely uncertainty and instability.
Reform Generated Instabilities. Whereas the process-dominant and Deng in command models are primarily descriptive with certain implications for prediction and the power struggle model contains elements of both description and prediction, the approach or model discussed here has little descriptive value. Like the external determinants model discussed in the next section, the reform generated instabilities approach is predictive rather than descriptive. The central premise of this approach is that reform and the kind of fundamental systemic changes being introduced in China are inherently destabilizing and that they will, in time, generate frictions and pressures that will erode the political stability that has been so carefully nurtured during the past decade.

The reform generated instabilities model looks to the experience of other nations as well as to China's past. The argument goes as follows. The explicit objective of the reforms is modernization; reform is therefore a means rather than an end in itself. To the extent that the reforms are successful in bringing about comprehensive modernization—the four modernizations in Chinese parlance—they will sow the seeds of future instability. Around the globe and down through the centuries, nations and political leaderships have found it difficult to negotiate the transition to modernity. The requisites of modernity—specialization, communication, mobility, education, etc.—challenge existing social practices and mechanisms of control. Attributes of modernity, such as decentralized decision making authority, dispersed wealth and power, and the increasing power of those with technical skills, often conflict with the needs and expectations of older economic and political hierarchies. One of the most fundamental contradictions is that between the monopoly of political power and the pluralization of economic and social power.
According to this approach, China's fragile consensus and the ability of political leaders to manage the process of modernization has yet to face the kinds of challenges that have undermined many stronger regimes. In a sense, those adopting this approach would argue that it does not matter whether the process-dominant, Deng in command, or power struggle interpretation of past developments is correct; the outlook for the future is the same. Others would argue that it does matter which of the descriptive models is most accurate because they suggest different capabilities for dealing with the challenges ahead.

In addition to the universal stresses and strains that have accompanied modernization elsewhere, China must cope with the effects that reform has had and will continue to have on factors and relationships with special importance in the Chinese context. Thus, for example, the leadership must manage the increasingly rapid and destabilizing changes in social, economic, and political relationships in a cultural setting that prizes stability and fears instability (luan). Chinese fear of luan is well-documented and seemingly all-pervasive. This fear may be tempered as change becomes more common and more clearly beneficial, but one must wonder whether developments will reach a point at which the populace values stability and predictability more than continued economic growth.

A second factor of special importance in China is the ethos of equity—at times egalitarianism--fostered during most of the Maoist period. There is a strong sense in China that changes should not leave anyone worse off merely because doing so will ultimately lead to a better situation for everyone. This sense or ethos will make it difficult to close unprofitable factories, remove subsidies for food and housing, and to accomplish other announced objectives of the reformers. If the reformers push ahead with these and
similar policies, they may begin to encounter greater resistance. Closing an inefficient factory is acceptable in theory; it takes on a different significance when it affects a member of one's own family.

A third element in the reform-generated instabilities model is what has been called the curve of rising expectations. Basically, this theorem postulates that people will tolerate poor to mediocre conditions (social, economic, and political) for a long time if there seems to be no prospect for improvement, but that once expectations have been raised, they begin to demand improvement at rates that often exceed the ability of the system or the political leadership to satisfy them. This is a variant of the "the more they have, the more they want" phenomenon. It is relevant in China precisely because the post-Mao leadership has not only promised specific improvements, it has actually begun to make good on those promises. Increased access to the media, contacts with the outside world, and greater differentiation inside China will heighten pressures for more progress at a faster pace. Whether the system can satisfy demand fast enough is far from certain. It should be noted in passing that the idea of a curve of rising expectations was developed to explain why people so often rebelled after their objective situation had begun to improve.

The approach or model outlined above suggests that China's leaders will find it difficult if not impossible to manage the transition and that now-dormant cleavages (e.g., between regions, generations, bureaucratic groups, and factional alignments) will once again disrupt the political process. At first glance, such a prediction contrasts sharply to the generally sanguine prediction suggested by the process-dominant model and requires a brief explanation. The first point that should be made is that both models suggest that further reform is more likely than an effort to restore the
organizational forms and procedures of the past. Thus, while reform-generated instabilities may well lead to confusion and even paralysis, they probably will not lead to restoration of a Soviet-style economic system. The real question is whether the Center will hold in the face of increasing centrifugal pressures. Earlier sections of this paper argued that the process of reform has alleviated many points of friction and reduced the likelihood that pre-existing groups will conclude that there is more to be gained by opposing than accepting further reform. If that is is correct, the political system should be able to manage the additional and inevitable challenges that lie ahead. If not, or if demand for further change and benefits escalates more sharply than now anticipated, the political system could fail. Should that happen, intervention by the military would probably be inevitable.

China's Fate Determined by External Events. Although none of the approaches summarized here qualify for the title of predictive model, this one is particularly rough. Nevertheless, it does alert us to the fact that the success of China's reforms and hence the course of future domestic and foreign policies could be altered significantly by developments beyond China's borders and over which it has little control. For the sake of simplicity, we will consider three ways in which external developments could complicate or alter the course predicted by the process-dominant model.

China's leaders frequently affirm that their nation's reform and modernization programs require a peaceful international environment. Without doubt, those programs would suffer if China were to become embroiled in a major international conflict--global, regional, or with either of the superpowers. However, since China is doing what it can to reduce still further the already low probability that it will be drawn into a major war, the likelihood that reforms will be derailed by military conflict involving
China seems remote.

Policy and political stability in China could also be affected by severe dislocation of the international economy. Since the opening to the outside world and participation in the international economy are central to the developmental strategy adopted by post-Mao leaders and China is becoming increasingly dependent upon and enmeshed in the international economy, it will increasingly be affected by developments elsewhere in the system. Chinese commentaries make clear that at least some officials are concerned about this growing dependence and vulnerability to the vicissitudes of the world economy, but the size and relative autarky of China's domestic economy suggest that it will be a long time, if ever, before China becomes as vulnerable as most other nations, developed and developing. Nevertheless, unanticipated problems in the global economy, particularly those impeding China's ability to earn foreign exchange and import technology and equipment, could seriously jeopardize attainment of Beijing's economic and social objectives. This, in turn, could undermine stability.

A third way in which external developments could affect China might result from a breakdown of the multilateral trading system that has been in effect throughout the post-War era. Growing protectionist sentiment, the difficulties inherent in extending GATT provisions to cover services as well as goods, and other strains could result in a partial retreat into bilateralism. As a highly protectionist country, China could find it difficult to negotiate bilateral agreements with the principal trading nations. A variant of this scenario could arise as a result of concerted efforts by the US and other OECD nations to adopt trading practices designed to alleviate the huge debt burdens of Latin American states. Preferential treatment for others will make it more difficult for China to compete. Not
only would this derail the current strategy of economic growth, it would call into question the wisdom of the entire policy of opening to the outside world.

The impact of these and other international developments will be mediated through the political system. How external developments are perceived and their impact on China's policies will be determined by the domestic context at the time they occur. Thus, for example, if protectionism closes markets to China at a time when China's economy is experiencing difficulty for other reasons (e.g., excessive investment, inflation), advocates of a greater role for central planning could exercise greater influence and win more support/concessions than might otherwise be the case. The list of such examples could be extended almost indefinitely; the point, however, is that short of a cataclysmic war, developments in the international environment will have only an indirect effect on China's policies.

KEY VARIABLES

The transformation that is now under way in China penetrates and affects virtually every facet of political, economic, and social intercourse. To achieve the ambitious developmental goals articulated by China's leaders will require nothing less than the serial or simultaneous transformation of every institution and relationship in the country. Success in every policy area requires at least partial success in almost every other; the web of interdependence is greater now than at any time in the history of the PRC. In this sense, all developments are critical, but common sense as well as an operational need for parsimony requires identifying some variables as more important than most others. Preceding pages have identified numerous factors that have shaped or will shape future policies and political developments; this section will reduce that number to just five variables which could hold
the key to what happens and to our understanding of future developments.

**Economic Performance.** Perhaps more than any other factor, economic performance will determine the viability of the reform program as a whole and the developmental cum political strategy of the reformers. Faced with a crisis of legitimacy in 1976, post-Mao leaders made a conscious decision to base their own, the Party's, and the entire regime's legitimacy on the as yet to be demonstrated capacity to improve economic performance, raise living standards, and enhance China's security. Economic performance is the key to attaining the other two objectives; if the economy is growing, output quality is improving, and constituencies from ordinary citizens to the military receive tangible benefits, both politics and policy should remain relatively stable. If the economy began to stumble—and that could mean growing less rapidly than anticipated or with unacceptable gaps between sectors—strains in the ruling coalition will increase and pressures to try something else will intensify. The tricky element here is that objectively good economic performance could fall short of what is expected by society as a whole or by key sectors such as the military. If things go reasonably well, the more sanguine predictions of the process-dominant model are likely; if not, the more confused and disruptive predictions implicit in the power struggle and reform-generated instabilities models become more probable.

**Price Reform.** Many important economic changes have already been implemented in China, but the efficacy of those reforms is heavily dependent on real reform of the country's irrational price system. The need for fundamental and far-reaching reform of the price system is acknowledged by almost everyone in authority in China, but the potentially disruptive consequences are such that implementation has been delayed repeatedly. In some ways, this is the real litmus test of the regime's commitment to reform—
and its confidence that unwanted consequences can be held in check. If - or when - price reform is carried out, it will signal a phase of both great self-confidence and vulnerability for the leadership. If they can make the reforms stick and manage the consequences, chances for long term stability and the success of the reforms will improve markedly.

Crackdown on Corruption. Just as price reform is a major indicator of the regime's commitment to economic reform, the crackdown on crime and corruption is a litmus test of the leadership's commitment to the rule of law. If the leadership follows through on its pledge to ensure that everyone--including Party members and the children of senior officials--is equal before the law, it will gain additional and important support from the public. Doing so will also alter significantly the relationship between the Party and the people. On the one hand, it will restore some of the Party's lost luster and thereby enhance its capability to play an effective role in China's modernization. On the other hand, however, removing the special privilege that has accompanied membership in the Party may further diminish already waning interest in joining the CCP. With alternative paths of upward mobility and a disproportionate ratio of burdens to benefits, many young people, especially those with other options, find Party membership unappealing (see below).

Another aspect of the crackdown on crime and corruption merits special attention, namely, the extent to which the leadership is able to follow through on and/or contain allegations of misconduct by members of their families. Family loyalty runs very deep in China; sacrificing a child or sibling in the name of legal principle or China's modernization will not be easy for members of the elite. Carrying out promises on this issue could severely strain the bonds that now hold together members of Deng's coalition and moderate competition between those who now hold sway and those who find
themselves in the loyal opposition. If, however, the leadership is able to crack down on enough people with highly-placed relatives to prove that the anti-corruption drive is sincere without doing irreparable harm to the coalition, prospects for future stability will be improved.

The Party. Despite its nominal preeminence, the Party does not yet have a clear role to play in post-Mao China. The separation of Party and state functions, substitution of technical and economic for political criteria and circumscription of the role of Party cadres, and the visibility and attractiveness of alternative paths to power, prestige, and wealth have diminished the stature and impact of the Party as an organization. At the moment, the Party's principal role appears to be ensuring that government and Party policies are implemented throughout the system. In other words, the Party has become a monitor and facilitator rather than a leader. Will the Party's role diminish further as economic reform leads to further decentralization and pluralization? Or will it find a new identity and new purpose in the evolving political and social situation? Can the reforms succeed and stability be maintained without an effective Party? These and many other questions must be asked, but before we can ask them, we must have a better indication as to the future role of the CCP.

Integration into the World Economy. The two primary objectives of Chinese policy, the leaders have claimed, are to invigorate the economy and open China to the outside world. These objectives are linked, invigoration of the domestic economy is dependent upon access to foreign goods, markets, and technologies. Just how well China is able to restructure and upgrade its economy to meet the demands of the international market will be a key indicator of how well the reforms are going and, therefore, of future developments. China's ability to join the world economy will be determined by
both domestic and external developments. Infrastructural improvements, greater labor discipline and quality control, and similar developments are essential not only for participation in the international market, but also for the success of purely domestic economic activities. Therefore, active and extensive participation in the world economy would signal a much stronger domestic economy. Similarly, greater participation by foreign firms would signal improvements in the business climate in China and thus changes in such areas as market access, repatriation of profits, protection of intellectual property, and so forth. These changes, and the implications they would entail for China and the international community are enormous. Finally, the degree and character of China's participation in the global economy would indicate the attitude and capability of other nations to accommodate to China's needs and the impact of the world's largest developing nation.