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Strategic Goals for Chinese Education in the 21st Century

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Abbreviations

BAC	Vocational Baccalaureate (France)
BOOB	The Education Industry Committee (Netherlands)
CAS	Chinese Academy of Sciences
GDP	Gross Domestic Product
GNP	Gross National Product
HBO	Higher Professional Education Colleges (Netherlands)
HDN	Human Development Network
HEI	Higher Education Institution
IPR	Intellectual Property Rights
LMS	Local Management of Schools
MBO	Senior Secondary Education (Netherlands)
MOE	Ministry of Education
MOLSS	Ministry of Labour and Social Security
NGO	Non-governmental Organization
OECD	Organisation for Economic Co-operation and Development
PSRE	Per-student Recurrent Expenditure
SOE	State-owned Enterprises
STS	Secondary Technical Schools
SVS	Senior Vocational Schools
SWS	Skilled Workers Schools
VBO	Lower Secondary School (Netherlands)
VET	Vocational Education and Training

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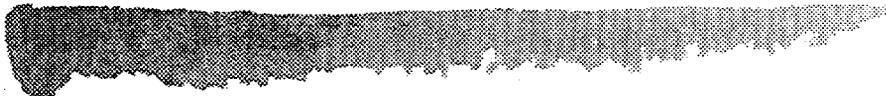
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Executive Summary



China is making a major transition to a socialist market economy with the intention of being a middle-income country by 2020, while monitoring and promoting social development and cohesion.

Education strategy

To reach its economic and social goals, China needs an education system that:

- produces high-quality results in a flexible manner,
- uses resources efficiently, and
- is sufficiently equitable to maintain social cohesion.

To do this, there needs to be:

- effective governance structures at all levels and
- adequate resources.

We suggest a two-part education strategy: one part is to ensure that there are adequate resources for the weakest parts of the system, especially in the poor rural areas, in order to provide increased access to high-quality basic education to all;

the other is to encourage the strongest parts of the system, especially in the urban and coastal areas, to increase their quality to grow and prosper as fast as possible. Such a strategy would enhance equity while responding to the imperatives of an increasingly competitive economic environment. Implementation will require leadership and resources.

We recommend that the Government act on a number of short-, medium- and long-term priorities. The most immediate priority is to provide increased funding for the poorest parts of China to increase access to quality basic education for all of China's poorest children. The second priority is to increase the efficiency of the use of current government expenditures at all levels. Increased efficiency will ensure the current funds are spent wisely while increasing the quality of education. The third priority should be the introduction of more effective outcome indicators to assure the government that efficiencies have been achieved by the restructuring of the education system. Once effective outcome indicators are in place and efficiencies are being achieved, the medium- to long-term priority of substantial increased funding for the whole education system can be carried out with some assurance that these new increases in funding will achieve improved educational outcomes. The long term priority is to address the substantial and widening educational disparities among regions and areas to promote greater equality in the education system.

Our main report first discusses these as matters of general principle and then under separate headings for schools, for higher education and for vocational education and training (VET). Our recommendations are highlighted throughout the main report, and at the end of the report, a smaller number are identified as appropriate for early action. This summary follows the structure of the five themes mentioned above.

High-quality results

In our view, *the content of what is taught should be reformed and up-graded for the 21st century*. At all levels, there is too little emphasis on *problem solving and practical skills* and too much on theory and on learning what the books and the teachers say. This suggests the need for a major cultural change in the classroom and in the teachers—many of whom will need retraining.

The curriculum in higher education is also *too narrow* as there needs to be much more scope for students to study across subjects. Basic foundation courses in the undergraduate curriculum, especially in the sciences and engineering, need to be strengthened. In VET, there needs to be more emphasis on *general competencies* and less on job-specific skills. We suggest that, over the next 20 years, the proportion of separate VET secondary schools be substantially reduced according to local conditions. Additionally, we suggest that the VET curriculum content in comprehensive, general and diversified secondary schools be reduced over the long-run with parallel development of a two-year post-secondary vocational provision instead. We also recommend that individuals take more responsibility for their own job training and companies producing training plans for their employees.

There is a more general point on content. Higher national productivity and growth are becoming increasingly dependent on knowledge and information. The 21st century will be one of ever faster change and the education system, at all levels, will need to *develop and adapt* to meet the changing needs. This will require more versatile people, more initial emphasis on general skills, greater flexibility in the curriculum and greater responsiveness on the part of institutions to adjust their provision. We think that this is best able to be achieved if institutions have *more pedagogical autonomy of decisionmaking* about what and how they teach—to respond to local needs—as well as *more managerial autonomy* to arrange the provision in the most effective and efficient way.

The current approach to the *assessment of quality* is done mainly by reference to the levels of inputs; we think this is misguided, but it is also unhelpful in that it hinders the search for efficiency gains. The quality of education is best judged by assessments both of its results and of the processes that produce those results. We think it will be *vital both to produce output indicators of quality and to develop a means of observing and judging the education processes themselves*. Such quality assessment processes will need to operate at the level of the individual institution (school, university, etc.); at higher tiers in the governance structure, there will need to be a *quality assurance approach* which checks that the lower tiers operate effective assessment processes.

We are also convinced that the *volume of education provision needs to increase significantly by 2020*. China

has made good progress toward introducing universal nine-year basic education; but for 2020 we suggest that China move toward 12-year universal education. The participation levels in higher education are also well below those needed for China's goals. We believe that significant expansion of higher education can and should be achieved with little extra cost through increasing the efficiency of provision. For the 21st century, there will also need to be a significant increase in the volume of provision for life-long learning (at all levels of education).

Efficiency

There are considerable inefficiencies in the use of resources in education; it will be important to find ways of reducing them.

We are convinced that considerable efficiency gains can be made by *improving the overall governance structure* through a reduction in the number of bodies involved, with their overlapping responsibilities and duplications. We deal with this below. Changes in governance structure would also facilitate some *rationalization in the provision* itself and should produce improvements in economies of scale—for example, through merging the three separate systems of vocational secondary provision and through broadening, merging or closing higher education institutions hitherto associated with line ministries or their state-owned enterprises (SOEs).

There are *considerable inefficiencies at the level of the individual institution* too; for example, in the numbers of nonteaching staff (at all levels), in the staff-student ratios in higher education and in the arrangements for some of the social support—which we suggest should be divested from education institutions. We think there is scope for a considerable increase in student numbers in many higher education institutions—perhaps by as much as 50-100 percent—with only limited extra resources and no real danger to quality (as long as quality is not measured by inputs; see above).

More generally, there are *no pressures to search for efficiency* at the institution level—almost the reverse. The best place to identify the scope for efficiency gains is at the level of the institution itself, so we propose that China should follow the example of many Organisation

for Economic Co-operation and Development (OECD) countries by providing *block funding* to institutions (at all levels) and allowing considerable *managerial autonomy* to decide how the funds are to be spent (e.g., on staff numbers)—with accountability based on results and on a quality assurance system. This would provide not only the means for the search for efficiency, but also the pressure to do so. It would require major changes in institutional management and streamlining of many of the administrative processes.

Equity and social cohesion

Universal access to nine-year compulsory education is clearly a major component of equity; unfortunately it has not yet been achieved in all the poorer Provinces. We think the current arrangements for intergovernmental transfers of funds are not adequate to address the inequities of need and of resources, as they rely too much on the local areas producing matching funds. If education is to be a driving force behind economic development, there must be *higher levels of fund transfers earmarked for the provision of compulsory education*.

Inequities are growing at the local level too, particularly in some urban areas, with the growth of private, fee paying schools often created by privatizing public schools. *We think that this risks social division if it continues unchecked*—although we think that the private provision of higher education should be encouraged. Inequities of access to compulsory education between those who can and those who cannot afford to take advantage of what is perceived as superior education run the risk of damaging social cohesion. For similar reasons of equity, we think that student loan and grant arrangements for higher education should generally be made by the Province and not the institution.

Governance structure

To deliver high-quality education, efficiently and in an equitable manner, requires a streamlined and effective governance structure. This is not yet in place. Although there have been some changes toward rationalization at the national level, they do not go far enough. In essence, we think *there should be fewer public bodies involved with education at almost all levels*. We propose considerable rationalization at the national level with the

transfer of education responsibilities from line ministries and their SOEs to the Ministry of Education (MOE) (with their current funding) with MOE clearly taking the lead role on national issues. We also suggest a single national body at the center with overall policy responsibility for VET.

Below the national level, we think there are too many tiers of government involved with primary and secondary education and suggest *removing education responsibilities from any tier below the county level for schools*. Public universities should belong either to MOE, if they are national universities, or to the relevant provincial or municipal authority. Each tier's resulting responsibilities should be aligned to their access to the funds available to deliver those responsibilities. This will require major restructuring and redefining the roles of the tiers of government. *The emphasis should be on decentralizing responsibilities to the lowest tier to which it is practical to do so*. As well as improving efficiency, such delegation increases the system's flexibility to respond to local needs—especially at the institution level (see above).

The result would be a clearer and more efficient governance system that required fewer resources for administration and thus enabled a higher proportion to be spent on teaching and learning. For the system to work effectively, there also needs to be *more effective planning and budgeting* at all levels that sets priorities, allocates resources accordingly and then implements the resulting plans. We suggest that each *province should be required to produce a strategic plan* for its education provision—including a properly thought-through role for private provision, particularly in higher education and VET. Each province also needs to recognize that it will need to make and to implement its own laws to give effect to its plans. We propose that one province might be invited to develop a pilot for this purpose.

Funding levels

None of this can be achieved without adequate funding and China's current expenditure on education as a proportion of gross domestic product (GDP) is one of the lowest in the world. There are clearly a number of major challenges in educational financing: (1) difficulties of poor areas in achieving nine-year compulsory education; (2) significant inefficiencies in the utilization of

existing resources; (3) insufficient resources to support expansion and quality improvement; and (4) substantial and widening disparities in education. *Achieving efficiency gains should be the first step* to increasing the funds available for teaching and learning. We also *propose bringing the various current levies, surcharges and fees into the tax base*, thus making them available for more equitable distribution. Further we have no doubt *that private sources of funds* for public institutions are likely to grow—and should be encouraged, especially for higher and VET levels and for research which, in general, should only be undertaken at full cost.

But even with all that, *we doubt there will be sufficient funds within the system to meet China's needs for the 21st century*. While efforts to improve efficiency should persist, a substantial increase in government education spending is needed after the initial efficiency-related reforms called for by the National Education Working Conference. A regularized intergovernmental grant system in education with greater central and provincial transfer to lower levels should be developed to assist poor areas, assure a minimally adequate funding level for all areas and maintain regional disparities within a socially acceptable level.

Setting targets for educational spending is an appropriate strategy because it focuses attention and affirms priorities in providing resources for education; provides a stimulus for the difficult task of mobilizing political, social and financial resources; and ensures a process for monitoring and assessing long-term achievements. We support the Government's effort to raise government education expenditure (total of budgeted and out-of-budget education expenditures made through the government's financial system) to 4 percent of GDP in the near future and encourage the Government to set incremental and higher targets for the year 2005 and for five-year periods thereafter. We further recommend that the Government consider a *three-legged stool approach* of setting these goals, which takes into consideration the indicators of *efficiency* (using funds wisely), *equity* (increasing participation and quality) and *economic development* (relative speed toward a socialist market economy). We recommend that the Government set these five-year targets taking into consideration actual and current circumstances such as the relative speed of China's movement toward a market economy, rate of the GDP growth, changing demographic and education

participation rates, regional comparators on educational spending and achievement, special areas of equity that must be addressed such as gender and minorities, and the changing needs of the labor market.¹

Implementation

China is a large country with different levels of economic development in different provinces. These differences must be taken into consideration in any reform plans pursued by the Government. The recommendations in this policy note represent a massive agenda for change, even without the extra complexities of a country the size of China. The date of 2020 seems a reasonable target by which it should all be achieved—and we are sure an *incremental approach* is right. In terms of phasing, *we suggest that the most urgent tasks are to increase the intergovernmental transfers to the poorest areas, to improve the current levels of efficiency, and to develop quality instruments that are based on outputs. Managerial and funding changes at the institutional level to encourage flexibility and the search for efficiency can be planned and piloted quite quickly. Structural changes will take longer, but a program of the changes and their timing should be prepared. Once all this is done, the need for additional public funds and the routes for their injection can be reassessed with confidence that such extra funds will be well spent in helping to achieve China's goals for 2020.*

Rapid technological change, open and competitive economies, and knowledge-based industries will be the hallmarks of the coming century. In this environment, stable countries, with well-educated and healthy people, will realize the most rapid progress. A strong education system can help create a “virtuous circle” of increasing economic growth and growing social capital in China. The importance of this should not be underestimated. More people must have access to high-quality education, and educational institutions must be flexible enough to provide it at key points in people's lives. The alternative scenario is not attractive. It is one where large numbers of people are undereducated or very narrowly trained, and in effect “unemployable” in the emerging economy. The low level of human capital becomes a drag on economic development, and the unequal distribution of opportunities to learn and to achieve upward mobility becomes a threat to social sta-

bility. This report is based on the firm belief that the first path—that of excellence, equity and flexibility in education—is fully within the reach of the Chinese Government, and that pursuit of this goal would be in the long-term interests of the country and society.

National Education Conference

The National Education Working Conference was held in Beijing on June 15–18, 1999. At the end of the meeting, the Central Committee of the Communist Party and the State Council issued the Decision “Furthering Education Reform and Carrying Forward Quality-Oriented Education” (a brief summary of this Decision appears in Annex 7). This important meeting and the Decision that was delivered by the central government on education came in the last stages of the preparation of this policy note.

Tested against the principles that we have established in this policy note, we find that several points in the Decision indicate that the government is moving in the right direction. There are a number of structural changes that the Decision recommends that coincide with recommendations made in this policy note, especially the further decentralization of the education system and the development of two- and three-year tertiary level institutions at the provincial level. Increased emphasis on the new curricular areas of creativity, teamwork, and problem solving is an important element of the Decision, as is the increase in tertiary education enrollments, although both these development areas have substantial resource implications. The increased flexibility in the structure of VET, with greater emphasis for such education placed at the tertiary level, while decreasing the emphasis at the senior secondary level, is an important decision and one that fits well within the specific recommendations of this policy note. The move to support the development of private education will provide for increased access and resources for senior secondary and tertiary education and therefore is a step forward. The central government's decision to continue the compulsory education project in the poor areas after 2000 and to increase support for the poor and minority areas fits squarely with the recommendations of this report and the World Bank's primary mandate of poverty reduction.

Several of these policy decision will have substantial resource implications for both national and provincial

governments. These decisions include the massive expansion of senior secondary and particularly tertiary enrollments and the restructuring of the VET system over a short period of time. This expansion of the human resources necessary to support rapid economic and social development, again, coincides with the World Bank's goals of eliminating poverty.

It will be important to monitor carefully efficiency gains that are expected to result from the expanded enrollments and structural reforms identified in the government's decision and be ready to modify policies if necessary to ensure that these efficiency gains are achieved. The Bank stands ready to continue its assistance in this process as it has done with the Economics of Education Network.

Additionally, there are a number of areas in which a continuing dialogue between the Bank and the government may well be fruitful. These would include expanding and strengthening the curriculum in the areas of skills for competitiveness and ensuring that all children in senior secondary schools have access to world class curricula.

It is evident from reading the Decision that the Chinese Government recognizes that their social and economic development challenges in the 21st century will be great and the response to these challenges will have to be substantial and sustained. It is also clear that the Chinese Government sees education as playing a central and critical role in answering these challenges and enabling China to become a middle-income country by the middle of the 21st century. Implementing these education policy changes will take a combination of political will, strong leadership and large amounts of human talent and financial resources. We are confident that China will rise to the challenge.

Note

1. The Bank team, using an analytical approach similar to that laid out above, and using both Chinese and international comparative data, has prepared a reference recommendation on the optimal level GDP to be spent on education by the year 2020. This analysis and reference recommendation is contained in Annex 5 and takes into consideration where Chinese education expenditures should be in 2020 compared to other countries in the region that have similar or more advanced levels of economic and social development.

Study Background

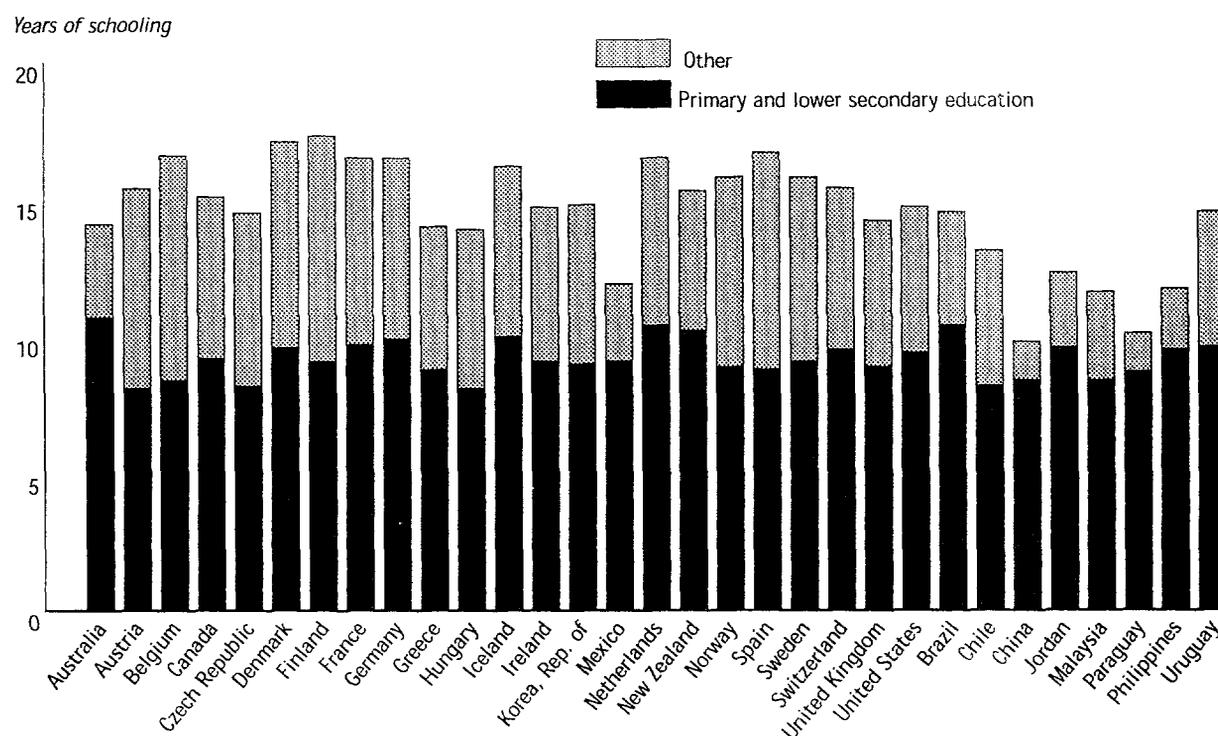
Much progress has been achieved in China's education system over the last two decades since the start of the "Open Policy." However, much progress still must be made. For instance, recent OECD data shows that China lags behind many other countries in the expected number of years that a Chinese student will complete in their education career (see Figure 1). By 2020, China aims to reach the level of a middle-income country. Education has a central role to play in achieving this goal. In this policy note, the World Bank, with assistance from the Ministry of Education (MOE), set forth strategic goals for education, with the hopes of making an effective and efficient contribution to economic growth and social stability.

Context

The 21st century will bring new challenges for the education system. Rapid technological change, open and competitive economies, and knowledge-based industries will all be features of the next century. Economic progress will be most

FIGURE 1

School expectancy for full-time students, 1996



Source: OECD Education Data Base.

rapid in countries where people are well educated and healthy, and where stability is ensured. For China, a high-quality, equitable and flexible education system will be needed to help create a “virtuous circle” of increasing economic growth and growing social development. The importance of this should not be underestimated. Education and knowledge must be accessible to a wide range of people, and educational institutions must be flexible enough to provide it at key points in people’s lives.

In addition, China’s whole social structure will continue to be affected by the transition from a centrally planned economy to a socialist market economy. As in other countries making this transition, inequalities are rising, diversity is increasing and people are becoming unemployed—many of whom will have only low-level or narrow skills. These are the results of, for example, rural migration to urban areas, new entrants to the labor force, and state-owned enterprises reducing their surplus workers. Unless actively addressed, the resulting problems may damage social cohesion as well as limit economic development.

Education needs to be a major force in addressing these issues.

People already have expectations for changes in the education system. For example, many parents want a higher quality and better teachers but without undue costs to themselves—in particular, the poor can reasonably expect to have equal access to high-quality, affordable education. Many parents now expect their children to have access to secondary and even to higher education, and look for choice in the type and amount of education their children receive. Many teachers recognize their need for new materials and new methods; they also want better pay and living conditions. Many school and university managers look for greater flexibility and autonomy for their institutions. Students would like relief from the pressures of a highly examination-driven system. Employers will increasingly look to the education system to provide people with core skills who can adapt to change.

These are all reasonable expectations. Responding to them will help economic as well as social development. But is the current education system able to deliver them?

Will it be able to bring China into the ranks of middle-income countries? We think that the answer is “not yet.”

Within the current system, the curriculum is fairly rigid and designed more for a planned economy; further, teaching does not develop problem-solving abilities or creativity but prepares students for competitive examinations. At the same time, resources for education are short, with the financial burden increasingly falling on parents, and there are significant disparities of provision, expenditure, quality and access—which are still growing (see Annex 1). While students in the best schools now enjoy a high standard of education, a much larger number are in schools with poorly trained teachers, few materials and greater difficulty in continuing their education beyond the ninth grade.

Many of the disparities arise from inequalities in the educational finance system. If such disparities grow further, they could lead to increased social tension and discontent among the disadvantaged, both individually and in whole areas.

The strategic role of education

There is clear evidence that education affects labor force productivity and economic growth. That link is strengthening with increasing globalization, competition for markets and dependence of economies on knowledge and information. Skill is replacing other factors as a basis for competitive advantage in the global economy; the economic strength of a nation will become more dependent on its ability to develop, utilize and manage its human resources.

For education’s contribution to economic growth, the Government’s policies are not wholly consistent. There seems to be confusion as to whether economic development must precede increased investment in education or whether education is a basis for economic development. We feel that China’s education policy should not wait for economic growth, especially in the more remote, poor areas, to provide the revenue to improve education. Investment in education in these areas needs to be made at the same time as investment in the more developed areas. This fundamental issue needs more thought and analysis in order to develop a single, coordinated and consistent policy.

Education is also a main driver for social development. It helps people build productive lives and a cohe-

sive society. To do this, children need to be in school and to be receiving good-quality education, teachers need to be well educated and equipped with good materials. There are aspects of the Government’s social policies on education that are also inconsistent; in particular the increasing transfer of funding responsibility to parents when coupled with more freedom of choice for the selection of schools is not consistent with a policy intention of equity of access. Freedom of choice for the selection of schools can mean that those families with more resources may make it more difficult for students with fewer financial resources to enter the best schools. Again, we think that the policies need more thought and analysis.

For the education system to deliver these economic and social goals it needs to be equitable, efficient and of high quality; it also needs to be better funded. Equity means that high-quality educational opportunities should be open to all regardless of income or location. Efficiency means that public and private resources should be used wisely and effectively to provide the highest possible benefit. Quality means that the education system should provide students with academic achievement, with social skills and with preparation for employment. Better funding requires a higher level and more equitable distribution of government investment, both to make up for investment deficiencies in the past and also to meet the demands of the 21st century outlined above.

At its most fundamental, we suggest a two-part strategy: the first part would be to ensure that there were adequate resources for the weakest parts of the system in order to provide high-quality basic education for all; the second would be to encourage the strongest parts of the system to grow and prosper as fast as possible. Such a strategy would enhance equity while also responding to the imperatives of an increasingly competitive economic environment. To implement it will require leadership as well as resources.

In carrying out this strategy, the Government must recognize and act on a number of medium- and long-term priorities. The first and most immediate priority is to provide increased funding for the poorest parts of China to address the problems of inequality in the education system and to increase access for all of China’s poorest children. The second priority is to increase the efficiency of the use of current government expenditures for post-basic education, especially by restructuring the

tertiary level. Increased efficiency will ensure the current funds are spent wisely while increasing the quality of education. Coupled with these priorities should be the introduction of more effective outcome indicators to ensure that efficiencies have been achieved by the restructuring of the education system. Once effective outcome indicators are in place and efficiencies are being achieved in the post-basic education system the final long-term priority of increased funding for the whole education system, especially at the post basic levels, can be carried out with some assurance that these new increases in funding will achieve improved educational outcomes.

In order to provide guidance for the role of education in the 21st century, there are three aspects of this strategy that recur as themes throughout our report. The new education strategy must:

- *face the world*: an education system that captures global knowledge, provides a world-class curriculum and enables China to compete in an international knowledge-based economy;
- *face the people*: an education system that ensures equitable access to high-quality learning, provides people with choice about the type and amount of education they can receive, and develops people's skills to build a successful economy and a tolerant and diverse society; and
- *face the market*: an education system in which educational institutions adapt to changing economic needs in order to provide learners with skills that allow them to succeed in an evolving and changing labor market and that promotes the free flow of information to enable the markets to work and decisions to be well informed.

In the chapters that follow we present some of the key issues that need to be addressed: changes in the structure and responsibilities for educational provision, changes in levels of funding and its distribution between areas, adjustments in the volume and the content of education and the more efficient management of resources.

The purpose of our report is to help provide policymakers with a framework for further discussion. We do not try to provide a complete set of recommendations because many of the necessary reforms are already recognized in China. Instead, we focus on those aspects of strategic reform for which we think there needs to be more thought or development; we provide suggestions as to how such work might proceed.

The remainder of this chapter discusses briefly the labor context within which the education system has to operate. Chapter 2 deals with general principles of policy at the national and provincial levels. Chapters 3, 4 and 5 then discuss more specific policies in the three sub-sectors of education: schools, higher education and vocational education and training. Chapter 6 outlines some early steps that the government could take as it moves its education reform agenda forward. Finally, our report includes a number of appendices that augment the analysis and recommendations in the text. In particular, there are two matrices showing how various OECD countries and Eastern European transition economies have attempted to address issues similar to those now faced by China. The latter matrix on transition economies includes useful comparative information on the experiences of these countries as they reshape their education policies and structures to accommodate the moves from central planning to an economy more driven by the market (Annexes 2 and 3).

Labor market context

China's education system needs to be more market focused to deliver the goals of economic and social development. For the economic needs of the country, the market that the education system needs to face is primarily the market for labor. It is difficult for the education system to be market-facing unless there is a real labor market for it to face: producing flexible, adaptable graduates (from schools, universities or vocational training) will only lead to their frustration—and to the frustration of education providers—unless they are able to find work in a flexible, adaptable labor market.

We have identified four rigidities in the labor market, each of which is beyond the immediate concern of the education system, but each of which is important for a successful education system. The first three are:

- the relative lack of sufficient wage differentials to encourage individuals to acquire more skills;
- the arrangements that supply housing, social support and pensions as an integral part of a job package, which make it very difficult for individuals to change jobs; and
- the residential restrictions of the *hukou* system limiting access to social provision such as schools—which further adds to the difficulties of people trying to change jobs.

We think that Government has made some recent progress in reducing each of these rigidities but the movement remains relatively slow. These rigidities must be substantially reduced as a condition for a successful market economy for the 21st century.

The fourth rigidity is the one most directly relevant to the education system: the current occupation classification system, which also defines the qualifications needed for each of the large number of narrowly defined occupations. There are two fundamental problems with the current system: first, the classifications are far too narrow with too many occupations; flexibility is not achieved by adding a new occupation to the list whenever one is identified—as happens at present. Flexibility is achieved by broadening the job descriptions and making them less detailed and specific. The second problem is that the classification system is used too rigidly to designate specific qualifications as requirements for each occupation; it is much too restrictive to require each job to be filled only by someone who holds the designated qualification. Recently announced reforms in the job classification scheme may add some flexibility but it is still too soon to judge the success of the implementation of these reforms.

An important negative consequence of the current system is that it conditions job expectations of graduates—especially those from higher education. Graduates should be able—and should expect—to take any job that

they are capable of doing, irrespective of its classification. Of course some graduates have strong ideas about which jobs are “suitable” for them (e.g., in terms of status) but, as the higher education system expands and as the economy develops, such expectations must change. Career guidance coupled with some form of publicity campaign will be needed to change graduates’ attitudes as to what are suitable jobs for them; but a prior need is to change the occupation classification system.

To serve the labor market, education providers will need information both about the economy’s needs and about the demands of society, in order to counterbalance the “supply-driven” approach that can be observed as a tendency among academics (in OECD countries too). To be able to respond to such information, education and training providers need sufficient autonomy to do so. The theme of greater autonomy and delegation runs through much of this report.

Several countries in Central Europe are in the process of making changes in their economies from central planning to a market orientation. Their education systems have also been changed to reflect the new orientation of these economies. The OECD has studied the experience of these transition economies in the area of education reform and has presented its findings on the difficulties faced by these transition economies. The findings are presented here in summary (Box 1) and in Annex 4 of the report.

BOX 1

Findings on difficulties facing education reform in transition economies

- Changes in education are taking place in the context of severe economic constraints and highly dynamic—in some cases—political situations.
- Having enacted laws stressing decentralization and school autonomy, a number of countries are now debating how to redefine national and regional responsibilities in education.
- Three traditional and legitimate national concerns are the source of tension in most of these countries: national curriculum, standards and examinations, and the culture of state oversight.
- The reality of “decentralization” does not match the initial expectations, especially with regard to responsibility for curriculum and pedagogy.
- In virtually every country the status of teachers and lack of incentives for them to participate in the changes are major barriers to improvement in general secondary education.
- University and teacher training colleges appear to be largely disengaged from change in general secondary education and appear to be barriers rather than constructive forces for change.
- The collapse of highly specialized, rigid vocational training programs is placing new and largely unresolved pressures on general secondary education.
- The needs to reassert national identity and to strengthen language and cultural distinctiveness present special challenges for countries that also seek to develop a European dimension within their general secondary education systems.
- The availability of material—textbooks and other important resources—remains a critical issue throughout the region.
- Two areas—civic education and environmental education—should have a stronger and more visible presence in the curricula of these countries.

Source: “Secondary Education Systems in PHARE Countries: Survey and Project Proposals,” 1996. p. 13-16.

In suggesting that China may benefit from studying the experience of these transition economies (see Annex 2 for specific details), we are not recommending that China follow the path of any specific country or groups of countries. China's own history and culture as well as its current rate and direction of economic and social development argue for China following its own path in

education reform. China's overall reform strategy of gradualist, step-by-step piloting of new ideas and direction seems to us to be the wisest direction. This gradualist approach allows for experimentation and modification of ideas and policies without risking the collapse of efforts to ensure increased quality and continuing equity in the education system.

General Principles

By 2020, China will need a flexible education system that can respond quickly to changing economic and social demands. International experience suggests that to make this a reality there should be fewer bodies involved in the policymaking and delivery of education, greater clarity in the roles of those bodies and a greater level of decentralization within the system.

Structure

In terms of overall structure, we think there is currently confusion (and overlap) between the main tiers of government and that there are too many tiers involved. *We suggest that the chain of responsibility for schools,¹ and for their funding, should be: national, province, county (municipal), school, with no involvement of Townships or any other tier below county level—except perhaps as agents for the collection of local taxes (funding is discussed in the next section). We recognize and support the important role that local villagers*

play in providing both financial and material support to primary schools and recommend that this link remain strong. *For higher education, we suggest the chain should be national, province, individual institution.*

To reduce confusion and overlaps further, we also think *there should be fewer public bodies involved with the provision of education.* We suggest that there should be no provision of school education by state-owned enterprises, nor by line ministries (other than MOE), nor by other similar public bodies (e.g., Universities). All such schools should be transferred (together with their funding) to their county or county-level municipality. Similarly, public universities should belong either to MOE if they are national universities or to the relevant provincial or municipal authority. All line ministry universities (with the possible exception of a few highly specialized ones such as for defense studies) should be transferred to the provincial or municipal authority (again together with their funding).

We think that there also needs to be some rationalizing and streamlining of responsibilities at the national level as between various national agencies such as: MOE, the Ministries of Labour and Social Security (MOLSS), of Personnel, of Finance and the State Development Planning Commission. We have not examined in detail the current division of responsibilities between these ministries, but there would seem to be considerable scope for rationalizing responsibilities both to ensure better consistency of policies as well as to secure improved efficiency. Overlapping responsibilities between MOE and MOLSS for the provision of vocational education and training is, we think, a clear example of the need for rationalization.

For a more decentralized system, *we think there needs to be more decentralization of decisions and responsibilities from one tier of government to the next, and also more delegation from government authorities to the education providers themselves (schools and institutions).* What the appropriate level of delegation is requires considerable analysis and should be related to fund-raising powers; this will be different for schools, higher education and VET and is discussed in the relevant Chapters 3, 4 and 5.

All the above will require a major restructuring and redefining of government arrangements for education. The analysis needed before final decisions can be taken must also include the need to match the responsibilities

for policy to those for access and control over the funds to implement the policies.

At each government level there also need to be reforms so that: (a) all educational institutions, with minor exceptions, should be managed by educational bureaucracy; (b) one education budget for all educational institutions to be allocated by the education bureaucracy; (c) the total size of the education budget should be determined by the Government and approved by the People's Congress; and (d) decisions regarding the utilization of the education budget should be made by the educational bureaucracy based on a set of agreed-upon outcome indicators that accurately measure the quality of education provided.

These structural changes will also need to be reflected in improved management at the level of the individual school, college and university—a skill that has been little required in education institutions in the past. In short, what is needed is for education institutions to operate in a more “businesslike” manner. This means they will need to recognize and respond to the markets represented by employers and students (as “customers”), develop plans and budgets, monitor the results and ensure that they use resources in an efficient way.

We also think that the whole education system needs better planning and budgeting mechanisms that are capable of setting priorities and implementing plans at the national, provincial and county levels. Our report gives many examples of policy shortcomings that show that this capacity is not currently adequate. It is critical that the education system develops the capacity to gather and analyze accurate financial and other data so that policymakers will be able to target policies and financial resources to priority problems—for example shifting funds to priority areas of concern. Data are also needed for monitoring not only the implementation of educational programs but also the effects of the uses of educational inputs such as investments, teachers and textbooks.

These management requirements will be significant; while they are needed for the 21st century, many are also needed now. Developing new management approaches will take time and is likely to need external assistance—at both the national and the local levels. There is a shortage of good management practice in education in other countries, within the region, as well as in OECD countries, they often need external help too.

Employers, students and parents have an important role to play too. For their influence to be constructive, they need relevant and timely information to be able to express demands to the system and/or to make decisions that would influence it. This includes information about an institution's quality and its performance, but also more general information to provide guidance about job prospects to individuals when making decisions about their future—for example, by means of some form of career guidance.

The above has concerned public provision; with China's aim for a socialist market economy, there are likely to be increasing numbers of private providers of education. We recognize that in the current education policy environment the term "private education" is open to a number of different definitions and interpretations. This is understandable during the current debate on the subject. *We think that Government needs to have clearer policies about the relative roles of public and private provision of education.* Clarity is essential if the benefits of a more diverse provision are to be fully realized while also retaining sufficient equity to avoid social polarization and confusion—and also to avoid future unexpected claims on public resources. The policies may be different at different levels of education and so are discussed separately in the three relevant Chapters 3, 4 and 5.

We see that the growth of private education is both inevitable and, at the tertiary level, desirable. At the tertiary level, enrollment could be allowed to expand considerably while bringing in substantial new sources of financing for the sector. While there is a strong case for increased private provision of tertiary education, along with an effective quality assurance mechanism to ensure the soundness of the system, more caution is warranted for private senior secondary education. Current evidence in some urban areas of China indicates that access to some of the better senior-secondary schools is increasingly available to those who can afford to pay substantial tuition. In a sense there is an informal auction of places in prestigious senior-secondary schools. Additionally, there is evidence of pressure to privatize facilities created by expensive government investment in plant and people. The strong impulse to raise funds to provide quality education has, in some cases, led to second- and third-best financial solutions, and could

potentially pose a severe risk to social stratification and polarization. At the primary and lower-secondary education level, there does not appear to be a strong case for increased privatization of the education system. It is the Government's continuous obligation to provide the fundamental support for basic education necessary for China's sustained economic and social development.²

Efficiency, outputs and quality assurance

Before increased funding for education can be effectively used to increase education quality, the current system must be made more efficient. Funding and organizational structure must be arranged in ways that produce pressures for increased efficiency. At present, there are no such pressures and much of the system operates inefficiently. One of the most effective ways of encouraging efficiency is for institutions to have the autonomy and the incentives (e.g., through being able to retain savings) to make more efficient use of the resources available to them. Neither the autonomy nor the incentives are currently present. We discuss this in more detail in each of the sector chapters (3, 4 and 5).

It will be important to ensure that the search for efficiency improvements does not risk quality. This requires a strong quality assurance process—but one that focuses on education processes and outputs rather than inputs. It is primarily the education process that determines the quality of the students' learning experience—although some indication of quality can also be provided by considering inputs (e.g., the provision of library facilities or laboratories). *We think the emphasis on processes and outputs as the basis for establishing quality should be increased, not least as it will then provide scope to increase efficiency in the use of input resources.*

Quality assurance checks are needed as part of a more general approach to establish better accountability for the use of public funds, especially if there are increases in institutional autonomy. In a more decentralized system, the concept of a "quality audit" should be used by the higher-level tiers: this involves each tier checking that the tier below has effective quality assurance processes, but does not involve checking what the lower tier actually does. In fact, the direct assessment of quality is needed only at the level of the institutions themselves.

Levels of funding

China needs to substantially increase its government expenditure on education³ in the coming years to: (1) address educational deficiencies as a result of a long period of low educational investment in the past, (2) meet the current educational needs of an expanding economy; and (3) develop a comparative advantage in human resources so that China can more effectively compete in a knowledge-based global economy.

Given the increasing link between education, skills, productivity and economic growth, it is worrying that government expenditure on education in China has been low for many years and has been declining as a percentage of GDP. It is low by international standards both when compared with OECD countries and with other countries within the region (Table 1). The low level of government investment in education underlies problems such as delays in payment to teachers, poor equipment, substandard facilities and the severe difficulty in achieving nine-year compulsory education in poorer areas.

China's 1997 current education expenditure/GDP ratio of approximately 2.5 percent has not changed much over the years, despite the general recognition that it is too low and needs to increase over time; thus the current target of 4 percent by year 2000 has credibility. Progress toward achieving this target, however, has been limited because of inherent weaknesses in the way revenues are being generated and the overwhelming claims on expenditures China currently faces. These claims reflect the fact that the appropriate role of Government is still evolving; many activities are being funded that should not be funded and many that should

be funded cannot be accommodated. These fiscal pressures are unlikely to ease in the coming years with a slowdown in growth and increased pressures to address the social dimensions of the restructuring that is going on in the enterprise sector. In these circumstances, the priority in the near term must be to ensure that funding for the poorest groups and regions for compulsory education is met—and fortunately the cost of doing so is attainable (see Annex b). The case for increasing funding for the rest of the education system is also very compelling but to increase the credibility and broaden the support for such funding increases, a major and prior reform/restructuring of the various systems is needed to ensure that any additional funding will be efficiently used.

Setting targets for educational spending is an appropriate strategy because it focuses attention and affirms priorities in providing resources for education; provides a stimulus for the difficult task of mobilizing political, social and financial resources; and ensures a process for monitoring and assessing long-term achievements. We support the government's effort to raise government education expenditure (total of budgeted and out-of-budget education expenditure made through the government financial system) to 4 percent of GDP in the near future and encourage the Government to set incremental targets for the year 2005 and for five-year periods thereafter. We further recommend that the Government consider a *three-legged stool* approach of setting these goals, which takes into consideration the indicators of *efficiency* (using funds wisely), *equity* (increasing participation and quality) and *economic development* (relative speed toward a socialist market

TABLE 1
Government education expenditure in East and Southeast Asian economies, 1980-94
(percentage of GNP)

	1980	1985	1990	1991	1992	1993	1994
China ^a	2.5	2.8	2.3	—	2.0	1.9	2.6
Hong Kong, China	2.4	2.8	2.8	—	2.8	2.8	—
Indonesia	1.7	—	1.1	—	2.2	1.2	1.3
Japan	5.8	5.0	4.7	4.7	3.6	3.8	—
Korea, Rep. of	3.7	4.5	3.5	4.0	4.2	4.5	3.7
Malaysia	6.0	6.6	5.4	—	5.5	5.2	5.3
Philippines	1.7	1.4	2.9	2.9	2.0	2.4	—
Singapore	2.8	4.4	3.1	—	3.2	3.1	3.3
Thailand	3.4	3.8	3.6	—	4.0	4.1	3.8

a. China's data are based on "budget" spending and therefore not strictly comparable.
Source: World Bank, *Education Statistics* (Version 2.0), Washington, D.C.

economy). We recommend that the Government set these five-year targets taking into consideration actual and current circumstances such as the relative speed of China's movement toward a market economy, rate of GDP growth, changing demographic and education participation rates, regional comparators on educational spending and achievement, special areas of equity which must be addressed such as gender and minorities, and the changing needs of labor market.⁴

In setting out to achieve the goal of the reform of a current dysfunctional education finance system, we propose that the Government should strengthen the budgetary resources available for education by converting educational levies, surcharges and fees (except tuition fees at the institutional level) into taxes; these could be collected at the township level but should be transferred and managed at the county level, which will allow for some distribution of funds across the county to make up for spending deficiencies.

China should be aware that government expenditure on education actually suffered a decline during the former Soviet Union's transition to a market economy; this was mainly because the educational services of the SOEs, after privatization, were transferred to the regions and the resulting costs amounted to too a great burden on the poor regions—and on poor families—as a result of which expenditure dropped.⁵ There is a risk that this might also happen in China; education spending lost as a result of the reform of the SOEs will need to be balanced by increases from national- and provincial-level funding.

Funding mechanisms

Given the current economic inequalities between areas, a funding policy that requires local funds to match intergovernmental transfers should be considered as a short-term measure. Further, we argued in Chapter 1 that the poorer areas should not have to wait until their economy develops before there is increased investment in education; such investment should be planned to lead economic development. Hence, *we think that the central and provincial governments should provide more assistance to poor areas to promote economic development*; equalization funds from central and provincial levels should be made an integral part of the educational finance system.

The greater levels of decentralization mentioned in the previous section will require the development of better funding mechanisms between tiers of government. The greater the extent of decentralization, the more unequal will be the resources available to the lower tiers and thus the greater will be the need to equalize resources at the lower level. Such equalizing will be needed between provinces, between counties within a province, and between individual schools (and institutions) within a county. The redistribution mechanisms will need to take account, separately, of three factors: greater need for resources in some areas, more limited access to resources of their own in some areas (often it will be the areas with the greater need that are also those with lower levels of their own resources) and *the fiscal effort of recipient governments in education*.

We develop the arguments about funding mechanisms, and make our recommendations, in Chapter 3. Examples of different funding mechanisms used in several OECD countries are shown in Box 2. (Similar comparative data on other education issues can be found in Annexes 2 and 3.)

Implementing mechanisms

As the system becomes more flexible for the 21st century, Government will need to develop better levers to implement its policies and to influence the various players. Funding mechanisms such as those discussed above, together with the availability of special funds for specific purposes, are highly effective ways of influencing the overall direction of the system. The other main mechanism is through legislation. Further development in education reform should take place within the existing and planned framework of education laws.

Legislation will be needed to deliver many of the above changes, for example those of decentralization, funding, increased autonomy and quality control. Currently the time taken to make laws or regulations is so long that it is difficult to deal with practical needs in a timely way. Further, economic and social change are likely to be faster in the future, so *we think it will be important to speed up the process of developing, refining, passing and implementing legislation*. Provincial governments too will need to be more active in making local laws and regulations to match their new responsi-

OECD funding mechanisms

United States: In almost all states, public schools are funded by local real estate taxes that are divided between schools on the basis of pupil numbers. In some states, public schools also receive support from the state, often targeted at underfunded urban school districts that lack a strong tax base. Some schools are also supported by local corporations and foundations concerned about the quality of public education. Several states are experimenting with the use of "vouchers," which permit individual students to select a public or private school and apply a given value of public tax dollars to the cost of their education. *Issues: Wide variations in per-pupil expenditure between districts results in long-standing tension between more affluent suburban and poorer urban schools.*

Japan: Local education boards provide funding to schools on a line item basis—with funding parity at the national level maintained through national subsidies. Private schools (which represent 1 percent of primary and 5 percent of secondary schools) receive subsidies directly from central government.

United Kingdom: Over 70 percent of school finance is provided by central government via local authorities. Under local management of schools (LMS), local education authorities allocate funds to schools on a per-pupil basis adjusted for factors such as size of school and socioeconomic deprivation. There is no national funding formula and, in principle, local authorities can allocate funds according to their own priorities. Since 1988, a small minority of schools (known as Grant-maintained schools) have received per-pupil funds directly from central government. *Issues: Need for pupil funding system to be sufficiently flexible to reflect cost differentials associated with individual pupils (e.g., costs related to learning difficulties).*

Australia: State Education Departments have financial responsibility for school education and generally do not receive subsidies from central government. They typically fund schools on a per-pupil basis adjusted for indicators of increased need (e.g., per-

centage of children from parents of a non-English speaking background). *Issues: As with the United Kingdom.*

Republic of Korea: Central government provides 85 percent of funding for schools; the remaining 15 percent is provided by local government and parents. (Tuition fees are charged in urban middle and high schools). Central government funds are distributed to the regional authorities which then allocate resources to individual schools. Funds are allocated on a line item basis with tight controls which do not provide much scope for autonomous decision-making.

Netherlands: Central government funds are paid directly to the school boards with the exception of primary accommodation costs which are paid to the local education authority. Funds are allocated according to the same criteria for public and private schools. The school boards are required to distribute funds between individual schools on a *per pupil basis* according to a *national funding formula*. In 1996, a block grant system was introduced for funding secondary schools which allows schools a higher degree of discretion as to how the budget is spent on staffing and operation costs. Primary schools are still funded on the basis of ear-marked budgets but are preparing to make the transition to block grants. *Issues: Limited capacity for municipalities (or school boards) to redistribute funds according to local priorities due to national funding formula.*

Other European: In many European countries, a large proportion of funds from central or regional government are paid directly to schools (or to school staff) and bypass local authorities (e.g., Germany, Austria, Italy, France, Ireland and Spain). In other countries, local government plays a more important role in distributing resources (e.g., Sweden, Finland). In Sweden, some local authorities operate a pupil funding system similar to the United Kingdom and have also experimented with the use of vouchers. In Germany, funding mechanisms vary between provinces, some of which are moving toward the use of global budgets.

bilities; in the past they have tended to wait for instructions from central government. In addition to their own laws, they will need to pass local laws and regulations that apply the central or national laws and regulations at the provincial level.

Until now, many of the provisions of laws and regulations have been vague and lacking in procedures for implementation. We think that the development of the education legal system needs to put more emphasis on implementing sensible laws which are now in place: for the "rule of law" to become established, there need to be checks that the law is actually being observed and implemented. This requires a change in philosophy from thinking of laws as administrative tools to think-

ing of them as a means to providing better education services to the public. In effect, the concept of "rule by law" can establish the rights and responsibilities of the participants in the education system—including the government—in a clearer and more rigorous way, thus making success more likely.

In many countries, educational goal-setting takes place primarily at the national level; however increasingly in more decentralized political systems, regional or local authorities tend to have greater discretion in modifying and interpreting national education goals to meet local demands. Furthermore, the more consultative the political systems, the more likely it is that responsibility for policy development will be shared

outside the executive branch, for example with nongovernmental organizations and lobbying organizations. As China's system become more developed, so it can be expected that these other organizations will play a increasing role in its future.

Notes

1. In this report the term "schools" is meant to include all pre-higher education institutions. In other words the term covers all institutions that are included in the Chinese definition of Basic Education.
2. The role of privatization in China's education system is a topic that needs to be more fully explored and discussed and could be the topic of a more detailed note produced by the Bank.
3. Government education expenditure includes in-budget government education expenditure plus that portion of off-budget education expenditure that goes through the government's financial system. It does not include all the off-budget education expenditure. In particular, it does not include tuition and fees and social contributions. The off-budget expenditures included are: education and surcharges, spending on education by state enterprises, and other smaller items within the financial system.
4. The Bank team, using an analytical approach similar to that laid out above, and using both Chinese and international comparative data, has prepared a reference recommendation on the optimal level GDP to be spent on education by the year 2020. This analysis and reference recommendation are contained in Annex 5 and take into consideration where Chinese education expenditures should be in 2020 compared to other countries in the region that have similar or more advanced levels of economic and social development.
5. World Bank, "Russia: Regional Education Study," October 1998, p.4.

Strategies for Schools

We have argued as a general principle that school provision should cease to be a responsibility of bodies such as SOEs, universities or line ministries (other than MOE). The chain of responsibility for schools would then be very simple: MOE, Provincial Education Commission, County Education Bureau (or county-level Municipal Education Bureau), School. This would mean transferring the ownership, responsibilities and funding for their current schools away from SOEs and the other bodies to the relevant County or Municipal Education Bureau. We have also said that we think that the township level should not be involved in school provision—except perhaps as tax collection agents for the county, under the rule of law. There would need to be an explicit transfer of funds, by means of intergovernmental transfer, to enable counties to take on these extra responsibilities (see next section).

Structure and responsibilities

Within this chain of responsibility, we think that the required level of flexibility and efficiency is best delivered in a system in which responsibility for service delivery is decentralized to the lowest tier in the chain. Many OECD and other countries have been moving toward decentralizing education responsibilities. Under such an arrangement, MOE would retain only those policy responsibilities that were strictly necessary at the national level; these would include, for example, setting the framework of responsibilities for the other tiers, defining those aspects of the core curriculum needed at the national level and making adequate arrangements for sufficient (and fair) intergovernmental transfers of funds.

In many countries, the principle of decentralization is being extended to delegation of responsibilities to the individual school (see OECD matrix in Annex 3 for details). In part this is because it is believed that the school is in the best position to know what is most appropriate for its pupils, and in part because flexibility and efficiency are increased if schools have sufficient autonomy to be able to make their own changes. Several countries have transferred most of the managerial responsibilities to the individual school, together with a single block of funds for the school to use as it wishes—within a policy framework set by the county (or equivalent).

Such schemes are furthest developed in the Netherlands and the United Kingdom in which virtually all management responsibilities have been transferred to the school, including decisions about how many teachers to employ, about hiring (and dismissing) teachers, about what other staff to employ and their pay, and about what other facilities to provide: Government responsibilities are then limited to broad policymaking and to creating the right conditions for the provision of good-quality education. Many other countries are following this direction too—for example, the recent reform proposals in the Republic of Korea. The experience of decentralization shows that strong management capacity is needed—both at the county level to understand the concept of delegation, and at the school level to take on the new responsibilities. There are examples of countries where delegation has run into difficulties; for example, as a result of political pressures at the

school level—as in the United States, partly because of the power of the teachers' unions.

Increased efficiency

In addition to providing greater flexibility, delegation to schools provides incentives to schools for using their resources with greater efficiency. There are currently few such pressures in China. For example, by international standards, there would appear to be an excess of nonteaching staff in China's schools, which use resources that could be better spent in the classroom. Under a delegated system, each school would determine such matters for itself, with a development plan and a budget, to show how it intended to make effective use of all of its resources.

We think that China should start to move in the direction of delegation to schools; it should not attempt to reach this position quickly as such development requires much analysis and careful planning. This will be a large, complicated and ongoing undertaking with substantial efforts needed to train educational authorities at all levels to take on these new responsibilities. We suggest that developmental work should be undertaken now with a view to identifying intermediate stages toward delegation that would progressively yield the benefits experienced elsewhere.

Such developmental work would need to consider arrangements to transfer money to schools and other legal changes that would be needed to enable school committees or school principals to manage money. Monitoring per-student spending would be needed, not least to ensure that equity was achieved and did not diminish over time (evidence from the United States shows that this can be a problem in decentralized systems). Again, we recognize that this will be a large and difficult undertaking but one well worth the effort to ensure the efficient use of scarce educational resources.

The above concerns public schools, but there are also private schools, the numbers of which can be expected to increase as parents seek greater choice. The growth of private schools—we are not referring to private funds being channeled to public schools—raises an important policy question for Government about the overall structure of the school system. The growth of private schools alongside a dominant public school system clearly increases choice for those parents who are

able to pay, but it can also produce inequities, especially if private schools are of higher quality than the public ones—as is often perceived to be the case. Of course such inequities exist within the public system despite efforts to reduce them (e.g., the United States has also not been able to overcome wide variations in per-pupil expenditure between different school districts). Experiments with voucher systems have had little impact on this problem and often result only in the transfer of some public funds to private schools (e.g., as in Japan, the United Kingdom, Australia).

In addition to new private schools, the growth of privatization¹ of senior-secondary schools, especially in urban areas, is also likely to increase social stratification and accentuate differences in access based on income rather than, for instance, ability (e.g., as happens now to some extent in the United Kingdom). On a more practical level, in some urban areas, privatization results in the state losing valuable assets, both personnel and physical infrastructure, without any assurance that the Government's earlier investment will be recovered. This loss of highly valuable assets needs better control and oversight from the state.

The policy questions for Government are: what role it wishes private schools including private kindergarten to play in the education system; how any resulting negative aspects of equity can be minimized; and how private schools can be regulated in order to ensure they provide at least a minimum education standard. *We think that the Government needs to give more thought and analysis to these issues involving private schools in order to produce coherent and consistent policies.*

Levels of provision and funding

Nine years of compulsory education is a minimum target for a middle-income economy. Most OECD countries provide around 12 years and we think that this should be the longer-term goal for China too. Some believe that moving to 12 years provision too quickly might create social problems if the higher education system were not expanded to absorb the higher number of secondary school graduates. We think that this is a misplaced concern for three reasons: first, 12 years of secondary education is needed to introduce the educational competitiveness and flexibility needed for the 21st century; second, 12 years is valuable in its own right—not

just as a path to higher education but because the economy of the 21st century will find the higher-level skills more valuable than those obtained after nine years; and third, we think that higher education should also be expanded in any case; see Chapter 4.

The target of nine year compulsory education for all is seen as a way of reducing poverty and of helping economic growth, but, as we noted in Chapter 2, the policy is being implemented at different speeds across the country, largely because the poorer provinces have greater needs but fewer resources. For example, by 1996, about one-third of the counties had still not achieved the nine-year target and most of these were counties with low per-capita income. But this is not the whole picture; there are also differences in the quality of provision that result in differences in outcomes such as exam results, the rates of progression from one level of education to the next and the employment of graduates.

There are thus inequalities of access, of funding, and of quality as between provinces, counties, urban and rural areas, males and females, income groups, and ethnic groups. Parents are keenly aware of the differences between schools (and of the implications for their children's future) so they compete to enroll their children in the best schools. This competition has negative implications for children's study patterns—which is likely to increase with the growth of private schools. The results are especially clear in higher education, in which there is a disproportionate number of children from higher socioeconomic backgrounds and from urban areas.

Government leaders have voiced concerns about the impact such inequalities might have on society—or even the perception of such inequalities; they have referred to its contribution to social tension and possibly to instability. To reduce inequalities in the provision of education, *we think the Government should define a minimum level of provision for all children and should then ensure that there is adequate funding for the provision of this in order to overcome the disparity of needs and of resources between richer and poorer areas across the whole country.*

The current system of education financing relies heavily on local resources, and so the poorer areas have great difficulty in finding enough resources even to provide the nine-year compulsory education. We have argued above that the children in the poorer provinces should not have to wait for local economic growth to

finance the basic nine-year level of education but should be assisted with a policy of investment through inter-governmental transfers.

While MOE in the current 9th five-year plan has earmarked 3.9 billion yuan to assist compulsory education in the poorer areas, it still requires matching funds from the provincial and county levels, which may be difficult for them to find; in any case the funds are small compared with the financial needs of these areas. We think that *the central and provincial governments should substantially increase the earmarked intergovernmental funds for compulsory education in the poorer counties, as part of the policy to achieve nine-year compulsory education throughout the country by 2010—or preferably earlier.* As indicated earlier in this report, we believe this to be the first priority in education to be addressed by the Chinese Government. We develop this recommendation in more detail, including specific financial targets, in Annex 6.

This means there must be adequate funding mechanisms to ensure that sufficient funds are available at each tier for the tasks which are the responsibility of that tier. For instance, in the United Kingdom, over 70 percent of school finance is provided by the central government via local authorities. In the Republic of Korea the central government provides 85 percent of funding for schools—through regional authorities—with the remaining 15 percent coming from local government and parents. In the Netherlands, central governmental funds are paid directly to the school boards except for accommodation costs, which are paid by the local authority. In some other European countries, some of the funds from central or regional government are paid directly to schools (or paid to staff directly) and bypass local authorities (e.g., Germany, France).

There may also be lessons from the Russian experience. Since 1992, Russia has attempted to develop a fiscal equalization mechanism to help preserve a minimum level of educational funding per student across its regions. These attempts have been relatively ineffective because of the low level of funds available for redistribution; as a result many areas have been unable to meet the costs of basic education. For China, central funding to achieve resource equalization will only work if the tax collection system is strengthened and if national revenues are increased. Although reform of the tax collection system is outside the control of the MOE, strong

support for such reforms should be given in order to be able to put in place an effective financial transfer system. The lesson of the Russian experience is that China cannot wait for the full development of a robust tax system to produce sufficient revenues for fiscal equalization and therefore must use, in the short to medium term, existing national revenue sources.

Hence, we think that the Government should:

- substantially increase central and provincial earmarked education funds to poor counties to ensure that all the poor counties meet minimally adequate levels of per-student spending in compulsory education (see Annex 6 for an estimation of earmarked funds needed);
- improve the current scheme for the distribution and use of earmarked funds, in particular by requiring a reduction in the financial burden on poor households and by ensuring the prompt payment of earmarked funds;
- after achieving universal nine-year compulsory education, maintain the intergovernmental transfer scheme in order to promote 12-year basic education for all; and
- eventually establish a regularized intergovernmental grant system in education to provide assistance to poor areas, assure minimally adequate funding for all areas and maintain regional disparities within a socially acceptable level.

For particularly vulnerable groups, the Government could also design specific interventions, for example:

- programs designed to help disadvantaged students, through early childhood education and accelerated learning;
- the system of preferences in admissions to higher education for disadvantaged groups; and
- programs to ensure there is access to schools for all, regardless of income or background.

Combining all the above structural changes with these funding changes, central government's role would then be to provide education support to the provinces and to concentrate on policies and financing of education matters of national interest. For example, it would set the national core curriculum and a national base level of per-student public spending for primary education and for lower-secondary education to guarantee the financing of the nine-year compulsory education in all areas (allowing for the different costs of educational delivery and other needs such as special education).

Adding funds from its own resources to those it received from the national government, each province would similarly provide support for primary and secondary education to its counties. *Each provincial government should guarantee a level of per-student funding (“base” level) for all its counties, at least at primary and secondary levels. It should also limit the differences in per-student public spending between counties through equalization support and through capping expenditure by high-spending counties.*

At the lowest tier, each county would be responsible for planning, providing and funding primary and secondary education using the support funds it received from the province and adding its own funds (including those collected by the township level). Total public resources in a county should be distributed among schools by an equitable method. The boundaries and numbers of counties within a province may need to be adjusted to enhance the effectiveness of educational management. In some cases, it may be desirable and feasible that logical-size school districts may cross or split county lines for the purposes of educational administration.

Curriculum

As China approaches a market economy, the only certainty about the curriculum and how it is taught is that it will need to be constantly changing at all levels. Changes at the school level will be needed both in the nationally determined core and in the locally determined parts. Both parts will need to put more emphasis on basic skills and on general competencies, and reduce emphasis on job-specific requirements—not least because the future jobs will not be known. It may be appropriate for the local component to be more directly related to local needs in less developed areas.

Other market economies have shown that the school curriculum needs to put more emphasis on concepts such as problem-solving, teamwork, communication, social and market skills and the practical applications of theory. These should not be seen as new disciplines to be added to the curriculum; they are different approaches to the concept of teaching in which students really learn new skills rather than just learn knowledge. To develop such an approach to teaching will require help from outside education in order to ensure that cur-

riculum design is influenced by economic and social needs and not just by academic concerns. It will also be important to recognize that the current curriculum contains many strong areas such as teaching foundation skills and balancing the new approaches with traditional strengths.

We think that the changes in content and method will require different styles of teaching, for example through discussions in the classroom rather than the teacher simply explaining facts: the challenge to teachers will be to find ways to help students learn how to learn. The nature of exams will need to change too, so that they are not simply a test of students’ knowledge of facts and of what the teacher has said; they need to be a test of students’ understanding and of their ability to think for themselves.

The policy responsibilities of each tier of government for curricula and exams must avoid conflicts of responsibility, and must ensure there is coherence and consistency between the tiers—for example, in setting standards and targets and in ensuring that there are adequate quality assurance processes in each tier.

Experience in OECD countries varies (see the OECD matrix in Annex 3), although it is evident that the predominant trend is to decentralize decisions on curriculum, albeit within a national framework. Japan has a national curriculum for all subjects at the elementary level (grades 1-6) and for core subjects in grades 7-9; these stipulate objectives, content and standard time allocation by grade; in contrast, the Republic of Korea is intending to decentralize decisions on many aspects of the curriculum. In Australia, each separate state is responsible for decisions on curriculum, with schools having considerable choice as to curriculum content within broad subject areas; there is now an effort to develop a “National Curriculum Framework” to increase consistency between states, which is seen to require a high level of investment to secure adequate cooperation. Strong local control of the curriculum occurs in Finland, which does not have a national curriculum although curricular guidelines are issued by the National Board of Education and local authorities work with schools within this framework.

There is an important social dimension to the curriculum too. Perhaps as a result of growing economic differentiation and shifting values, teachers have voiced concerns about the increasing personal, social and economic problems of their students. Some speak of a

growing “selfishness” of students who are concerned only with their own welfare and of the new social pressures on children; others have hinted at tension between ethnic or class groups. The response has been to strengthen moral education, for example through extracurricular activities with an emphasis on traditional Chinese values, love of country, love of the Party, and respect for the rule of law. Internationally there have been efforts by some professional educators to establish a set of standards for civics education, which the Government might find helpful to improve moral and civic education.

Outputs and quality assurance

The setting of standards and targets must be the role of the tier(s) above the schools, it could be done at the county, province or national level (for different targets). Hitherto the emphasis has been on input standards, for example the target to have a fully qualified teaching force, targets for pupil-teacher ratios, books, equipment and curriculum coverage. Whether such input standards are met is mainly a function of whether sufficient resources are made available for them; in other words, the achievement of input targets is more a reflection of the consistency of government funding rather than an indication of education performance. Such consistency is not always present; for example, we have noted that the target of nine-year compulsory schooling cannot be met in the poorer Provinces because inter-governmental transfers are too small and require matching local funds.

Using inputs as an indicator of quality (for example expenditure levels per pupil) has other problems too: it may stop attempts to increase the efficiency of using resources. Many OECD countries try to reduce expenditure per pupil as a way of encouraging greater efficiency—rather than increase such expenditure as an indication of improved quality. The concept of efficiency has not been well developed in China, partly because of the use of input measures for quality. *We think that pressures for efficiency are urgently needed to ensure that public resources are used as efficiently and effectively as possible; we suggest this should be a matter for further study.*

More generally, *we think that, alongside some input standards, it will be important to develop output targets*

for education achievements, for example the level of literacy, enrollment levels in primary and secondary schools, the proportion of the age cohort who successfully graduate from secondary school. The important point about output targets is that they are dependent not only on the provision of resources but also on the system performing well. Output indicators are important to gauge both the efficiency of schools in delivering education to children and for local governments in supporting the education process. Unlike input targets, their use can positively encourage efficiency, for example by aiming at better outputs for the same level of inputs. *We think that more emphasis should be given to output targets: each tier should set output performance targets for the tier(s) below it and then measure achievements against them.* The results should be known publicly, but should also be used to help identify those aspects of the education system that need strengthening with specific strategic funds.

At the level of the individual school, there are various ways of assessing output quality, for example, pupil performance in exams can be an indicator of a school’s performance, although it is better to use the concept of “value added.” But while quantitative output targets can give some indications of the quality of delivery, they will not be enough; there also needs to be a means for assuring the quality that is provided to the pupils within school. This requires quality assessment inspection teams who observe school processes in practice. Applying the concept of “value added,” the teams would judge a school’s success by its ability to *raise* pupil achievement over a given period of time with a given amount of resources rather than more simply judging success by the student achievement scores at the end of the period.²

In addition to assessment mechanisms at the level of the individual school, *we suggest that all tiers of government should be subject to a process of quality audit.* The province should check that each of its counties has a means of assessing the quality (and the efficiency) of the schools within its responsibility. A quality audit means that the province would check the quality assurance processes of the county, not what the county itself does. Similarly, the state should establish quality audit mechanisms for the provinces.

There is a variety of experiences of other countries on quality assurance (see OECD and transition economies

matrices). In the Republic of Korea, local education boards are responsible for quality assurance, although the results are not made public (yet); there are also plans for an evaluation system with its results linked to funding, although there is a danger that it would be the schools with less able students that might be penalized. The United Kingdom has a concept of “whole school” inspections every 4-5 years, which can lead to the identification of “failing” schools. The too rapid decentralization of the Hungarian education system has lost the nation-wide quality assessment system, which has led to serious concerns about equity and the comparative performance of schools.

For schools to deliver improved standards, the quality of teachers is crucial, requiring professional development and sometimes retraining—as well as improvement to the working conditions of rural teachers. The current mechanisms for upgrading teachers, including *minban*

teachers, are weak. Given the changes needed in both content and style in primary and secondary schools, *we think that a major program to retrain teachers will be needed—and quickly*. Funding such a program will be largely a provincial and county responsibility, but we suggest that the national government should fund specialized training for defined national needs.

Notes

1. In this context “privatization” means movement toward access to quality senior-secondary education based on ability to pay higher tuition rather than access to schools closest to where they live, the increased private management of government-supported schools, schools enabling, for example, the hiring of superior teachers by offering substantially higher salaries, etc.

2. For example, when comparing two schools and the “value added” provided by the schools, a school that raised the test scores of its poorly prepared entrants a greater amount than schools that took in bright well-prepared students whose scores changed only marginally would be judged to provide greater “value added.”

Strategies for Higher Education

We think that the policy responsibilities for higher education should be held at the national level by MOE, at the province level by the provincial (or municipal) education commission and at the level of the individual higher education institution. Public universities should belong either to MOE, if they are national universities, or to the relevant provincial or municipal authority. *We suggest that all line ministry higher education institutions should be transferred to the provincial education commission, including the current “motherless” institutions.* The levels of funding these institutions had previously received should also be transferred to the provinces to enable the provinces to fund their new responsibilities. This funding transfer would probably need to be made at the national level.

Structure and responsibilities

For issues of strategic importance, the state would set the overall framework, for example policies on the overall size

and shape of the system, on some aspects of the curriculum, and on arrangements for cross-province movements of students. The state would also retain responsibility for administering the nationwide 211 Project. The main policy roles for each province would be to interpret and implement state policies and to develop policies and plans for its circumstances. *In particular, we suggest that each province should produce an overall strategic plan to rationalize the structure of its higher education.*

Such strategic plans would have three purposes. First, there are many institutions, especially those that would have previously belonged to line ministries (or still do), that are too narrowly specialized and too small; few of them are appropriate for the future—although there may be a need for a few very specialized ones if they are of high enough quality (e.g., for Defense).

The need for a greater breadth of provision of education (see below) means that merging small institutions in similar fields will rarely be appropriate. It would be better to build on and broaden the stronger ones by adding subjects close to their current specialty, in steps toward expanding them to a more comprehensive or multi-discipline university. For the less strong institutions, mergers in complementary fields might be appropriate—again as a step to expanding them toward a comprehensive or multi-discipline universities. Each of these approaches was successfully adopted by Japan after the second World War as it developed its system away from narrowly specialized institutions. Weak institutions could either be merged with strong ones in their own field or they could be closed. Each province's plan should analyze all these options and produce a plan as a result, once the line ministry universities have been transferred to them.

The second purpose for the provincial strategic plans would be to reduce the fragmentation and overlap between the different types of institutions. For example, separate adult education institutions, “normal” universities and self-taught provision all sit alongside more standard higher education provision. These institutions could be developed or extended to become more like comprehensive or multidiscipline universities or, for the weaker ones, merged with other institutions or closed. The provincial plans would address this issue.

The third purpose of the plans would be to ensure that each province had developed objective criteria for such changes, had mechanisms to process them, and had the means to implement them. This would help clarify the distinction between institutions of higher education at the national level that would provide a national focus and provincial institutions that would have a more provincial or local orientation. *We propose that MOE should request each province to develop such strategic plans.* MOE approval of a province's strategy could bring some additional state funding to help the province implement the strategy. As a step towards this, *we suggest that one province be selected as a pilot to develop such a strategic plan, perhaps with external assistance.*

The above has been concerned with public sector higher education, and China's higher education system has, until recently, been the exclusive concern of the public sector—like in most other countries. But there is a growing international trend for countries to enable, or even encourage, private sector provision of higher education. We refer to the private ownership of institutions rather than to the private funding of publicly owned institutions. (Either public or private funds can be used to fund either type of institution; for example, universities in the United Kingdom are, in effect, private universities that are nevertheless predominantly publicly funded.)

Many countries are facing difficult policy questions about the role and relative size of privately owned higher education, including the question of how to distinguish public from private provision in ways that justify public funds being used to support one and not the other. Several countries have found themselves facing policy and funding tensions as a result of not adequately considering this question before encouraging private provision of higher education. The issue does not arise in countries where the two types of provision have grown side by side over many years—for example, as in the United States.

It is not sufficient simply to view private institutions as being able to absorb excess demand for higher education, as this raises questions about which types of demand are to count as the “excess.” A second point is that, if there is an ability and willingness from students (or parents) to pay, whether such private funds should be encouraged into helping to improve and expand the

public system. *We think that the policy toward private higher education requires urgent analysis and more thought; the current approach will not meet the needs of the emerging economy.* An earlier Bank study, *China: Higher Education Reform*¹ has useful comparative data and recommendations that should be taken into consideration when the analysis is undertaken.

Institutional management and increasing efficiency

Greater managerial, financial and pedagogical autonomy at the institutional level helps increase responsiveness to markets and hence increases the value of institutions to the society and to the economy. It is also an effective way to increase the efficiency within the system, and hence provides the opportunity to increase the number of students in an institution with little increase in costs. We suggest that higher education institutions (HEIs) should operate with a greater degree of autonomy. However, increased autonomy can only be effective if the financial and educational management capacity is assured. We recommend that substantially increased attention be given to increasing this capacity within all HEIs.

Such managerial autonomy would mean that a university would be able to:

- determine its own student numbers—as long as it recruited a defined minimum in exchange for the public funds it received;
- decide the numbers and grades of staff it employed—both academic and nonacademic and make decisions about hiring and firing staff; and
- decide which degrees to stop and which to start without prior authorization—but subject to the proposed quality assessment processes.

We would also expect to see public universities generate an increasing proportion of their funds from private sources, for example from entrepreneurial activities such as short courses at full cost, full-cost research and consultancy, and from rental income from their physical facilities (e.g., for conferences). Although this can be expected to accelerate in the future, universities should develop professional management capacity in order that the goals of education, training and research are not subjugated to the goals of financial profit.

To increase further the efficiency of universities, and to enable them to focus better on their educational tasks, *we think that HEIs should cease to manage (and to subsidize) staff housing, catering, institution owned schools and health centers—and in the long run perhaps student accommodation too.* We recognize that these responsibilities are part of a wider pattern of social arrangements in China, but in other economies in transition, such responsibilities are being gradually transferred either to the municipal authority or to the private sector. We think higher education institutions should have such responsibilities lifted from them (with the appropriate transfers of public funding).

We suggest that there is also scope for yet further efficiency gains as a result of simplifying many of the administrative procedures in higher education institutions. “Process reengineering” studies to identify the scope for such efficiency gains in United Kingdom and United States universities have typically identified savings of 10-15 percent on running costs. With increased freedom to change administrative processes, the scope for savings in many Chinese institutions should exceed these levels. We suspect that there are other institution expenditures that could also be reduced to make savings, simply because such costs are not well-controlled at present—because there is no incentive to do so; examples include the costs of the consumption of water and electricity.

To manage universities in the above manner will require a very different form of management from the present one—in almost all institutions. Changes will include:

- the need for the rector and senior managers to be able to make decisions about how the institution’s resources are to be used;
- the need for the management to know the true costs of their activities in order to know what “full cost” really means;
- the need to pay attention to external markets—students, labor markets and other potential “customers”
- the need to prevent abuse of the university’s facilities for activities that are inappropriate for a university to undertake; and
- the need to prevent abuse of their time by staff who undertake “private” work to an extent that interferes with their teaching and other duties.

Some Chinese universities are experimenting with external Boards of Trustees to help provide overall pol-

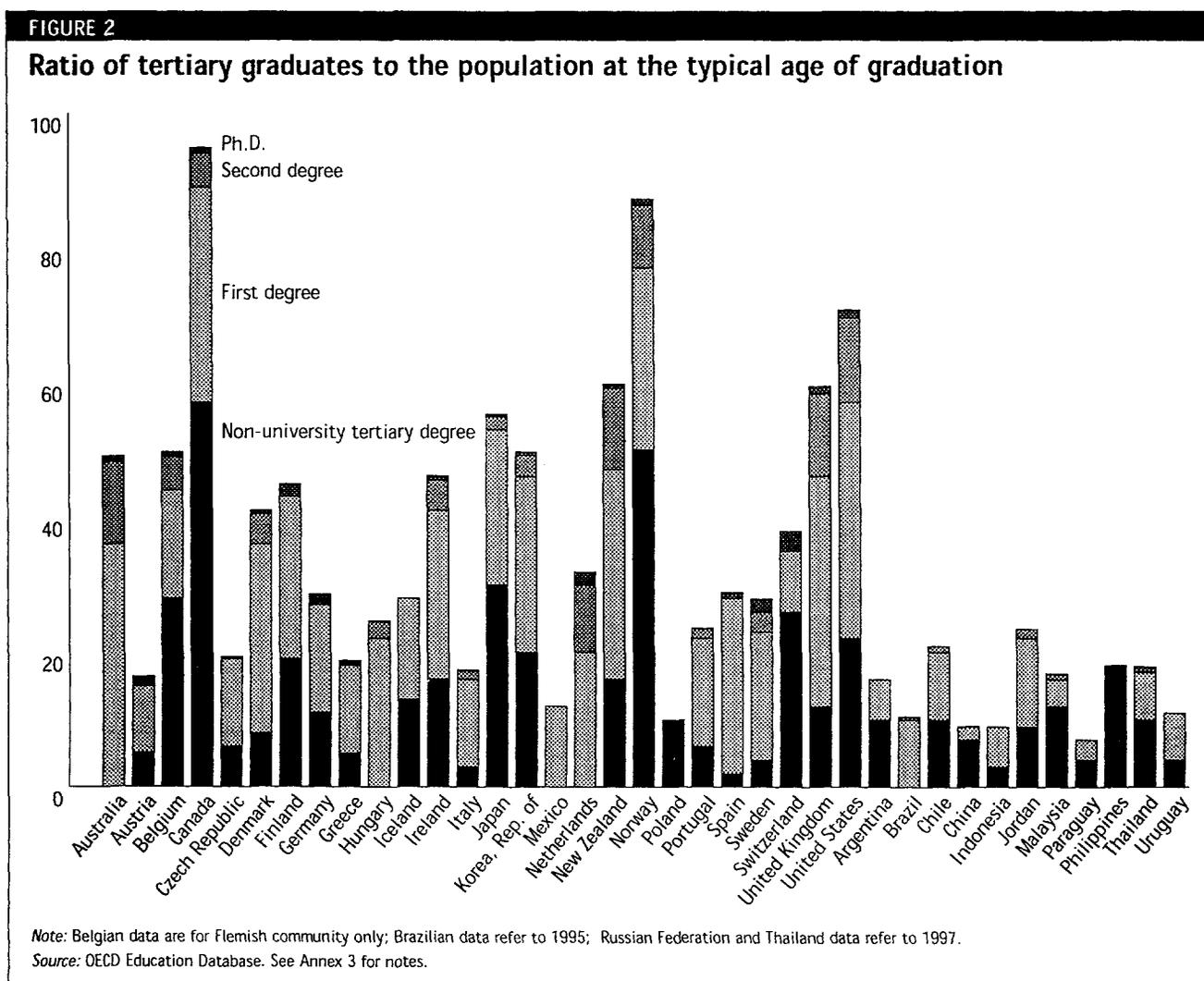
icy guidance for the institution. *We think that these experiments should be strengthened and accelerated.* The institutions should ensure that the Board of Trustees consists mainly of people from outside the institution, drawn from the wider community that the institution serves.

These and other managerial changes (e.g., a staff appraisal system for accountability and promotion, and a management information system) should be made in parallel with giving increased autonomy to institutions. A key aspect to the exercising of successful autonomy will be the means by which funds are allocated to the institution and the flexibility allowed to management in being able to use those funds as it thinks appropriate. The quality assurance process and post hoc audits should ensure that public funds are not misused.

Volume and funding

In China, the gross enrollment rate for higher education institutions is only 9.07 percent (which includes adult education, self-study and graduate equivalent). This is one of the lowest percentages in the world and even the current MOE proposal to increase this rate by 50 percent in six years will still leave China behind many other nations. (See Figure 2, which shows the ratio of tertiary-level graduates to the population for China and various other countries in 1996.) Given China's aims to be a middle-income country, we think that this level is still too low.

More graduates will be needed to improve the productivity and quality of labor. It is quality that will supply much of a country's competitive edge for development in the 21st century. *We think that the state*



should set higher national targets for participation rates in higher education for young people—and should also set targets for those returning to higher education for lifelong learning. When producing their strategies, the provinces should show how they will contribute to these national growth targets, for example by encouraging high quality institutions to increase their enrollments.

We think that expanding the system of higher education is an important priority. The first step would be to expand the enrollment quotas for the maximum number of students that the better institutions could enroll with government support. In fact, the quota system could be used to require such expansion (without extra cost; see below). As China begins to increase enrollments we recommend that they monitor the composition of incoming classes of university students to ensure that access for poor students is supported and the gender balance is maintained.²

To enable such an expansion to happen will require three policy changes. First, the definition of quality needs to change to a concern about processes and outputs rather than quantitative inputs. The use of input definitions means that an expansion in student numbers would need to be accompanied by an equivalent increase in inputs, which is unnecessarily expensive and, in any case, is no guarantee of quality; see next section.

Second, the policy that all young people in higher education must be resident in university accommodation would need to be changed; the expense of this policy also restricts expansion. Such a policy is not necessary for pedagogical reasons as there is no such requirement for mature students in the adult education programs—and virtually no other country operates such a policy. For student accommodation, at least in urban areas, some students could live at home while studying, and a rental market could be encouraged for some others.

The third policy change concerns the occupational classification system with its rigidities about the qualifications that are needed for each job—even if other skills or qualifications would be equally appropriate. This not only inhibits expansion of the system, but also encourages students to have inappropriate expectations about their jobs—for example, reinforcing their (incorrect) perceptions of the status of jobs in service industries (and in the poorer provinces). We have discussed the need for a more real labor market in more detail in Chapter 1.

The high levels of graduate unemployment in the late 1980s can be attributed, at least in part, to the absence of such a market for labor. The danger of a return to those unemployment levels would be significantly less if a labor market for graduates were allowed to operate. For such a market, prospective graduates need to understand what is meant by a market for labor and what it implies for them and for their expectations. A career guidance and advisory service available to students at the end of their secondary education and again at the end of their higher education would help provide this information.

These three policy changes would clear the way for expansion of public higher education; we believe that a considerable expansion of public higher education could be achieved at substantially lower cost simply by increasing the efficiency with which higher education is provided. Most of higher education's resources seem underused, including academic and nonacademic staff, buildings and equipment. Such spare capacity provides an almost cost-free way of expanding public provision with little threat to quality—as long as quality is judged on processes and outputs and not on inputs. Making better use of academic and other staff by increasing student numbers, even if some extra pay were needed, would be a better use of such staff than that they take on unskilled jobs to fill their time (and so increase their pay)—as sometimes happens now. We think that the potential for such cost-free growth could be as high as 50 percent in some institutions.

We think there is also scope for further expansion at limited cost from the substantial efficiency gains that could be achieved by rationalizing institutions that are small and specialized—as part of a provincial strategy. Institutions need to recognize that efficiency gains from mergers usually require a reduction in the number of staff, with all the difficulties associated with redundancies. The above efficiency points should form part of the analysis in each province's strategic plan; these points should be explored within the pilot we have suggested in the previous section.

We think that the mechanisms for funding individual institutions, as well as those for student support, need to be reconsidered. A key principle for public funding is that it does not need to be restricted to public institutions. The funding mechanism should be arranged to encourage increased efficiency—as long as there are ade-

quate safeguards on quality—and should also encourage expansion of the system where this can be done at a low marginal cost. The way in which public funds are allocated to each individual institution should provide it with a high degree of autonomy in the use of those funds—both managerial and pedagogical. This would enable the institution to be flexible and to respond to local needs, markets and changes while also allowing it to make efficiency gains and to keep the benefit of them.

For charges to individual students, *we think that any loan or grant system for students should be primarily the responsibility of the province* (and not of the individual institution). Income contingent repayment systems for such loans are superior to any other. Australia's recent experience with their income-contingent repayment system would be a useful model for China to study although it is dependent on a sophisticated and equitable taxation system, which does not yet exist in China.

Curriculum and quality assurance

As for schools, there will need to be major changes in the content of higher education; in particular *we think that there is a need for greater breadth and more flexibility in the curriculum*. Recently announced reforms in the disciplines structure indicate that progress is being made in this area, but we encourage individual institutions to accelerate the implementation of these reforms on their own campuses. This change would mean that various ministries would no longer certify courses (e.g., the Ministry of Finance for accountancy qualifications); the change should be made at the same time as the changes we have already proposed for the occupation classification system.

With fewer and broader categories of discipline, it will be easier for institutions to develop more market-focused courses. We emphasize that it is at least as important to develop new-market oriented approaches to existing courses as it is to develop specifically market oriented courses: it is as important to adapt a physics course to include a market-facing tone as it is to develop a new course in, say, public relations. Now that most universities no longer need prior approval for new courses, adequate quality assurance mechanisms at the institution level, as well as at the province level (see below), will be increasingly necessary to make sure of the quality of any new course.

Even with fewer categories of disciplines, students should still be able to follow mixed courses across (the new) discipline boundaries. The flexibility needed to do this would be much greater than is available at present: it should be possible, for example, for an ordinary student to undertake a mixture of courses in physics, business studies and English. At present this is extremely difficult.

Chinese universities will also have to offer an increasing array of courses that more effectively exploit technology in order to deliver education in the 21st century. This will be critical not only in the use of technology to increase efficiency in the teaching and research, but also in distance education so that expensive university resources, of personnel and services, can be shared over a wider study body and geographical area.

The above has been concerned with initial qualifications, but the changes of the 21st century will also require people to return to study in order to update and refresh their qualifications, and sometimes to retrain completely. The provision of various forms of life-long learning are likely to become a major part of the higher education system. At present, there is little such provision nor do the funding mechanisms encourage it. This will need to change, either through changes in the funding mechanisms or through arrangements that enable individuals to arrange, and perhaps pay for, their own continuing development.

We suggest that the province has two major roles in quality assurance: to ensure that there sufficient checks that what is being offered in higher education is of adequate quality and to ensure that public funds are being spent in an efficient and effective manner.

As we noted above, quality assurance is currently exercised by reference to levels of inputs, for example by applying quotas to the number of students able to attend each institution as a way of maintaining fixed staff-student ratios and floor space per student. There are two fundamental problems with this approach. First, it provides no guarantee of quality—it is not the level of inputs but how they are used that makes the quality difference to students' learning experiences. Second, it prevents the search for increased efficiency through trying to make better use of inputs, for example, by increasing the number of students per staff member. Box 3 illustrates a number of quality assurance mechanisms used in several OECD countries.

OECD country quality assurance mechanisms

United States: There are no nationwide mechanisms in place. Private regional accrediting bodies are the principal evaluators of academic quality; most professions (e.g., law) also have their own accrediting bodies. Many institutions also undertake periodic peer reviews made up of visiting faculty from comparable institutions. Competition for research funding at the federal and state levels promotes quality in research. States are increasingly using output measures in funding to reward quality and effectiveness.

Japan: New programs and institutions are subject to approval from the Ministry. There are no formal systems of accreditation or performance review for established programs or organizations. The University Council has initiated a number of reforms since the early 1990s including the promotion of self-evaluation; 60 percent of universities now publish their results.

United Kingdom: All HEIs are subject to assessment of research and teaching quality once every 4-5 years. Research funding is closely tied to the outcomes of the research assessments; a proportion of funding for teaching will be allocated on the basis of quality audits in the future. The sector is also considering the establishment of a professional body to safeguard standards in university teaching.

Australia: Research programs are evaluated by the funding bodies (e.g., Australian Research Council), often with reference to overseas academics to ensure that Australian institutions keep in line with good international standards. Professional bodies are also becoming increasingly involved in the approval of degree programs. The Higher Education Council has introduced a number of initiatives to promote quality since 1992 including a fund of A\$75 million to reward institutions for effective practice in quality assurance. In 1996, the Government announced a new approach to quality with the introduction of a nationwide quality assessment process and the establishment of a new agency.

Republic of Korea: Very similar to Japan but without the reforms. There is discussion about some more regular and rigorous accreditation system.

Netherlands: All HEIs are subject to a review of teaching and research every 6-7 years by visiting committees. The Inspectorate of Education reviews the assessments and the institutional response. The Ministry may decide to close a department that has been judged to be performing badly. There is no formal accreditation system for courses in universities; higher professional education colleges (HBOs) have begun to experiment with the accreditation of professional programs by professional bodies.

We propose a change to a process-based approach for assessing quality that would require greater use of peer review judgments about the teaching process. The organization undertaking the inspection process should be independent both of the province and of the institutions themselves. The results of any quality assessment process should normally be made public, both to provide accountability for the use of public funds, and also to provide information about the institution's quality to prospective students and to employers. A similar, or even the same, organization might also be appropriate to accredit private providers and to determine the classification of (e.g., senior-secondary schools) institutions within a regulatory framework.

Role of research

About 15 percent of China's research is conducted in universities, similar to that in major OECD countries. Privatizing the laboratories of the Chinese Academy of Sciences (CAS) and those of most line ministries could mean that some research resources could be transferred to universities. There is also a good possibility of more research funding coming from industry, although industry-

commissioned projects should be arranged to allow researchers to develop expertise in specific areas of science and technology at their own speed. Researchers also need to develop an understanding of the dangers both of over reliance on industry-sponsored work and, on the other hand, of leading a sheltered academic life with limited involvement with the real economy.

Chinese universities are facing pressures to do research with a view to financial gain—both for the university and for the individual. These pressures have, in some cases, distorted the fundamental role of the university, which is to provide education and training while supporting research. The hunger for income can place educational goals in a secondary position to greater goals of income generation. High levels of contract research can increase such pressures for income generation, diverting laboratory resources away from educational and training activities. *We therefore recommend that universities create guidelines that establish a prudent balance between contract funding and grants which universities receive from government bodies.*

One development that could assist the incorporation of academic science into work for industrial contracts would be a form of research grant that provided public

funds to match those provided by industry. This would allow an industry-funded project to be expanded into a more comprehensive (and perhaps more academic) study—with the possibility of eventual publication. Such grants have been used extensively in some OECD countries with positive results.

For several years, Chinese universities have created new businesses to generate revenue from their research and similar activities. Some of these have been very successful, others less so. Increasing market competition will test the viability of these businesses and in many cases will show that they are really liabilities rather than assets. *We think the individual investigator should develop his/her own relationships with the market* and that the university should simply collect whatever royalties it negotiates. We suggest that universities should, generally, no longer form a new company for each new technological development in their

institution and that those that currently have such companies should sell them in the next 10-15 years, either to the present principals or to outside corporations. We recognize that progress in this direction will require the development of stronger intellectual property rights (IPR) legislation and control. Without a robust IPR regime, universities will be reluctant to share the fruits of their research with industry because they are unlikely to benefit financially from such transfers of research results to the market.

Notes

1. World Bank, *China: Higher Education Reform*, 1997, p. 41-64
2. In research for the policy note by Beijing Normal University, it was evident that the percentage of rural college entrants from peasant family backgrounds has been decreasing over the last five years. Likewise, the number of female entrants into the most competitive institutions also seems to be declining. Xie, Seihe and Li Xuelian, "A Survey Report on the Fairness of Higher Education," 1998.

Strategies for Vocational Education and Training

To develop the future of a socialist market economy, the VET system will need to produce people who are versatile and adaptable, and who are able to make informed choices about their future jobs. The VET system must help provide the flexibility to underpin the growth and diversification of the economy—not least that of the service sector. (Table 2 shows the evolving structure of sample economies and the resulting changes in the labor market skills mix.) The curriculum and how it is taught should promote these ends. The need for greater flexibility also means that students should take greater responsibility for their own VET, including choosing what to study and where.

Labor market context

At present, MOE and MOLSS are responding to these challenges by providing more skills training, especially in the rural areas. The guiding intentions behind current develop-

TABLE 2
Distribution of gross domestic product
(percent)

	Agriculture		Industry		Manufacturing ^a		Services	
	1980	1994	1980	1994	1980	1994	1980	1994
China	30	21	49	47	41	37	21	32
Hong Kong, China	1	0	31	18	23	11	68	82
Singapore	1	0	38	36	29	27	61	64
Indonesia	24	17	42	41	13	24	34	42
Philippines	25	22	39	33	26	23	36	45
Korea, Rep. of	15	7	40	43	29	29	45	50
Malaysia	22	14	38	43	21	32	40	42
Thailand	23	10	29	39	22	29	48	50
Japan	4	2	42	40	29	27	54	58
Australia	5	3	36	30	19	15	58	67
Argentina	6	5	41	30	29	20	52	65
France	4	2	34	28	24	20	62	70

a Because manufacturing is generally the most dynamic part of the industrial sector, its share is shown separately.
Source: *World Development Report 1996*.

ments are to establish a well-coordinated VET system, to increase the proportion of secondary school students in vocational education to 60 percent, to encourage students to acquire proficiency in more than one skill area, and to encourage institutions to develop short-cycle training programs and employment assistance services.

As we noted in Chapter 1, a prior condition for a successful education system is that there should be a labor market to which it can respond. This is especially true for the VET component. We have noted that a labor market needs wage differentials to provide incentives to individuals to seek training, it needs to encourage geographical and job mobility and it needs to avoid rigid job classifications. At the moment, these are weakly developed in China.

We also noted in Chapter 1 that there is a need to streamline the job classification system with its associated specific qualifications. The current focus on narrow ranges of skills produces narrowly skilled people—often for jobs that no longer exist—as opposed to people with the skill combinations required in a market-oriented economy—particularly for the service sector. We are aware that the number of occupations has already been reduced from 4,800 to 3,700, and is currently being reduced to 1850. Most OECD countries have about 10-20 job categories; Eastern Europe and Russia have made considerable progress in reducing their numbers of classifications (e.g., Russia reduced theirs from 1,250 to about 250 and is planning to move to 100). Recent MOLSS announcements indicate that such a reduction

of job categories is also under way in China. *We strongly encourage this job categories reduction process and recommend that the pace of implementation be accelerated.*

The skill groupings emerging in the growing service sector should be evaluated and used to test the effectiveness of the existing structure of qualifications. This should be complemented by a similar analysis of the skill groupings in organizations regarded as the most productive in their industry. It might be that reclassification can initially be carried out most easily in areas with rapidly developing new skill areas such as the service sector.

Structure and responsibilities

The current division of responsibilities for VET is split between MOE, MOLSS and various line ministries; this makes strategic planning, resource allocation and priority setting very difficult. *We think that there should be a single national body responsible for setting the main policy directions for vocational education and training.* Its responsibilities should be to set priorities for investment across provinces and between industry sectors.

An early task for this body would be to conduct a national audit of VET investment and its distribution across industrial sectors. This would provide information about any need to allocate additional investment to growing sectors of employment and/or to reduce it in declining sectors. Such a body could also rationalize the cumbersome process of dual certification (covering skills

and education separately) so that they came under the one body. Both the New Zealand Qualification Authority and the South African Qualification Authority (a model based on those of several other countries) is such a single policy body; *we suggest each would be worthy of study.*

At the delivery level, there would seem to be little difference in the services provided by the Secondary Technical Schools (STS), the Senior Vocational Schools (SVS) and the Skilled Workers Schools (SWS). Their differences derive primarily from the line ministries to whom they have been responsible and which have provided both the budget inputs and the system of job placements. In addition to forming the above single national body, *we think that the idea of unifying the management of VET provision at the provincial level is also worth considering.*

Many of the current regulations for VET providers do not encourage efficiency and sometimes even promote the under utilization of fixed and human resources. As for the other sectors, *we think that greater managerial autonomy for providers would help address this problem*, perhaps even more so than for schools or higher education as the VET market changes the fastest. Only with the flexibility that such autonomy offers can VET institutions establish the relationships with their markets that are needed to enable them to adjust both the courses they offer and the personnel they use to teach them.

As the economy becomes more sophisticated and the private sector assumes a more important economic role, private sector initiatives can be expected to develop to support market-oriented training systems. Eventually, the Government may be able to leave much of the training provision to the market, while assuming a strategic steering role designed to reduce market failures, to improve efficiency and to promote investment.

In Russia, the federal government has been reducing its contributions to the funding of vocational schools, which has led to interesting experiments with joint public-private provision of training. The steps toward a market economy has reduced the importance of the traditional public provision of training; as a result, new information technologies are now being used to bring together the world of production and the world of just-in-time learning and training.

Curriculum structure

The VET delivery system needs to provide opportunities for trainees to learn by doing and to combine work with training. The system should encourage lifelong learning and so should have a structure that would enable this to happen through the working life: VET training cannot, in a market economy, be delivered just once at the start of a person's career. In this context, we doubt that the current intention of upper-secondary schools being 60 percent focused on VET will be appropriate for the 21st century. Such an arrangement will not address the current problems of narrow skills training.

In no other country is so much of the upper-secondary provision in VET (see OECD matrix). For example, only 24 percent of the United Kingdom's upper secondary students attend vocational schools—and even then only around half of the teaching hours are in vocational subjects. In France, approximately 30 percent of the pupils in upper-secondary schools specialize in vocational subjects. In Australia, there are now no “stand-alone” VET secondary schools, although a few senior-secondary schools are developing a stronger focus on VET.

In fact the trend in most OECD countries is very different from that currently being developed for China; most are seeking to develop a strong general secondary education system to provide a broad base for lifelong learning, and to move specialized VET education into post-secondary schools or to on-the-job training programs. The goal is to provide secondary students with core skills that will enable them to adapt and flourish in an ever-changing labor market, rather than to try to provide them with more specific skills. Core skills include both the “hard skills” of basic numeracy, literacy, problem solving and, increasingly, the ability to use computers, as well as the “soft skills” of the ability to work in groups, to be able to communicate effectively and to have positive attitudes to work.

An approach that develops this broader approach to skills and knowledge in secondary VET institutions shifts some of the responsibility for specific skill training on to the individual and to enterprises and employers. This increases the need for individuals to make their own decisions about the training they receive; it also moves the skill training closer to the needs of the market.

We suggest that, over the next 20 years, the proportion of separate VET secondary schools be reduced sub-

stantially according to local conditions. Additionally, we suggest that the VET curriculum content in comprehensive, general and diversified secondary schools be reduced over the longrun with the parallel development of two-year post-secondary vocational provision instead. We suggest that plans to reduce this early VET provision might begin in fast-growing and fast-changing urban areas. In other areas, we suggest strengthening the basic subjects (language and mathematics) in the curriculum of vocational-technical schools and substantially reducing the proportion of upper-secondary students enrolled in these schools. These strategies should form part of each Province's strategic plans for education and training—mentioned above in Chapter 4.

Because students will increasingly need skills that have to be delivered at the post-secondary level, it will also be important to introduce ladders for students to be able to move from the vocational stream to the academic one at various points. Such flexibility will be critical as the job demands of the 21st century will increasingly need higher-level skills. Thus the above changes should be complemented by the further development of higher-level vocational provision, which should be built on some of the current adult higher education institutions. Caution should be exercised in this process so as not to develop a post secondary system that is meant only for the current graduates of VET secondary schools. VET graduates should have equal access to all types of tertiary education.

The progressive transfer of VET provision to the post-secondary level will mean that increasing responsibility for choosing a career path will rest with the individual student. The VET system needs to respond to this. Over time, we would expect providers to place increased reliance on the individual paying for at least part of their training. However, we think that increases in student fees should start at the tertiary level as it is from that level where the individual is most likely to benefit personally.

One of the implications of providing more broadly based curricula at the secondary level, coupled with more vocationally specific training at the post-secondary level, is that the larger employers will need to develop training plans for their employees. Job-specific skills training, as has become the case in almost all OECD countries, will increasingly be seen as the responsibility of the individual firm, building on the foundation skills provided by the education system.

In many countries, such plans are already required: for example, Korean firms with over 100 employees are already required to spend at least 2 percent of their wage bill on training and France requires all enterprises employing more than ten people to allocate 1.5 percent of their wage costs to VET and a further 5 percent to apprenticeships. The current guideline in China that 1.5 percent of the wage bill should be allocated to training, both within and outside the enterprise, could be made law to ensure that those resources were available for skill training.

Implementation

Most of what has been contained so far in this comprehensive policy note has been concerned with the shape of the system at least 5-10 years from now and in some cases longer. There are some actions that can be taken quickly that are consistent with the longer term picture. The Ministry of Education should:

- Request each province to develop a strategic plan to rationalize the structure of higher education in that province. All plans should deal specifically with the issues of institutions that are too narrowly specialized and too small; reduce the fragmentation and overlap between different types of institution; and ensure that each province develops objective criteria for such changes, has mechanisms to process them and has the means to implement them.
- Identify the inefficiencies in the education system and make the necessary changes so that resources can be used more wisely and effectively. Accurate and sharp output indicators should be developed to monitor the establishment of the efficiencies.

- Increase the earmarked grants for nine-year compulsory education. These intergovernmental transfers, from the national to the provincial and county levels, and within provinces, municipalities and counties, help equalize the access of quality education for poor children in both rural and urban areas.
- Publish school inspection reports and extend the inspection system. In order to make the education system more transparent and increase the accountability of the education policymakers, the school inspection system should be strengthened and the results of their work be made public. This will help administrators to target resources on schools that need assistance, parents to choose schools with a better understanding of what the likely educational outcome may be for their children and students in choosing institutions of higher education or training institutions.
- Use university quotas for recruitment to increase enrollments. Granting more autonomy to institutions of higher education, especially the first-rate public institutions, to increase enrollments and determine the curricula that these new students can choose to follow, while holding university costs relatively steady, will

increase efficiency of the higher education system and unleash the creative forces in the universities.

- Set up a high tech advisory panel to advise the MOE on developments in the fast-moving knowledge economy, especially in the areas of science, technology and informatics. This panel could well include prominent members of the international academic community.
- Reverse the policy on the 60 percent target for VTE at the senior-secondary level. Senior-secondary programs should focus on providing high-quality comprehensive skills, which will increasingly provide the base for technical skill development at the post-secondary levels.
- Accelerate the current reform of the job classification system. As outlined in earlier sections of this paper, this highly detailed and minutely differentiated system is a vestige of the planning system, which is no longer useful in a market economy where flexibility and adaptability are qualities employers are looking for and a worker can expect to have multiple jobs with differing skill needs over a lifetime of work.
- Establish task forces to take forward the ideas in this paper.

Annexes



ANNEX 1: DISPARITIES IN PRIMARY AND LOWER-SECONDARY EDUCATION IN CHINA

This annex summarizes the findings of a study¹ of disparities in primary and lower-secondary education among counties in China. The study employed a representative sample of 511 counties, with educational and financial data provided by the Ministry of Education, China. The objective was to document educational disparities in 1997 (the most recent year for which data are available) and how they had changed since 1994. Information was available for nationally designated poor counties and nonpoor counties, rural counties and urban counties, as well as minority counties and nonminority counties. Disparities were assessed in terms of per-student recurrent expenditure and other measures of educational development, with county as the unit of analysis. The study did not examine disparities within counties.

Disparities in Terms of Per-Student Recurrent Expenditure

Table 1.1 shows that per-student recurrent expenditure (PSRE) of nationally designated poor counties was significantly lower than that for the national sample, at both the primary and lower-secondary levels. In primary education, the ratio of PSRE between the two sets of counties was basically unchanged between 1994 and 1997. However, in lower-secondary education, the ratio of PSRE for the national sample to PSRE for the nationally designated poor counties dropped from 1.19 in 1994 to 1.15 in 1997.

For the national sample, there was a moderate increase in inequality based on PSRE. The Gini coefficient rose from 0.24 in 1994 to 0.25 in 1997 for primary education, and from 0.23 in 1994 to

TABLE 1.1: DISPARITIES IN PER-STUDENT RECURRENT EXPENDITURE, 1994 AND 1997

	1994	1997
Per-student recurrent expenditure (yuan/student)		
Primary Education:		
National sample	293.8	438.0
Poor counties	239.8	359.8
Lower-Secondary Education:		
National sample	543.9	718.4
Poor counties	457.4	622.9
Gini Coefficient for Distribution of Per-Student Expenditure		
Primary Education	0.24	0.25
Lower-Secondary Education	0.23	0.24
Ratio of Per-Student Recurrent Expenditure		
Primary Education		
National Sample/Poor Counties	1.23	1.22
Top 10%/Bottom 10%	4.20	4.54
Urban/Rural	1.28	1.46
Minority/Nonminority		0.98
Lower-Secondary Education:		
National sample/poor counties	1.19	1.15
Top 10%/Bottom 10%	4.04	4.69
Minority/Nonminority		1.01

0.24 in 1997 for lower-secondary education. However, there was more obvious widening in

¹ Shanghai Institute of Human Resource Development (1998). *Intergovernmental Grants for Compulsory Education in Poor Areas in China (Part I)*. Shanghai, China.

disparities among subsamples of counties. For example, in primary education, the ratio of PSRE of the top 10 percent spending counties to that of the bottom 10 percent spending counties increased from 4.20 in 1994 to 4.54 in 1997. In lower-secondary education, the same disparity measure increased from 4.04 in 1994 to 4.69 in 1997. The gap between urban and rural counties was also widening. In 1994, the PSRE of urban primary schools was 1.28 times that of rural primary schools; the ratio rose to 1.46 in 1997.

In 1997, the PSRE of minority counties was about the same as that of nonminority counties, at both the primary and lower-secondary levels in the national sample. It may be noted that, within nationally designated poor counties, minority counties had significantly higher PSRE than nonminority counties. This is because minority poor counties received additional education subsidies from higher levels of government than nonminority poor counties and that minority poor counties had to incur additional education costs due to their more difficult geographic and natural environment.

Disparities in Terms of Other Measures of Educational Development, 1997

Findings from the analysis of the data in 1997 show that, when compared to the national average, nationally designated poor counties were disadvantaged in terms of the common measures of educational development, such as measures of access, teacher quality, and physical conditions of school.

Consider the net enrollment ratio at the primary level in 1997. In the national sample, 65.2 percent of the counties had achieved a net enrollment ratio above 99 percent; and 26.8 percent of counties had a ratio between 95 and 99 percent. Within the nationally designated poor counties, 47.8 percent of counties had achieved a net enrollment ratio above 99 percent; and 39.7 percent of counties had a ratio between 95 and 99 percent. Minority poor counties had the lowest enrollment ratio.

Boys had a higher enrollment ratio than girls. The gender gap in enrollment ratio at the primary level also varied between nationally designated poor counties and the counties in the national sample. For example, in the national sample, 88.7 percent of counties had a gender gap of less than 1 percent; and 3.6 percent had a gender gap of over 5 percent (Table 1.2). Within the nationally designated poor counties, 71.5 percent had a gender gap of less than 1 percent; and 9.2 percent had a gender gap of over 5 percent. Gender inequality in enrollment was particularly serious in minority counties in the western part of the country.

TABLE 1.2: GENDER GAP IN ENROLLMENT RATIO IN PRIMARY EDUCATION, 1997

Gap in enrollment ratio between boys and girls	Percentage distribution in national sample	Percentage distribution in nationally designated poor counties
Gap less than 1%	88.7	71.5
Gap between 1 & 3%	5.3	14.8
Gap between 3 & 5%	2.4	4.5
Gap above 5%	3.6	9.2

In lower-secondary education, 49.5 percent of the national sample had a gross enrollment ratio above 95 percent; and 20.9 percent of the same sample had a gross enrollment ratio between 85 and 95 percent. But within nationally designated poor counties, only 26.2 percent had a gross

enrollment ratio above 95 percent; and 14.4 percent had a gross enrollment ratio between 85 and 95 percent.

Inadequate teacher quality, in terms of not meeting educational qualifications, is a more serious problem in lower-secondary education than primary education. But at both educational levels, nationally designated poor counties had lower teacher quality than other counties in 1997 (see Table 1.3).

TABLE 1.3: DISPARITIES IN TEACHER QUALITY, 1997

Percentage of teachers meeting qualifications	Primary Education		Lower-secondary education	
	National	Poor Counties	National	Poor Counties
Percentage at 100%	2.2	1.7	0.0	0.0
Percentage between 90 and 100%	71.4	48.9	8.4	4.3
Percentage between 80 and 90%	21.5	34.8	41.3	25.8
Percentage below 80%	4.9	14.6	50.3	69.9

Although it is a national education policy that all schools should have at least the most basic physical facilities (no dilapidated school buildings, each class has a classroom, and each student has a desk and a chair), such minimum physical standards were not achieved in rural schools of many counties, especially poor ones. For example, 13.7 percent of counties (national sample) had a dilapidation rate above the 5 percent level in rural primary schools, and 25.4 percent of poor counties had a dilapidation rate above the 5 percent level in rural primary schools. Similarly, poor counties were much below the standards for the provision of library books and school equipment.

Major Conclusions

- Although universal access is almost achieved in primary education, problems of lower access and significant disparities in access between boys and girls are concentrated in poor minority counties in the western region of the country. In lower-secondary education, universal access has not been achieved in about half of the counties in the country, with the most difficult challenge in poor counties.
- Compared to other counties, poor counties were significantly disadvantaged in terms of per-student recurrent expenditure and other measures of educational development related to access, teacher quality, and physical conditions of school.
- Between 1994 and 1997, there was widening educational inequality among counties in the country, based on per-student recurrent expenditure. Widening inequality was especially obvious between urban and rural counties, and between high-spending and low-spending counties.

ANNEX 2: EAST EUROPE AND RUSSIA—EDUCATIONAL REFORMS OF THE LAST FIVE YEARS IN TRANSITION ECONOMIES: CHANGES AND/OR USEFUL OPERATIONAL MODELS—SUCCESSSES OR WEAKNESSES

(1993-98)

(Abbreviations and acronyms used in this matrix are found at the end of the document)

General Education	Russia	Hungary	Romania	Poland	Czech Republic
1. Extent of autonomous decisionmaking in compulsory education (CE)	9-10 yr. CE is mandatory; overall responsibility is shifted from central to regional (Oblast) and subregional level. Generally school can (1995/96) make marginal adjustment to approved curriculum, such as choice of books, and other teaching activities <i>Issue 1: All 3 administrative levels (municipality, region, federate) can pass laws, which are not always consistent</i> <i>Issue 2: many schools/local government lack adequate resources and skills for the newly increased responsibilities, disparities are growing</i>	CE has been changing from 8 yr. to 10 yr. since 1996/97. Schools have considerable freedom, while the state uses nationwide uniform syllabus to balance (1997). Parents choose schools, but pay more if outside their district. There is national exam at end of secondary. Schools enjoy independence in making financial decisions (1995) <i>Issue: there is not a clearly set structure monitoring quality and equity in the newly highly decentralized education system</i>	CE lasts 8 yr.; there is virtually no autonomy at any local level; remains highly centralized, dictatorial curriculum (i.e., class hours), schools are only free to choose teaching style (1998); now has strong intention in reforming the system (1998), a new education act is expected due in fall 1998 <i>Issue: educational reform has lagged behind most of the transition-economy countries because of lack of consensus on changes</i>	8 yr. of CE; yr. of CE from age 7-15; regional-level administration had been abolished and district school offices are directly under MOE (1995); However, may be reinstated on a broader level. Schools have no power in hiring and dismissing staff, in drawing up and carrying out school budgets. School management differs vastly among communities, but are strictly controlled through financing and staffing mechanisms of central government <i>Issue: Lack of legislative procedures; there has been a retreat from regional autonomy due to quality and disparity concerns (1996)</i>	CE changed to 9 yr. attendance since 1996/7; self-governing through community representation and regional educational council (1996). School principal is only responsible for the implementation of curricula, standards of the school's performance, implementing the budget. Regional educational authorities oversee school activities, Which in turn are under direct MOE's supervision <i>Issue: Number of years of CE was reduced from 10 to 9 since 1989 mainly because of financial constraints</i>
2. Mechanism for funding school for such decision	It is unclear which level of the Federation is responsible for financing each level of education; there is no grant-matching mechanism at central level (1997/98) <i>Issue: budget policy is not coordinated with funding capacity; federal level is unable to pay its mandated obligation; regional inequities will mean growing regional disparities in education adequacy and quality</i>	MCE provides funds from state budget, local authorities are supposed to complement each other, depending on their financial capacity; local authorities (municipalities) own, maintain, run, and advice schools according to the needs of their clients (1997)	Funds come from state through <i>Judets</i> to schools, <i>Judets</i> do not provide compensatory funds (1998); budget is rigidly controlled by the system with MOE, MOF and the Parliament on the top; schools and the budgetary center of the schools have little financial autonomy	The central government's portion of funding to schools at all levels increased from 19% of the total funding in 1989 up to 80.3% in 1996, while funding from local level, on the contrary, shrunk from 81% in 1989 down to 19.7% in 1996	Regional authority manages schools' recurrent expenses with funds from the state, while the communities pay for purchase and maintenance of buildings and equipment (1996)
3. Process for curriculum design for compulsory school level including incorporation of local content	30% of the curriculum is developed at the local (Oblast) level; federal level develops federal components with proposed draft state educational standards; regional level develops national and regional components of state educational standards; schools and teachers adapt the curricula coming from above into class teaching; incorporation of local contents is desired but far from present practice, due to lack of active involvement of representatives from local communities (1995)	Yes, substantial input at the local authority level; a national core curriculum is in place, which imposes no single ideology or religion, and allows individual schools to adapt their own curricula. Schools' curricula will be furnished by school boards and approved by local authorities. School boards consist of members elected from the teaching staff, the parents' organization and the municipality <i>Issue: there is danger of growing disparity among school types, especially at the upper-secondary level. However, these disparities may not develop because of core curriculum and final exams at end of secondary and national vocational education standards</i>	Highly centralized; a new curriculum is still in process (1998) aiming at allowing 30% local content as well as setting up national exams for school-leaving and higher entrance <i>Issue: there is a lack of motivation and incentives to produce local content, all parents are not very supportive to localizing curricula because of its potential limitations to students' adaptability and mobility</i>	Not a sufficiently high priority to MOE; the work of curriculum reform was in 1993 transferred from MOE to the Institute for Educational Research, a semiautonomous institute following the change of the government; in design of curriculum there is input from the outside on the vocational education side and there is a tripartite Council for Occupational Standards at MOE <i>Issue: there is no national-level agency representing the main stakeholders as well as enjoying the political support of the government</i>	Curricula are prepared by teams of education specialists and academics in cooperation with teachers and related professionals; must be approved by MOE, but school principal can make adjustment at about 40% at Grade 4. Then teachers are allowed 33% flexibility in using school syllabus from the principal (1996)

General Education	Russia	Hungary	Romania	Poland	Czech Republic
4. Framework for the production of school textbooks	A federal list of approved textbooks for the core curriculum is provided nationwide; provision is still restricted to national publishers except foreign-language books; choice by schools is allowed but in practice often only one textbook is available. Some regions reduce textbook costs through reuse and loaning books (1997) <i>Issue: financing policy and distribution are big problem areas; government produced only half the needed textbooks due to shortfalls of federal funding in 1996/97</i>	A centrally approved list of textbooks is used as guidance. The state sets the ceiling price for the approved books; provision is not restricted to national publishers; school/ parents make choices. Commercial publisher market penetration is (1997) increasing. Sufficient textbook printing capacity and initiative. Private distributors. Curriculum reform is still in progress. Laws and regulations supportive to commercial textbook development	Competitive supplies from centrally annually approved open list; are purchased by the government using donor funds; books are distributed largely by state publishers. Mostly not affordable to both parents and the government at existing levels of quality and choice (1995). Paper prices are high and quality not always good. More than 90% are produced in the country. Curriculum reform is under way for secondary schools. There is no solid basis for textbook publishing industry to develop. Some relevant laws have been established but mostly are highly restrictive	No approved lists; publishers get their textbooks' approval from MOE, teachers choose, parents pay 100% of the price. Commercial publisher market penetration is limited but increasing. Secondhand books available to reduce cost. Curriculum under reform supports competitive publishing. Legal framework has been set up and is largely supportive <i>Issue: the major outstanding problem is poor affordability of textbooks (1997)</i>	Open competition without approved lists or constraints. Provision is not restricted to national publishers. Schools/parents make selections. Parents and regional government pay. Books are distributed through commercial book trade, in which private bookshops are actively involved. The reformed curriculum, relevant laws and regulations are now in place and have been stable in supporting textbook policies (1997)
5. Teacher training, teachers' qualifications and relative payment	Teachers are recertified every 5 yr.; teachers earn about 2/3 the average wage in industry, and are paid, on average, about 2 months late (summer 1997), current working conditions make the profession less desirable; teachers are leaving their profession and there is a problem of attracting qualified educators for teacher training	Teachers are hired by school principals who are employees of the local government. The state sets minimum salary for teachers (1996/97). The network of teacher training colleges and programs has recently been upgraded (at least for vocational education teachers)	Teachers are poorly paid with earnings less than skilled workers though all have had at certain point of time qualification training; this leads to negative recruits, which means quality of newly recruited may not be of the best (1996/97)	Salaries are subject to public sector wage regulations, teachers are recruited by heads of schools (1996/97)	Teachers' salaries are set on the basis of education attained and teaching experience (yr.); those in private schools are exclusively determined by the principals (1996/97)
6. Quality assessment/inspection process for schools	Historically, pupils were overtested but underevaluated; situation has not changed much lately; (1997/98) lack of clarity as to roles and responsibilities of different levels of government; although MGPE oversees national education quality, it has no mechanism for student assessment; no trusted national service with adequate capacity to address national equivalency issue; colleges run their own entrance exams	Assessment and quality monitoring are identified as one of the key problem areas of the highly decentralized system; center has the mandate but not the budget; <i>Act on Public Ed.</i> provides the framework (1995/96); Center for Evaluation Studies of the Institute of Public Ed. is one of the key players	Assessment and examinations are school-based and teacher-controlled; the overall quality monitoring responsibility resides within MoNE; there is a Council for Occupational Standards and Testing. Judets have group of inspectors doing inspection on and making decisions for schools; a National Center for Educational Assessment has just established to do quality assessment and to administer national exams (1998)	No effective legal framework for employment and school assessment, lack of clearly defined objective criteria and instruments for measurement of the quality of the work of the school. <i>Matura</i> (school-leaving exams) is the only regular form of national assessment (1996/97)	Strong, centralized system. The Czech School Inspectorate, a body of state administration directly controlled by MOE, monitors educational standards, staff and material conditions, efficiency of the use of funds, and the observance of related laws and regulations (1996)
VET system	Russia	Hungary	Romania	Poland	Czech Republic
7. At what levels in the education system is vocational education and training offered?	(1) primary vocational (PTU) or secondary vocational technicum after 9 yr. basic general education; (2) special secondary education or postsecondary, some graduates are eligible to enter college and university (1995) after passing graduation exams and universities'/colleges' entrance exams; however, in practice it is rare for a votech graduate to enter higher education institution	After 8 yr. of general education there is: (1) secondary vocational education: the 2 yr. certificate, 3 yr. Certificate apprenticeship school, and 4 yr. certificate or 4+1 yr. programs are being phased out and replaced with a more general education program for grades 9 and 10 and vocational training in grades 11 and 12. (2) postsecondary vocational: a national network of regional labor development and training centers has been formed	(1) secondary vocational education (including apprenticeship): started after completion of lower-secondary school. Graduates would get diploma after 3-4 yr. Coursework. The system is being reformed with a movement toward more general education for grades 9 and 10 and vocational training in grades 11 and 12. (2) postsecondary: there is a network of regional training centers being formed	(1) secondary vocation education: three kinds: 3 yr. basic vocational leading to skilled worker certificates; 4-5 yr. tech schools leading to <i>Matura</i> and/or technician qualifications and; 2-3 yr. postsecondary technical courses leading to higher technician or teacher qualifications, open to both general and technical secondary graduates are being phased out and replaced with more general education programs for grades 9 and 10. (2) postsecondary: Poland is unique in that it already has a well-developed and established network of adult education and training system	(1) secondary vocational/technical starts at age 15/10 th grade; from 4 yr. technical/spec to 2-3 yr. vocational schools; graduates eligible to higher education or postsecondary extension courses (2 yr.) (1996/7) (2) postsecondary: There is very little available for adult education and training as well as little reform in this area

Higher Education	Russia			Hungary			Romania			Poland			Czech Republic		
8. How is VET managed generally? ministry? level of government?	<ul style="list-style-type: none"> Funding of some primary vocational schools at regional (Oblast) level, but MGPE holds strong control of the vote budget; Postsecondary at the national level; a large number of sectoral ministries directly oversee the operations of vocational education institutions; MGPE approves general component of colleges' curriculum, while line ministries the vocational component Of all VET institutions, 60% are federal, 40% are regional or municipal			Secondary vocational schools: MOE has management responsibility. Postsecondary: MOE has management responsibility. However, there is a National Training Board and a network of regional adult training centers run by tripartite boards for postcompulsory schools and adult education and training that bring education, labor and industry together in the decisionmaking process			Secondary vocational schools: MOE has management responsibility. Postsecondary: National training board established and linked to Ministry of Labor and national network of adult training institutions being developed			Secondary vocational schools: at central level, MOE defines vocational classification for school system and vocational profiles, and together with Ministry of Labor and Social Policy, sets up rules for upgrading vocational qualifications; some line ministries run and control related vocational schools. Next is the provincial offices of MOE doing supervision, coordination, etc. Then school principals: Postsecondary: there is already a sophisticated network of private, professional association and NGO institutes that provide adult education and training but there is no national training board			In 1996, responsibilities for secondary vocational education was transferred from Ministry of Economy to MOE; school inspectorate, then school principals		
9. What are the mechanisms/linkages for feeding labor market information into vocational education system including curriculum design?	Is ill equipped to respond to market signals; the system is quite fragmented as a large number of sectoral ministries directly oversee the operations of vocational education institutions (1996/97); employment service centers help, but the form is erratic; vocational training institutions (VTIs) now are experiencing enormous difficulty adapting to current labor market needs. The newly emerging business community is reluctant either to invest in or hire graduates from the VTIs. Specialists nationwide involved but mainly mandated by MGPE, national-level linkages to industries and enterprises are weak; labor market demands are reflected to schools and teachers mainly through students and parents. There is very poor linkage and poor knowledge of what labor market might require			Secondary vocational: Hungary is moving to a more general education system for grades 9-10 with a broader-based curriculum. However, for select clusters of courses employers have been involved in curriculum reform. Labor market surveys have also been used at the secondary level. Postsecondary: tripartite mechanism at both national and regional levels that develops curricula. Labor market surveys and occupational standards are also used to feed information to adult training centers. There has also been extensive evaluation through a net impact study that was conducted			There is a tripartite board at the national level to develop policy. Secondary vocational: there is a Council for Occupational Standards Postsecondary: there is also a Council for Occupation Standards			Secondary vocational: in early 1990s most enterprises could not afford to support the vocational schools affiliated to them; now (1997) the potential employers seem still very passive in the labor market and lack interest in vocational education Postsecondary: there is already a sophisticated network of private, professional association and NGO institutes that provide adult education and training that is market driven. The Polish statistical agency (GUS) has well-developed statistics for labor market signals. At the adult education level the institutions are very responsive to these statistical signals because of the national labor force. Poland also participated in net impact study that indicated that individual training was significant			Secondary vocational: no systematic collaboration between educational authority and industry on national level; cooperation between school and enterprises is spontaneous, mostly focusing on practical training locations and advice on curriculum and specialization. Postsecondary: Czech Republic participates in a net impact study		
10. Percentage of vocational schools enrollment at secondary-level education programs <i>Note: In most all countries there is movement toward more general education</i>	secondary total	1989 100	1996 100	secondary total	1989 100	1996 100	secondary total	1989 100	1996 100	upper sec total	1989 100	1996 100	upper sec total	1989 100	1996 100
	gen sec	31.3	38.3	gen sec	23.9	27.1	gen sec	4.0	32.8	gen sec	22.5	31.1	gen sec	17.8	21.2
	3-4yr.voc	36.9	33.5	3-4 yr.	32.3	42.4	3-4yr voc	76.2	41.7	3-4yr voc	37.2	41.3	3-4yr voc	27.4	31.9
	1-3 yr tec	31.8	29.2	1-3 yr.	43.9	30.5	1-3 yr tec	19.8	25.5	1-3yr tec	40.2	27.5	1-3yr tec.	54.8	46.9
11. What are the unit costs of VET? as a percent of comparable levels of education?	Much higher than general senior-secondary (gymnasium) that leads to university entrance			1-2 yr. appratshp	1995 \$993	991-95 changes +10%	Lower than gymnasium in senior-secondary			Lower than gymnasium in senior-secondary			Lower than gymnasium in senior-secondary		
				gen. sec.	\$1,215	+6%									
				sec voc	\$1,060	-11%									
				tertiary	\$1,134	21%									
					\$3,774	-22%									

VET system	Russia	Hungary	Romania	Poland	Czech Republic
12. Funding mechanisms used for VET (i.e., private, corporate, government)?	The federal government funds 95% of vocational schools/institutions, but in 1995/96, federal allocation to these institutions was only 67.6% of their minimum financial need	Secondary vocational: State budget Postsecondary: (1) State Budget; (2) Employer contracts; and (3) Employment fund. Poland also has a formal training levy of approximately 2%, which is different from the employment tax	Secondary vocational: State Budget Postsecondary: (1) State Budget; (2) Employment fund; and (3) a small amount of direct employer training	Secondary vocational: State Budget Postsecondary: (1) State Budget; (2) Employment fund; and (3) a small amount of direct employer training	Secondary vocational: state budget covers almost all cost of technical schools, 70% vocational schools; also provides support to private vocational schools at about 60-80% of their total budgets
13. What are the results of the former VET system with an average age of 35 yrs. in terms of employment of graduates?	Percent unemployment to total population with the same level of education attainment (1996): Primary or less: 13.0 Secondary : 11.6 Vocational: 8.5 Tertiary: 4.4	Percent unemployment to total population with the same level of education attainment (1997): Primary or less: 16.0 Secondary : 6.1 Vocational: 10.6 Tertiary: 1.9	Percent unemployment to total population with the same level of education attainment (1997): Primary or less: 5.3 Secondary : 9.1 Vocational: 7.1 Tertiary: 1.9	Percent unemployment to total population with the same level of education attainment (1997): Primary or less: 14.3 Secondary : 10.4 Vocational: 13.5 Tertiary: 3.7	Percent unemployment to total population with the same level of education attainment (1997): Primary or less: 13.4 Secondary : 2.8 Vocational: 3.9 Tertiary: 1.2
14. What are the results of the new reformed VET systems in terms of employment?		Secondary vocational: Reform is just coming. The first cohort with more general education curriculum has not yet graduated. Postsecondary: Reforms have started and there is better placement with approximately 70% after six months	Secondary vocational: Reform is just coming. The first cohort with more general education curriculum has not yet graduated	Secondary vocational: Reform is just coming. The first cohort with more general education curriculum has not yet graduated. Postsecondary: The net impact study shows that retraining has had a significant positive impact on employment and earning	Postsecondary: The net impact study shows that retraining has had a significant positive impact on employment and earning
15. Percent of secondary VET schools directly tied to industries, factories, or manufacturing units	50% and falling	Data unavailable; but the number of training positions in companies for VET students dropped by 50% from 1990 to 1996; linkages are mostly based on unofficial bilateral talks for financial support and employment	Data unavailable; in the absence of a legal framework, business is poorly motivated to invest in vocational training; enterprises are only occasionally involved	Actual data unavailable however, number of vocational schools attached to enterprises has declined dramatically	Data unavailable; enterprises are not regularly involved; no systematic arrangement between educational authority and industries; but in recent years enterprises have increased their interest in being involved
16. ...to line ministries?	20% and falling	Falling	Falling	Falling	Falling
17. Percent of VET secondary school curricula devoted to skill development?	60% but falling	Grade 9-10 very little with more general education increasing. Grade 11-12: 60%	Grade 9-10 falling with general education increasing. Grade 11-12 40% teaching hours for practical training, 24% for specialty knowledge and rest for comprehensive	1-2 yr. vocational schools 60%; 3-4 yr. vocational schools 55%. However, fall percentages with reforms and the introduction of more general education	40% of teaching hours are devoted to general learning and the rest to skill learning
18. Number of specialization in Secondary VET	Reduced from 1,250 down to 257 in 1994. Now it is planned to reduce further down to a number in a range of 80 to 100 (1996)	Secondary vocational in 13 broadly defined areas	The training system was providing for over 300 occupations but is being revised to more broadly defined areas	There exists overspecialization, number of occupations at skilled worker level was 250, and at junior technician level was 300. This is being revised to more broadly defined areas	320 specializations. The Czech Republic is still adding and deleting specialties in vocational schools, which, therefore, has not resulted in any overall change of the system
19. Types of tertiary VET institutions	Postsecondary vocational training leads to higher-level technician (teacher, nurse) qualification; system is either 9+4 or 11+2	2-3 yr. accredited higher vocational training is offered at postsecondary level jointly by vocational secondary	Postsecondary vocational training leads to higher-level technician (teacher, nurse) qualification	Postsecondary vocational training leads to higher-level technician (teacher, nurse) qualification	Postsecondary vocational training leads to higher-level technician (teacher, nurse) qualification
20. Size (participation rate) of postsecondary level VET institutions	Enrolls about 15% of high school graduates; 566 HVIs (2.642 million enrolled) owned by state, 193 (0.135 million) by nonstate (1996)	--	--	The participation rate in adult education: Male: 15.4% Female: 12.6% Total: 14%	--

VET system	Russia	Hungary	Romania	Poland	Czech Republic
21. <i>Quality assurance mechanism used for tertiary VET (including government and nongovernment approaches)</i>	At present there is not a clear picture about how quality of tertiary VET is monitored or if there is any assurance except that the schools are struggling for survival, which is determined largely by employment of its graduates	Tripartite system; 16-18 annual NRC meeting will review reports from key industries and put findings into consideration in future policy decisions. National Training board participates and there was also a net impact study	Tripartite system; both MOE and school inspectorates have advisory groups that invite line ministries and enterprises; school inspectorate monitors school compliance with training standards, budgeting, etc.	At central level, MOE consults line ministries; at provincial level, MOE's office "Curatoria" ensures pedagogic supervision; at school level, headmasters are responsible for quality assurance as well as net impact study	Central level is MOE; there is no national level cooperative body between ministerial departments; at the second level is school offices (are in fact, MOE's field offices); who took over secondary vocational schools from Ministry of Economy in 1996, and now deal with almost all types of vocational schools; then is the school inspectorate. The net impact study is also being used as a quality assurance mechanism
Higher Education	Russia	Hungary	Romania	Poland	Czech Republic
24. <i>Size (participation rates) of H.Ed. And proportion of government spending it attracts</i>	There are 566 state institutions and 244 nonstate institutions; about 20-25% high school graduates go to H.Ed institutions; in 1996, total education budget represents 3.7% of GDP, of which 17.8% is of federal education budget and 82.2 on regional budgets; H. Ed. spending takes 25.6% of federal education budget	25% of age cohort is in H.Ed.; of government current education expenditure: H.Ed takes 17.8% expenditure, while primary takes 54.1%, and secondary takes 23.0%; H.Ed spending in 1996 is 0.9% of GDP (1.2% in 1991), while total education spending is 6.0-7.0% of GDP	14% of age group (18-22 yr.) (95/96); Of government current education expenditure: H.Ed takes 15.9% expenditure, while primary takes 44.9%, and secondary takes 23.8%; total education spending is 3.5-4.0% of GDP, while H.Ed. budget is 0.5-0.6% of GDP	Of government current education expenditure: H.Ed takes 16% expenditure, while primary takes 49.7% , and 20.5% is for secondary; total education spending is 3.8% of GDP	Over 15% percent of 18 yr. of age enrolled; more than 40% of total applicants; of government current education expenditure: H.Ed takes 14.7% expenditure, while primary takes 29.2% and secondary takes 53.5%
25. <i>Mechanism used for expanding H.Ed</i>	None; there has been a slight decline in overall enrollment in the past few years (1995/96), even though the enrollment was relatively at very low level	Mainly through integration and growth of Technical Ed. (i.e. TVU); some new institutions recently established by private business and churches (which amounts to about 10% of H.Ed institutions)	Massification, increased private education; funds increasing from both public and private	Since 1992 MOE introduced a funding algorithm based on number of students aiming at encouraging expansion, but results are mixed; up to 1996, the small size of institutions has not stimulated any integration	Establishing new universities and transforming some technical schools into postsecondary professional colleges
26. <i>Quality assurance mechanism for H.Ed. (including accreditation and other government approaches)</i>	Government-controlled; but has no tradition of wide-scale application of assessment instruments based on research and international experience; in 1994/95 there had been a checkup process called "attestation" for accrediting new and reaccrediting existing institutions	The system is changing from being elitist to being more democratic; but now still under central control that seeks to ensure quality; there is no formal accreditation system; the H.Ed and Scientific Council is now (1998) preparing to play important role in assessment and evaluation	A national-level "Council of Academic Evaluation and Accreditation" supervises	Government-controlled; there is no assessment system and no monitoring of courses offered; central regulations are the only guide the institutions have, which by no means guarantees standards or quality <i>Issue: the lack of an evaluation system becomes extremely problematic when new types of courses are established</i>	The Council of H.Ed Institutions, consisting of academic senate from individual universities, serves as a consultant to MOE. The Accreditation Commission advises on establishment of new H.Ed institutions
27. <i>Degree of university autonomy</i>	Changes started in 1986, strengthened by the passing of Law on H.Ed and Postgraduate Education (1996), which further delegates authority and responsibility to individual institutions regarding curriculum development, teaching methods and internal management	The autonomy of H.Ed. has been widely accepted and assured by legal means, and norm-budgeting is now gradually substituted by a mixed budgeting process that grants part of the budget (research and maintenance funds) on a competitive basis; now (1998) 85% budget from state, 7% from sale of service, 8% from others (i.e., rental of real estate)	High degree of autonomy, especially in the private sector. Law of 1995 gives colleges considerable autonomy. But now the colleges have to develop their own managerial skills and capacity	Relatively high	Relatively high. The 1990 Act restored autonomy of H.Ed institutions. Each university has a elected Academic Senate making basic decisions on activities of its own institution, such as budgeting, personnel, research and teaching programs
28. <i>Setting and funding of national priorities for research</i>	R&D expenditure accounts 0.7% of GNP; managed by Ministry of Science	Yes—centralized; R&D expenditure accounts 0.8% of GNP	Yes—centralized; funds come from the State and be allocated through 3 national level agencies: Ministry of Research and Technology; Academy of Science; University Research Council; R&D expenditure accounts 0.7% of GNP	R&D expenditure accounts 0.7% of GNP	R&D expenditure accounts 1.2% of GNP; Grants for Educational Research are awarded by MOE (such as school research and school development fund, H.Ed development fund) and by the Government Research Grant Agency

Government	Russia	Hungary	Romania	Poland	Czech Republic
29. <i>Nature of any intergovernmental transfer schemes for "equalization" purpose</i>	There is an estimated 20% of the reallocation of federal funds to poorer regions, which is supposed to be spent on education; in 1996, total consolidated educational expenditure takes 3.7% of GDP (3.8% in 1991), and is shared by federal government (17.8%) and regional governments (82.2%)	Bloc—75% of local budget comes from the center, which must then decide how it will be spent in all areas including education; 5.0% of GDP is on education in 1996 (4.8% in 1990). Financing education is based on a normative, per capita grant system	3.8% of GDP was spent in education 1996 (2.2% in 1989)	Yes—earmarked. 5.4% of GDP is on public spending in education 1996 (4.8% in 1990). No transfers	5.8% of GDP is on public spending in education 1996 (4.0% in 1989)
30. <i>Mechanism of quality audit from one tier of government to the lower one</i>	There is no such mechanism in place, the relationships between central authority and regional governments varies from loose linkages to serious tensions; especially because of (1) shrinkage of central funding in the last few years did not allow the federal government fulfill its obligatory support to regions; and (2) the shifting of prime responsibilities for general education to local governments put some of them into extreme difficulties in securing resources and managerial capacity	State financing for education, of which 90% is through Ministry of Home Affairs, is not separated from its whole allocation to local governments with no specific operational or goal requirement. Little room is there to enforce special sectoral demands. Responsibility of dealing with special needs and inequality is not clear at central level. Funds for such purpose involve several ministries. Local governments are seen as the main agent of administering the educational resources	Direct supervision, very centralized control in financial terms; local government is held responsible to the Court of Auditors and the Ministry of Finance	No such system in place, cooperation between central level and local level of governments has been weak and sometimes difficult because of unclearly defined financial and operational responsibilities	There seems no such mechanism but there exists direct and strict central control and supervision over school inspectorate and educational institution
31. <i>Mechanism for encouraging improved efficiencies in the system</i>	There is not a nationwide institutionalized mechanism to encourage improved efficiency (1995)	There is not a nationwide institutionalized mechanism to encourage improved efficiency (1995)	In 1992, MOF cut 20% off the H.Ed. budget but at the same time asked for 20% growth of enrollment, and it proved viable since all universities were forced to take measures toward the extremely low teaching-hour requirement and high redundancy in faculty number	There is not a nationwide institutionalized mechanism to encourage improved efficiency (1995)	There is not a nationwide institutionalized mechanism to encourage improved efficiency (1995)

- **HVIs:** Higher vocational institutions, offering 2-3 years postsecondary special courses leading to a diploma in certain field needed at the labor market.
- **MGPE:** Russia's Ministry of General and Professional Education; **MCE:** Hungary's Ministry of Culture and Education; **MoNE:** Romania's Ministry of National Education; **MOE:** Ministry of Education, **ML:** Ministry of labor; **NRC:** Hungary's National Reconciliation Council
- **voc:** vocational/vocation; **votec:** vocational and technical; **tech/tec:** technical/technology; **sec:** secondary; **gen:** general; **schl(s):** school(s); **yr.(s):** year(s); **H.Ed:** higher education
- **Technicum/PTU:** in Russia technicum schools offer 2-4 years vocational and technical education programs for those having completed 11 or 9 yr. general schooling, the program leads to certificates for becoming technicians such junior engineer, librarian, etc.; **PTU** offers 1-2 year courses preparing skilled workers
- Hungary, Poland and Czech Republic are members of OECD.

ANNEX 3: OECD—EDUCATIONAL REFORMS: CHANGES AND/OR USEFUL OPERATIONAL MODELS—SUCCESSSES OR WEAKNESSES

Country	United States	Japan	United Kingdom	Australia	Korea	Netherlands	Other European
Schools							
Extent of autonomous decisionmaking	Levels of autonomy at the school level vary between states. In general, school districts (rather than schools themselves) are responsible for developing and implementing annual operating budgets and longer-term capital projects as well as negotiating local wages and working conditions with unions. Schools may hire or fire staff within the budgetary parameters set by the school districts.	Schools have little autonomy over school budgets with funds allocated on a line-item basis by the local education boards. Districts (or prefectures) are responsible for recruiting new teachers; schools make recommendations regarding promotion to deputy or principal position to be approved by municipal and/or prefecture boards. In terms of educational content, schools are required to develop "school educational plans" along central government curricula guidelines for approval by the boards. <i>Issue: Limited flexibility at the school level to respond to institutional needs by shifting resources between budget lines and staff appointments</i>	The Local Management of Schools (LMS) scheme was introduced in 1988. Under LMS, schools are responsible for all personnel and spending via delegated budgets. They may vary between budget headings. In terms of educational content, they are required to follow a national curriculum (see below) but are responsible for the mode and timing of delivery. <i>Issue: Need for strong management capacity within schools</i>	This varies from state to state. Victoria State is the most decentralized with the delegation of "global budgets" to schools. Other states are moving in this direction	Very limited with most decisionmaking powers regarding budgets, curriculum and staff appointments held by the provincial and metropolitan education authorities. Government reform proposals indicate a move toward greater decentralization and the establishment of "School Management Committees" in the future with responsibilities such as the hiring of teachers and principals. The principle of decentralizing some components of curriculum design and delivery has also been established although not yet implemented	Schools are managed by the "competent authority" (or school board). This is the municipality in the case of publicly run schools and the board of association in the case of private schools (which represent some 70% of the total). The boards are responsible for most management decisions relating to budgets, curriculum delivery, the choice of teaching materials, school plans and timetables, staff appointments and pupil admissions. Central government control is increasingly confined to the area of broad policymaking and to creating the right conditions for the provision of good-quality education	Germany, Austria, France, Sweden and Finland are moving toward greater institutional autonomy at the school level although this varies between regions and is typically less extensive than in the UK. In France, school decision-making is restricted to control over nonstaffing current costs

Country	United States	Japan	United Kingdom	Australia	Korea	Netherlands	Other European
Funding mechanisms	<p>In almost all states, public schools are funded by local real estate taxes, which are divided between schools on the basis of pupil numbers. In some states, public schools also receive support from the state, often targeted at underfunded urban school districts that lack a strong tax base. Some schools are also supported by local corporations and foundations concerned about the quality of public education. Several states are experimenting with the use of "vouchers," which permit individual students to select a public or private school and apply a given value of public tax dollars to the cost of their education.</p> <p><i>Issue: Wide variations in per-pupil expenditure between districts results in long-standing tension between more affluent suburban and poorer urban schools</i></p>	<p>Local education boards provide funding to schools on a line-item basis—with funding parity at the national level maintained through national subsidies. Private schools (which represent 1% of primary and 5% of secondary schools) receive subsidies directly from central government</p>	<p>Over 70% of school finance is provided by central government via local authorities. Under LMS, local education authorities allocate funds to schools on a per-pupil basis adjusted for factors such as size of school and socioeconomic deprivation. There is no national funding formula and, in principle, local authorities can allocate funds according to their own priorities. Since 1988, a small minority of schools (known as Grant-maintained schools) have received per-pupil funds directly from central government.</p> <p><i>Issue: Need for pupil funding system to be sufficiently flexible to reflect cost differentials associated with individual pupils (e.g., costs related to learning difficulties)</i></p>	<p>State Education Departments have financial responsibility for school education and generally do not receive subsidies from central government. They typically fund schools on a per-pupil basis adjusted for indicators of increased need (e.g., percentage of children from parents of a non-English speaking background)</p> <p>Issue: As with the UK</p>	<p>Central government provides 85% of funding for schools; the remaining 15% is provided by local government and parents. (Tuition fees are charged in urban middle and high schools.) Central government funds are distributed to the regional authorities, which then allocate resources to individual schools. Funds are allocated on a line-item basis with tight controls that do not provide much scope for autonomous decisionmaking</p>	<p>Central government funds are paid directly to the school boards with the exception of primary accommodation costs, which are paid to the local education authority. Funds are allocated according to the same criteria for public and private schools. The school boards are required to distribute funds between individual schools on a <i>per pupil basis</i> according to a <i>national funding formula</i>. In 1996, a block grant system was introduced for funding secondary schools, which allows schools a higher degree of discretion as to how the budget is spent on staffing and operation costs. Primary schools are still funded on the basis of earmarked budgets but are preparing to make the transition to block grants.</p> <p>Issue: Limited capacity for municipalities (or school boards) to redistribute funds according to local priorities due to national funding formula</p>	<p>In many European countries, a large proportion of funds from central or regional government are paid directly to schools (or to school staff) and bypass local authorities (e.g., Germany, Austria, Italy, France, Ireland and Spain). In other countries, local government plays a more important role in distributing resources (e.g., Sweden, Finland). In Sweden, some local authorities operate a pupil funding system similar to the UK and have also experimented with the use of vouchers. In Germany, funding mechanisms vary between provinces, some of which are moving toward the use of global budgets</p>

Country	United States	Japan	United Kingdom	Australia	Korea	Netherlands	Other European
Process of curriculum design for compulsory level including incorporation of local content	There are no national requirements for curriculum content or "outcomes." In some states, state agencies develop curricula and mandate its use (including the mode and timing of delivery); in others, agencies set more general standards as a guide for school districts to follow. Most districts allow for the inclusion of local content developed by the individual schools. In the absence of any state mandates, private schools develop their own curricula. <i>Issue: A recent effort to establish national standards was rejected by Republicans as Federal intrusion into state autonomy</i>	A national curriculum exists for all subjects at the elementary level (grades 1-6) and core subjects (grades 7-9) stipulating objectives, content and standard time allocation by grade. The content is revised every 10 years with the guidelines developed by the advisory council and content written by subject specialists in Mombusho (the central Ministry for Education and Culture). <i>Issue: Lack of scope for local content. The Central Educational Council recently recommended a reduction in curricular content to allow more time for "individual learning" activities</i>	A national curriculum was introduced in 1988 comprising compulsory core subjects (English, math and science) and a range of optional subjects from which schools have limited choice. Schools can also add subjects. The content of national curriculum subjects is prescribed by a national agency. Schools have freedom over the mode and timing of delivery provided the content is covered by the end of the prescribed "key" stages. <i>Issue: Limited scope for schools to devise their own curricula with local content as opposed to choosing between prescribed options</i>	States are responsible for devising curricula; schools have considerable choice as to curriculum content within broad subject areas. <i>Efforts are currently being made to develop "National Curriculum Frameworks" to enhance consistency between schooling in different states.</i> <i>Issue: High level of investment required to facilitate cooperation between states on curriculum development in the future</i>	Education Law 155 prescribes the curriculum for each school level in some detail with limited provision for the inclusion of local content. Curricula are revised on a periodic basis by the Ministry of Education; there have been six revisions since the Republic of Korea was established. It is intended that aspects of curriculum decisionmaking will be decentralized in the future. <i>Issue: As with Japan</i>	Central government prescribes the broad subject areas that must be covered by schools (excluding religious education); schools are free to select the curricula content and the mode of delivery provided they comply with basic attainment targets. At the secondary level, 20% of the total curriculum is made up of optional subjects selected by the school and individual pupils	Finland does not have a national curriculum <i>per se</i> (as in the UK) but curricular guidelines are issued by the National Board of Education. Local education authorities work within this framework to design the local curriculum in consultation with schools
Framework for the production of school text books	The textbook market is driven by those states that mandate a set curriculum and select texts to support them in public schools. Textbook publishers work closely with state agencies and school districts to develop materials	Textbooks are developed by commercial publishers on the basis of the published curriculum and are reviewed by Mombusho for approval. Mombusho also compiles some textbooks. Textbooks are selected by the school boards with advice from individual schools	Textbooks are produced by private companies working in close collaboration with the national body responsible for curriculum development. Central government and local authorities do not prescribe textbooks	As in the UK, textbooks produced by commercial publishers in cooperation with the state administrations. Schools are free to select textbooks in line with their needs and preferences	The Education Law 155 prescribes the criteria for the development of textbooks by publishers. All textbooks have to be approved by the Ministry and fall into three categories: - those whose copyrights are held by the Ministry; - those authorized by the Ministry; - those recognized by the Ministry or superintendents as usable	Textbooks are produced by commercial publishers. They are not prescribed by central government.	

Country	United States	Japan	United Kingdom	Australia	Korea	Netherlands	Other European
Quality assessment/ inspection process for schools	<p>Since there are no national standards nor a uniform process for the assessment of schools nationwide. States require public institutions to demonstrate that they are following state guidelines and in session the required number of days per year in order to qualify for state support. Most states also require standardized tests for pupils at certain levels. Some states have passed legislation to permit the state to place a "failed" school district into "receivership" replacing the administration. In terms of private schools, many go through a formal accreditation process administered by private nonprofit accreditation organizations.</p> <p><i>Issue: Lack of national or state wide inspection systems makes it difficult to judge/compare the relative performance of different schools</i></p>	<p>Local education boards are responsible for quality assurance and "supervision" although the results are not made public. Teaching supervisors under the boards (often teachers on leave of absence) provide guidance and coaching.</p> <p><i>Issue: Possibility of a conflict of interest where school supervisors are responsible for both inspection and guidance/coaching</i></p>	<p>Since 1992, schools have been subject to "whole school" inspections every 4 to 5 years. These cover all dimensions from curriculum delivery to financial management and are managed by a national agency (Ofsted). Schools are required to develop action plans to address any identified areas of weakness. Comparative "League Tables" are published nationally to show the relative performance of individual schools (on the basis of pupil results in standardized tests and exams).</p> <p><i>Issue: Difficulties involved in assessing "value added" in school performance. Value added indicators are currently being developed by the national agency responsible for quality assurance</i></p>	<p>The quality assurance arrangements vary between states. In Victoria, schools are required to develop three-year performance plans. The State Department for Education assists School Councils in reviewing progress against plans by funding external consultants to work alongside the school management. Consideration is being given to the publication of "League Tables" in the future</p>	<p>A comprehensive school evaluation system is planned to be introduced during 1998. The intention is that the results will be linked to finance to encourage competition between schools</p> <p><i>Issue: Danger that, in a competitive funding system, high-performing schools with less able students will be penalized</i></p>	<p>Most schools are inspected yearly by an inspector employed by the government inspection body reporting to the Ministry. There are also thematic visits of schools, often by a team of inspectors who evaluate recently introduced government regulations or look at a specific practice. The results of all inspections are published in a yearly report. Other tasks of the Inspectorate include the provision of advice to schools and dealing with complaints. League tables of schools have recently begun to be published in national newspapers.</p>	

Country	United States	Japan	United Kingdom	Australia	Korea	Netherlands	Other European
VET							
% of secondary education devoted to VET	No public schools are designated as separate vocational schools although some schools offer more vocational courses than others. Private schools generally do not offer vocational courses. In 1992, about 12% of school graduates reported that they were in vocational programs. This figure has declined since the early 1980s in line with a policy trend toward an emphasis of academic core courses	No explicitly vocational subjects are taught during compulsory education (up to age 15). 24% of upper secondary school students attend vocational schools where 50-70% of the teaching hours are allocated to vocational subjects. Since 1994, there have been efforts to increase curricular choices offered to students through new "comprehensive" schools that offer both general and vocational subjects and through "sharing" of courses between schools	All secondary schools provide some vocational subjects and most have arrangements for pupils to gain work experience. No schools are designated as vocational schools <i>per se</i> ; upper secondary students can attend further education colleges if they wish to pursue vocational programs alone. New national vocational qualifications have recently been introduced, which may be used for entry into higher education. <i>Issue: Vocational qualifications are still perceived to be less prestigious than general academic qualifications despite the fact that they now qualify pupils for entry into higher education</i>	Following the amalgamation of technical and high schools in the 1980s, there are no "stand alone" VET secondary schools. A small number of senior secondary schools are developing a stronger focus on VET. As in the UK, there is strong push to offer VET subjects are a part of the senior-secondary certificate but the approach differs between states	There is no VET provided for lower-secondary pupils; upper-secondary pupils can attend vocational, technical, commercial, fishery/marine or agricultural high schools. Comprehensive high schools provide a combination of both vocational and general study	Designated VET secondary schools exist for lower-secondary pupils (VBO) and for upper-secondary pupils (MBO). However, all VBO schools are required to provide three years of basic education with no strict distinction between general and vocational subjects. In 1997, about 12% of lower secondary pupils enrolled in VBO. After VBO, pupils may either enter senior vocational education (MBO) or enter the apprenticeships system. Students who complete 3-4 years of MBO can enroll in tertiary VET (HBO). <i>Issue: Early streaming into vocational and general schools can limit opportunities and choices</i>	France introduced a vocational baccalaureate (BAC) in 1985, which allows students wishing to pursue vocational subjects to remain in school for longer and to have access to higher education. About 30% of pupils in upper-secondary school specialize in vocational subjects
Mechanisms for feeding labor market information into the VET system	Arrangements are typically informal. Some school districts undertake labor market surveys. Entrepreneurial public and private institutions respond to local market needs in order to attract funds from students. <i>Issue: Need to improve labor market information to allow students to make informed choices about investment in training. This is particularly important in the context of a relatively free market of training providers</i>	The Ministry of Labor has a tripartite advisory council with expert panels to review the content of skills qualifications	Research is undertaken by local Training and Enterprise Councils and VET providers (e.g., FE colleges). A UK-wide new initiative has been launched to develop "skills strategies" on a regional basis. Employers are also increasingly involved in defining vocational curricula and qualifications. For example, the new system of National Vocational Qualifications is founded on competence standards defined by employers	National Industry Training Boards advise the National Training Authority on training needs and issues. State-based Industry Training Boards advise the state-based training agencies. In addition, state-based training agencies use labor forecasting models (e.g., SYNTECH) as a source of information. At the institution level, local business people are members of the Council	The VET curricula are widely perceived as being too theoretical with a lack of real work experience on the part of VET teachers. The recent introduction of school-university cooperation programs is designed to help address this. There is also a proposal to introduce a Vocational Resource Development Unit to accredit institutions whose programs are closely aligned to the needs of industry. A committee to facilitate college/industry cooperation has also been established	The Education and Industry Committee (BOOB) holds regular consultations with business. The Minister for Education establishes a national examination board annually for each sector, which draws upon advice from both education and business groups. Each business sector has its own national apprenticeship agency with representatives from employers' associations, trade unions and schools	In some countries (e.g., Italy, France, Germany, Finland), employers are closely involved in the definition of curricula and qualifications. For example, in France, social partners are presented on the <i>Commission Professionnelles Consultatives</i> . In Germany, some 50% of initial VET is delivered by employers via the "dual" system

Country	United States	Japan	United Kingdom	Australia	Korea	Netherlands	Other European
Funding mechanisms for VET (other than from government)	No formal initiatives to stimulate private investment in VET. However, US businesses are committing an increasing proportion of their own resources to specialized training for new employees. Private philanthropic support for professional training is substantial in some areas particularly law, medicine and business	There are no training levies or tax exemption schemes to promote investment in vocational training by businesses and individuals. However, there are subsidy schemes funded by the general budget to promote certain types of employer-based training (e.g., in small- and medium-size firms)	The government seeks to encourage investment by businesses through non-monetary awards (e.g., Investors in People standard) and the introduction of qualifications that recognize competencies gained on the job (NVQs). There are also loan schemes to help small firms to invest in training and career development. Loans for individuals at reduced interest rates <i>Issue: Level of private investment in VET is low by European standards despite various incentive schemes</i>	As in the UK, new mechanisms to formally recognize competencies gained on the job are expected to promote more individual and business investment in training	Firms of over 1,000 employees are required to spend at least 2% of their wage bill on training. There is also a school-industry partnership scheme similar to the “dual system” in Germany (although not as comprehensive) whereby firms provide on-the-job training to vocational high school students and junior college students on a voluntary basis	Employers contribute to VET by providing practical on-the-job training to apprentices, MBO and HBO students	France requires all enterprises employing more than 10 people to allocate 1.5% of their wage costs to VET and a further 0.5% to apprenticeships. Similar levies are in place in Denmark, Spain and Belgium. Some German Länder have introduced laws to establish individual rights to take “training holidays” during which they continue to be paid by their employers; others have introduced laws to ensure that employers reward employees for investing in training with pay increments
Number of specializations in VET	Varies from state to state. At a federal level, there are nine main groupings such as agriculture, business, marketing, health, occupational home economics, trade and industry, communications	There are over 300 skills that have formal qualification tests run by various government departments (e.g., Ministry of Labor, Ministry of Health, etc.). These tend to be discrete skills and do not correspond to occupations as is the case in most Western systems	About 20 standard occupational classifications	15 broad fields of study	Similar to Japan but there is a proposal for the Government to move out of the certification process for very specialized skills due to the rapid changes in skill requirements and to pass the responsibility to private organizations	18 broad specialization	
Shape and size of any tertiary VET	Provided both within the two-year public and private “junior” colleges and nonprofit and for-profit vocational institutions <i>Issue: Rapid growth in the for-profit sector over the last decade has created mounting tension between for-profit and traditional institutions</i>	With the exception of the 60 colleges of technology, there are no formally designated tertiary VET institutions. There are many private training providers that provide VET to postsecondary students	Polytechnics previously provided tertiary VET; these have since been given “university” status and so tertiary VET is provided within the university sector. <i>Issue: There is debate over the extent to which the polytechnics should undertake research as opposed to focusing on teaching</i>	Tertiary VET is provided by TAFE Institutes. Some states are considering the amalgamation of VET institutions and universities in the future. Greater cooperation has been achieved through the introduction of credit transfer schemes, which allow students to transfer from VET to non-VET institutions (and vice versa)	Tertiary VET is provided by junior vocational colleges with two- or three-year postsecondary programs. Some professional education is provided by universities	Tertiary VET is provided by HBO colleges (higher professional education colleges) covering seven sectors: agriculture, education, technology, economics, social and cultural welfare, health care and art	In contrast to the UK, some European countries are moving toward the separate provision of tertiary VET and non-VET. For example, Finland introduced polytechnics on an experimental basis in 1991. Other countries have also recently introduced tertiary technical institutions (e.g., Spain)
Higher Education							
Proportion of 18-21 years olds enrolled in university level education	21.9%	N/A	20.9%	21.1%	21.5%	23.2%	Denmark - 7.9% Spain - 24.9% Germany - 7.9%

Country	United States	Japan	United Kingdom	Australia	Korea	Netherlands	Other European
Higher education expenditure as a % of total government spending	3.3%	1.5%	2.7%	3.9%	1.4%	2.9%	Denmark - 3.3% France - 1.8% Germany - 2.1%
Extent of autonomy in higher education institutions	This varies between states and public and private institutions. All institutions must meet Federal and state regulations (e.g., equal opportunity policies). Public institutions have less autonomy since they are governed by state-appointed or elected governing bodies and are more dependent on state funding. Private institutions are, in principle, free from direct state control but their autonomy is restricted by their dependence on state and Federal funds <i>Issue: Private institutions have begun to question the impact of state and Federal funding on their autonomy</i>	There are three categories of institutions with different levels of autonomy. National public universities are not legally separate from central government; other public universities belong to either prefectures or municipalities. These face budgetary as well as administrative controls from government (e.g., approval required for the appointment of presidents). Private institutions are legally independent but are subject to institutional and curriculum standards (e.g., physical space, program content) if they receive government subsidies	HEIs are independent private bodies. However, they are largely government funded and so accountable to government for the use of public money	As in the UK	All private institutions must receive a license to be a university for which there are criteria. These are related to inputs rather than process. Most of the public universities are "national" in that they are owned and funded by central government (mainly MoEd but one or two fall under the Ministry of Science & Technology). There are also a few provincial universities. All staff in public universities are civil servants on set pay scales. Government sets student quotas and staff numbers, appraises any new courses and provides virtually all the funding. Institutional autonomy is very limited although there is an intention to change this	There are two types of higher education institutions: higher professional education colleges (HBOs) of which some 70% are private and universities, of which 3 out of 13 are private. Both private and public institutions are funded by the State and accountable for the use of public funds. They have a tradition of academic freedom and autonomy and assume responsibility for the content of their degree programs. Block funding was introduced in 1993 based on criteria for the number of students and performance (e.g., retention rates and outcomes of performance reviews)	The trend across Europe has been toward greater institutional autonomy (e.g., France, Germany, Spain) although to a lesser extent than in the UK and the Netherlands

Country	United States	Japan	United Kingdom	Australia	Korea	Netherlands	Other European
Mechanisms used for expanding HE	<p>Growth in state funding, private philanthropic support and increases in tuition fees. While some states have reduced expenditure (e.g., California), overall state funding has increased by 8.5% since 1996.</p> <p>The development of distance learning programs has also increased the scope for future expansion at lower cost</p>	<p>Postwar expansion has relied heavily upon private provision and financing facilitated by a policy framework that permits private (nonprofit) entry into the market. The number of students in private institutions has grown by 40% over the last decade amounting to 70% of total student enrollments. Both public and private institutions rely increasingly on tuition fees; these have grown by ten times over the last 20 years in public institutions</p>	<p>Reductions in unit costs have allowed for significant expansion in recent years. Current targeted growth is being achieved through the introduction of student tuition fees and small real increases in funding</p>	<p>The Higher Education Contribution Scheme was introduced in the 1980s whereby students contribute to the cost of their studies during their working life, provided their income reaches the national average</p>	<p>Government policy has consistently been that the expansion of the system should be almost exclusively within the private sector; hence the dominance of private institutions. There are thus many small, fairly new institutions offering courses mainly in those subjects that are cheap to provide. Students at both public and private institutions pay fees although public university fees are less than half of those in private universities where fees are set at full cost</p>	<p>After a period of significant expansion in the 1970s and 1980s, the HE sector continues to grow, although more slowly. This has been allowed by a reduction in per student expenditure (unit costs), increases in tuition fees and a reduction in the number of years in which students are eligible for financial assistance. This limit is still comparatively high at 6 years for full-time and 9 years for part-time courses</p>	<p>The introduction of government student loan schemes has facilitated growth in many countries. The Scandinavian countries are leaders in this area, having had loans as a key component of their student support systems since the mid-1980s</p>
Quality assurance mechanisms (including approaches to accreditation)	<p>There are no nationwide mechanisms in place. Private regional accrediting bodies are the principal evaluators of academic quality; most professions (e.g., law) also have their own accrediting bodies. Many institutions also undertake periodic peer reviews made up of visiting faculty from comparable institutions. Competition for research funding at the Federal and state levels promotes quality in research. States are increasingly using output measures in funding to reward quality and effectiveness</p>	<p>New programs and institutions are subject to approval from the Ministry. There are no formal systems of accreditation or performance review for established programs or organizations. The University Council has initiated a number of reforms since the early 1990s including the promotion of self-evaluation; 60% of universities now publish their results</p>	<p>All HEIs are subject to assessment of research and teaching quality once every 4-5 years. Research funding is closely tied to the outcomes of the research assessments; a proportion of funding for teaching will be allocated on the basis of quality audits in the future. The sector is also considering the establishment of a professional body to safeguard standards in university teaching</p>	<p>Research programs are evaluated by the funding bodies (e.g., Australian Research Council), often with reference to overseas academics to ensure that Australian institutions keep in line with good international standards. Professional bodies are also becoming increasingly involved in the approval of degree programs. The Higher Education Council has introduced a number of initiatives to promote quality over since 1992 including a fund of A\$75M to reward institutions for effective practice in quality assurance. In 1996, the government announced a new approach to quality with the introduction of a nationwide quality assessment process and the establishment of a new agency</p>	<p>Very similar to Japan but without the reforms. There is discussion about some more regular and rigorous accreditation system</p>	<p>All HEIs are subject to a review of teaching and research every 6-7 years by visiting committees. The Inspectorate of Education reviews the assessments and the institutional response. The Ministry may decide to close a department that has been judged to be performing badly. There is no formal accreditation system for courses in universities; FIBOs have begun to experiment with the accreditation of professional programs by professional bodies</p>	

Country	United States	Japan	United Kingdom	Australia	Korea	Netherlands	Other European
Setting and funding of national priorities for research	Federal agencies which fund research (e.g., National Science Foundation) set general priorities. Funds are generally allocated on the basis of peer review of individual faculty members applications. Corporations also fund research and contract with institutions for particular research projects <i>Issue: University research partnerships with corporations have led to questions about the traditional role of universities in basic research and the free publication of research results</i>	There are multiple sources of research funding including Mombusho, the Agency for Science and Technology and the Ministry for International Trade and Industry. Funding is not specifically allocated on the basis of research performance. <i>Issue: The institutional arrangements for competitive and performance-orientated research are weak</i>	HEIs are graded according to the quality and volume of research undertaken—evaluated in research assessment exercises held every 5 years. This ranking determines the allocation of baseline research funds. Other research funding is bid for on a competitive basis. <i>Issue: Concern that, to date, the funding system, which rewards excellence in research, has accentuated a bias toward research (as opposed to teaching) within institutions</i>	The Australian Research Council provides policy advice to national government and makes recommendations on the distribution of research funds. A competitive bidding system is in place for Research Council funds	The government has a clear policy for research in the science, technology and engineering areas as it believes that this will provide the engine for economic growth in the early part of next century. Funding is primarily by means of competitive peer-reviewed bidding but government does not cover the full costs of the research. This puts the less well-funded institutions at a disadvantage. The government is currently carrying out a university-rating project and there is an intention to focus the research effort on a few number of institutions in the future	Government research funding is allocated on the basis of an ex-post assessment of research quality. In addition, institutions can bid for individual grants from the national research councils. <i>Issue: Concern that the research funding mechanism may place too much emphasis on the volume as opposed to the quality of publication</i>	
Government							
Nature of any inter-governmental transfer schemes for "equalization" purposes	Some states have sought to introduce equalization schemes to assist districts with weaker tax bases. These initiatives are very controversial	Central government subsidies for salaries and capital projects are earmarked and allocated on the basis of inputs (e.g., number of teachers employed). Central government also makes provision for the economically disadvantaged via multipurpose block transfers	The Revenue Support Grant distributes resources between local authorities according to need. However, funds are allocated in a block grant and local authorities are not bound to spend education related allocations on education. <i>Issue: Equality in levels of education expenditure between different areas not guaranteed</i>	Some Federal "special initiatives" target additional funds to states to help states meet any special or additional educational needs	Central government transfers cover over 90% of the costs of provision. Separate education branches of local government are also responsible for providing some resources but autonomy over schools is held by the provincial and metropolitan authorities <i>Issue: Local education authorities are typically reluctant to raise funds for a service they do not control</i>	Central government funds are allocated to each school board according to same criteria (e.g., number of pupils)	<i>Norway:</i> Central funding allows for higher levels of expenditure in areas with very sparse populations. <i>France:</i> "Education priority zones" receive supplementary funding from central government. <i>Denmark:</i> Central government allocations do seek to redress inequalities but there is no guarantee that these funds will be used for schools since they are not earmarked
Mechanisms of quality audit from one tier of government to the lower one	There are no nationwide systems of quality audit. Some states have passed legislation to permit the state to put a "failed" public school district "into receivership," removing local leadership and administration	There are no quality audits for local education boards	Local Education Authorities are not subject to audit and inspection in terms of value for money or contribution to educational performance	In the VET system, a federal agency sets delivery targets and monitors annual state delivery against the targets. Work is under way to develop national agreed performance indicators	The Ministry of Education conducted evaluations of 15 metropolitan and provincial offices of education in 1997 and provided a budget of 80 billion to reward offices that performed well in the evaluations	School boards may be audited/inspected by the government financial control agency (<i>Algemene Rekenkamer</i>)	

Country	United States	Japan	United Kingdom	Australia	Korea	Netherlands	Other European
Mechanisms for encouraging improved efficiencies in the system	Some cities have contracted with private, for-profit companies for the operation of their public schools. Some larger schools have attempted to enhance autonomy and parental participation by dividing into "charter schools" or "schools within schools"	Budgetary controls and standardized costs are used to ensure cost efficiency by ensuring transparency and preventing waste <i>Issue: Centralized control may inhibit capacity of individual schools to generate efficiencies through local initiative</i>	Since 1988, schools have been able to retain any savings generated through efficiency gains. Per-pupil funding promotes competition between schools to attract students (and hence funds). Output funding has been introduced to varying degrees at the postcompulsory level. For example, government funding for adult education is triggered by the achievement of results in terms of entering employment or securing qualifications. <i>Issue: "Competition" between schools depends upon ability of parents to exercise choice</i>	Most states have applied annual efficiency savings (i.e., cost cuts) to budgets for several years	Very little except very directly as government controls both numbers and funding and so can reduce unit costs by specification. <i>Issue: There is a danger that the low unit costs have an adverse effect on quality (e.g., very high pupil and student to staff ratios, which have reached over 30:1 in public universities)</i>	Schools are able to retain any savings generated through efficiency gains. The funding mechanism for higher education institutions provides incentives to minimize the number of dropouts and to promote rapid graduation. It also penalizes poor performing institutions by cutting funding	Sweden introduced output funding in higher education in 1993 with 60% of government grants to HEIs related to the number of credit points earned by students and 5% as a "quality premium." Other countries that have introduced elements of output funding include Germany (selected Länder) and Denmark where funding is tied to the number of students completing their degree programs

Source: OECD 1998, *Education at a Glance*. Table c5.2b and Table B2.1.

ANNEX 4: OECD STUDY OF EDUCATION POLICY CHANGES IN TRANSITION ECONOMIES

The Center for Cooperation with the Economies in Transition of the OECD prepared a report¹ in 1996 that looked at the recent experience in the development of education policy at the secondary school level in a number of Eastern and Central European transition economies. The objectives of this project were to make a survey of general secondary education in the 11 participating countries,² summarize the main issues and policies in each of the countries and gather ideas for further work to be undertaken over the next two to three years.

The **major themes** and **findings** are taken directly from the report and are included here as they provide a number of useful comparative examples of problems faced and solutions sought in education policy as these countries made the transition from centrally planned to more market-focused economies. It cannot be expected that all of these examples will be or even should be found in the China situation, but the summaries of the study are offered for reference use by Chinese education policymakers.

FIVE MAJOR THEMES

The findings (detailed in the next section) fall under five major themes that appear to cover all or most of the region's systems: decentralization; curriculum change; standards, assessment and quality assurance; issues in teaching and learning; and the new role of the school principal or head teacher.

Decentralization and School Autonomy

As in some Western countries, education systems in the region are decentralizing their authorities and responsibilities. Naturally, this process is not the same in all countries. The aims, however, are similar: to increase decisionmaking at the local level and to grant degrees of freedom in planning, executing and evaluating education. Systemic change in administration and control is a necessary but not a sufficient condition for the democratization of schooling. Several countries covered here have recognized this, and their new laws and regulations strengthen the autonomy of schools. However, there is a price to pay: decentralized systems place much greater demands on local resources and school leadership, both of which are currently strained.

Curriculum Change

Two broad types of change are taking place in the region: first, the content, aims and methods of teaching are being renewed; and second, both the concept and meaning of "curriculum" are

¹ "Secondary Education Systems in PHARE Countries: Survey and Project Proposals"; OECD, Paris, 1996. This annex was taken in its entirety from this report.

² Albania, Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia.

evolving. Decentralization brings more local responsibility and power, and more freedom at the school level to make decisions about curriculum and its variants.

One common feature among countries in the region is an increased number of new curriculum subjects such as civics and environmental education, ethics and philosophy. History is, naturally, taught from a new perspective and a wider selection of foreign languages is offered to students. In mathematics and science curricula, changes appear to be fewer.

The way in which these countries view the teacher's role in the development of the curriculum varies considerably. Some countries seem to have chosen a more centrally directed approach, with greater emphasis on fixed and state-controlled curricula. Schools and teachers in these systems may still choose appropriate teaching methods but have little scope to influence the content of the curricula or the objectives of teaching. This approach is suitable when it is important to ensure that all students have access to a particular subject, such as civics, languages, and so on.

The shortcomings of a rigidly conceived, centralized system where teachers have no true control over planning are, however, obvious. A rapidly changing social environment requires flexibility and adaptivity from schools. Moreover, top-down curriculum structures tend to give teachers only the narrow task of implementation, while the planning and formulation of goals are not in their hands. As John Dewey (1901) wrote, "if teachers do not have a clear and central role in curriculum planning, it is likely that the curriculum will not have substantive meaning for them."

Standards and Examinations

In a well-ordered system, curriculum and assessment go hand in hand: both are based on the same set of educational aims and objectives. Their functions, however, are quite different, and their relation to each other is undergoing a profound change. One particular feature of the pre-1989 systems in the region was that curriculum, textbooks and teaching processes were strictly and centrally controlled, but that assessment and exams were school-based and teacher-controlled. The emerging post-1989 systems, by contrast, are increasingly diversified, especially at the secondary level: this raises questions about standards and quality that now require, perhaps for the first time, some kind of external monitoring. Paradoxically, the more varied, "free" and individualized education becomes, the greater the need to monitor quality to ensure that all children receive an education that meets an acceptable standard.

One recurring issue to mention here relates to students' much-praised success in international competitions or Olympiads. It might be claimed that high rankings in such competitions indicate high-quality teaching. Indeed, in some Western countries the argument is turned upside-down: low rankings are interpreted to indicate low-quality teaching. However, general conclusions cannot be drawn from specific students' test scores in, for example, Science Olympiads. Teaching in schools may emphasize quite different things than do the tests. It is true that success in Olympiads shows that an education system is able to support talented individuals by recognizing their abilities and fostering their development, often in special classes or schools. What the authors wish to stress here is that the quality of education *in general* cannot be judged by the achievement of top students; rather, the evaluation methods used should be valid and broad—national in scope and taking into account the wide spectrum of abilities, skills and attitudes shown by all children in schools.

Teaching and Learning

One of the liveliest topics in education—not only in this region, but anywhere in the world—centers on the way teachers teach, and how teaching methods influence student learning. In the schools that were visited, teaching seemed to be based on teacher exposition and student learning appeared to be limited to receiving information and memorizing facts. It is essential for the development of more democratic schools and higher-level thinking skills—such as applying information and solving problems—that a wider variety of teaching methods should be used. This will mean a significant shift in the role of the teacher in the classroom, from being the main information provider to being a “facilitator” helping each student to take an active part in his or her own learning.

School Management

The new autonomy of schools brings more responsibility and more possibilities for principals or head teachers. School-based curriculum planning is a case in point: this requires both pedagogical and managerial skills from the head of the school. Schools are also increasingly more responsible for their own budgets, and for the results they achieve through economic decisions. School heads will need a great deal of support in defining their new roles and developing appropriate skills. Consequently, one urgent focus of the project recommendations is on management training for principals and key school administrators.

Conclusion

The main purpose of a regional analysis such as the present one is to help those involved in school improvement and policy decisionmaking choose paths that are appropriate to their specific situation but also “right” in a wider educational sense. All the changes and reforms observed in the course of this study are taking place within a wider context of social evolution. Real change in school culture requires more than change in individual cases: it requires a sympathetic climate, a coherent educational philosophy within which teachers, principals and students can make appropriate decisions about how their schools and classrooms should be run. At present, that sort of framework is still “under construction” in the counties throughout the region.

Such sweeping change as that occurring in the education systems of PHARE countries requires a complete transformation in the social organization of schools. In his widely cited book, *The Predictable Failure of Educational Change*, Seymour Sarason (1990) writes that most school reforms fail when they avoid confronting existing power relationships and because avoiding those relationships is precisely what reformers tend to do, they ensure that “the more things change, the more they stay the same.” In order to last, change also requires more than quick standard remedies. Far from standardizing the ways and means to effect change, regional cooperation may help both to broaden discussion around common problems and to find solutions to individual challenges facing these countries. In this context, it is hoped that this 11-country survey report will promote a clearer picture of what is needed in the short and medium term.

FINDINGS

The study teams identified a number of themes or issues shared among most, if not all, the countries visited in the course of the mission. In summarizing these findings, it should be underscored that each issue must be understood within the context of the distinctiveness of each country and the great variation among the countries in history, culture and specific concerns.

Changes in education are taking place in the context of severe economic constraints and highly dynamic—in some cases unstable—political situations.

Frequent changes in education ministers, key personnel and policy direction have the effect of creating a culture of caution and uncertainty. In some countries, school-level change is proceeding in spite of the national-level uncertainty, but in time this may lead to efforts to reassert national control. From a practical standpoint, several countries are undergoing changes in the structure and financing of local and regional governments. The resulting regional tensions and shifts in financing responsibility are having a direct impact on general secondary education. These countries are experiencing intense debates about issues common throughout the world. Examples include proposals to close or consolidate small secondary schools that are too costly and cannot offer the necessary curricular breadth; struggles of rural communities to maintain schools in the face of declining economy and population; imbalances in resources between and among regions and between growing urban areas and rural communities; conflicting priorities within the sector itself, such as budget allocations to basic, secondary, and higher education.

Having enacted laws stressing decentralization and school autonomy, a number of countries are now debating how to redefine national and regional responsibilities in education.

In some cases these debates clearly reflect recent political changes; in most, they represent searches for new approaches to national standards, curriculum, examinations, oversight and accountability that represent an appropriate balance between central and devolved functions. All the new education laws set forth national expectations and legal obligations such as the nation's commitment to educational opportunity for all citizens. There is no guarantee that a highly decentralized system of general secondary education, with each school pursuing its own course, will result in a school population prepared to meet national or international expectations. The challenge for all the countries is to carry out these national obligations without reasserting the previous centralized, bureaucratic and ideologically based methods of control.

Three traditional and legitimate national concerns are the source of tension in most of these countries: national curriculum, standards and examinations, and the culture of state oversight. Specifically these challenges include:

- Developing a new approach to *national curricula* that will not dictate exactly what must be taught and how, but will set forth frameworks and objectives, give concrete guidance on evaluation and permit choice of textbooks and materials.
- Developing new examination systems to replace outdated “maturity” or school-leaving examinations. These new systems set clear standards, are linked with curriculum, are valid and reliable, reduce duplication with university entrance exams, provide information for policy and are supported by teacher preservice and inservice education.
- Changing the culture of national and regional (district) agencies and staff from “inspection” and “control” to advice, technical assistance and support for school-level change. At issue are (1) whether teachers and school leaders trust the entities outside the school, and (2) whether these entities have the necessary competence to fulfil their new role.

The reality of “decentralization” does not match the initial expectations, especially with regard to responsibility for curriculum and pedagogy.

Most new education laws place greater responsibility on the individual school (and especially on the teachers as a group) for shaping at least a portion of the curriculum. Strengthening of general secondary education, especially implementation of new curricula and development of new pedagogical approaches, depends greatly upon realization of this school-level responsibility. Even in countries where changes have been under way for several years, traditional approaches remain strong: school leaders employ authoritarian leadership styles and teachers function individually rather than assuming group responsibility for school-level education issues. In several countries, laws and policies related to teacher autonomy reinforce individual teachers' isolation.

In virtually every country the status of teachers and lack of incentives for them to participate in the changes are major barriers to improvement in general secondary education.

Low salaries and competition from other sectors are important but not the only problems. In most cases, the core teaching force is composed of persons who have spent 20 or more years in a highly controlled system characterized by compliance, drill-and-practice teaching, conformity and lack of individual responsibility. Little, if any, motivation exists for these teachers to participate in school-level decisionmaking and to learn new curricula and teaching methods. Compensation is not only exceptionally low but there are few incentives for teachers to involve themselves in inservice education. Where countries have established incentives for inservice education, these are generally for individual advancement (such as advancing a teacher's position on a salary schedule). They are not designed to prepare teachers to participate in school-level teams to revise curricula or pedagogical methods. Some governments are actively seeking participation on task forces to develop new curricula or assessment policies but they give the teachers few incentives or rewards for doing so.

Universities and teacher training colleges appear to be largely disengaged from change in general secondary education and appear to be barriers rather than constructive forces for change.

The situation may be getting worse as universities focus on their own internal priorities in difficult economic conditions. Granting universities greater autonomy was one of the earliest significant actions taken by most of the countries. While these changes were clearly justified and important, they are having an unintended consequence in encouraging the further isolation of these institutions and their faculties from the practical issues and concerns of the schools. A strong emphasis on individual disciplines, limited attention to pedagogy, persistence of rigid pedagogical methods (large lectures, limited active learning) all run counter to the need at the general secondary level for new interdisciplinary curricula and new pedagogical methods. In some cases, teacher training colleges, which used to be able to emphasize pedagogy and working with the schools, are being drawn closer to the university model. The result is that faculty members will increasingly be rewarded for research and advanced study and less for teaching and preparing their students for service in the schools. These conditions have a profound impact on the preservice preparation of teachers. But they also affect the capacity and willingness of colleges and universities to assist in meeting the overwhelming demands for inservice teacher training. And they have an indirect impact on the capacity and incentives of general secondary schools to adopt new curricula and methods. Recognizing this situation, countries are using—or exploring—alternatives to university-based teacher education reforms, including independent national or regional pedagogical institutes, inservice training institutes or even nongovernmental organizations and associations. Whether bypassing the universities will be a successful long-term

strategy remains to be seen. Few countries appear to have policy mechanisms for bridging this growing gap.

The collapse of highly specialized, rigid vocational training programs is placing new and largely unresolved pressures on general secondary education.

The dimensions of the problem are multiple. Because this project focused on general secondary education, it only touched the surface of the broader problems. As narrow vocational training for ailing or defunct large state-owned industries declines, students must be given alternatives. A significant number of these students are now entering general secondary education. Schools and teachers may not be prepared to meet the needs of this more diverse student population. The curriculum and pedagogical methods may not be adequate to give these students the necessary skills to enter a changing workforce. At the upper secondary level, an increasing emphasis on preparation of students for universities could detract from the need to prepare students for entering the work force. In specialized upper-secondary vocational and professional programs, more emphasis should be given to new curriculum and pedagogy necessary for the students' participation in a democratic society and a market economy.

The needs to reassert national identity and to strengthen language and cultural distinctiveness present special challenges for countries that also seek to develop a European dimension within their general secondary education systems.

However, an encouraging development in virtually every country is that nongovernmental organizations, informal networks among students, teachers and school leaders, regional associations and other informal mechanisms are fostering these broader dimensions in curriculum and in teacher and student experiences. Examples include networks among foreign-language and mathematics teachers, informal communication among ministry officials on new curriculum frameworks, opportunities for teachers, school leaders and students to visit other countries and engage in exchanges with colleagues elsewhere through Internet and similar new means of communication.

The availability of materials—textbooks and other important resources—remains a critical issue throughout the region.

It is especially severe in countries with comparatively small populations who seek to reassert the importance of their own language and culture. Again, an encouraging development is that a number of nongovernmental organizations and informal networks—many involving international contacts—are devoting considerable effort to meeting these needs. Alternative, private sources of textbooks and materials are expanding. The legal and financial support and the availability of technical expertise for such developments remain uncertain, and should be strengthened if the growing needs are to be met.

Two areas—civic education and environmental education—should have a stronger and more visible presence in the curricula of these countries.

The needs cut across virtually every dimension of change in general secondary education. The issue is not simply one of materials. Areas affected include: new curricula; new pedagogical methods; new partnerships with communities and social partners; new approaches to school governance; new national curricula; revised “maturity” or school-leaving examinations; and needed changes in university entrance requirements, curricula and pedagogy. Teachers and school leaders at every level need concrete ideas and models for change.

ANNEX 5: GOVERNMENT EXPENDITURE ON EDUCATION

Low Government Expenditure on Education in China

Table 5.1 shows that government expenditure on education as a percentage of gross domestic product (GDP) in China in the 1990s ranged between 2.44 and 2.86 percent. This national-effort indicator actually dropped from 2.86 percent in 1991 to 2.49 percent in 1997.

TABLE 5.1: GOVERNMENT EXPENDITURE ON EDUCATION, 1991-97

	1991	1992	1993	1994	1995	1996	1997*
1. GDP, billion yuan	2,161.8	2,663.5	3,451.5	4,500.6	5,773.3	6,779.5	7,477.2
2. Government education expenditure, billion yuan	61.8	72.9	86.8	117.5	141.2	167.2	186.3
3. Ratio of (2) to (1), %	2.86	2.74	2.51	2.61	2.44	2.47	2.49

* Preliminary estimates only.

Source: Ministry of Education, China.

Government Expenditure on Education in Other Asian Countries

Table 5.2 presents information on government expenditure on education over time in a number of east and southeast Asian countries. It shows government education expenditure as a percentage of gross national product (GNP), government education expenditure as a percentage of total government expenditure, and total government expenditure as a percentage of GNP.

Consider first government education expenditure as a percentage of GNP. Table 5.2 shows substantial variation in government spending on education. The Republic of Korea, Japan and Malaysia were among the top-spending countries during 1980-95. Japan is a high-income country (based on per-capita GNP), and the Republic of Korea and Malaysia are middle-income countries. In contrast, Hong Kong and Singapore are two high-income cities with relatively low spending on education. On the other hand, Indonesia and the Philippines are low-income countries with low level of educational spending.

While countries do vary in their level of government education expenditure as a percentage of total government expenditure, their differences are smaller than those for government education expenditure as a percentage of GNP. Except for Indonesia, most of the countries did spend about 17 to 20 percent of their total government expenditure on education most of the time during the 1980-93 period.

For total government expenditure as a percentage of GNP, Malaysia and Singapore were the top-spending countries during the 1980-93 period. These two countries consistently devoted 22 to 30 percent of national output to government spending. For the other countries, total government expenditure ranged between 15 and 20 percent of GNP.

TABLE 5.2: GOVERNMENT EDUCATION EXPENDITURE IN EAST AND SOUTHEAST ASIAN COUNTRIES AND REGIONS

	1980	1985	1990	1991	1992	1993	1994
GNP Per Capita							
Hong Kong	5,790	6,080	12,680	14,310	16,370	18,510	20,660
Indonesia	500	530	620	680	740	810	880
Japan	10,390	10,900	26,410	27,210	29,120	32,060	35,330
Korea, Rep. of	1,770	2,260	5,770	6,670	7,220	7,720	8,460
Malaysia	1,800	1,900	2,370	2,490	2,790	3,090	3,470
Philippines	690	520	730	730	780	810	910
Singapore	5,130	7,570	13,210	14,940	17,500	19,660	23,340
Thailand	720	810	1,520	1,680	1,900	2,110	2,360
Govt. Exp. % of GNP for Education							
Hong Kong	2.4	2.8	2.8	--	2.8	2.8	--
Indonesia	1.7	--	1.1	--	2.2	1.2	1.3
Japan	5.8	5.0	4.7	4.7	3.6	3.8	--
Korea, Rep. of	3.7	4.5	3.5	4.0	4.2	4.5	3.7
Malaysia	6.0	6.6	5.4	--	5.5	5.2	5.3
Philippines	1.7	1.4	2.9	2.9	2.0	2.4	--
Singapore	2.8	4.4	3.1	--	3.2	3.1	3.3
Thailand	3.4	3.8	3.6	--	4.0	4.1	3.8
Govt. Exp. % of Total Exp. for Educ.							
Hong Kong	14.6	18.4	17.4	--	17.4	17.0	--
Indonesia	8.3	11.3	8.4	9.1	9.8	10.0	--
Japan	--	--	--	--	--	--	--
Korea, Rep. of	17.1	18.4	19.6	15.8	16.2	16.8	--
Malaysia	18.3	--	--	--	19.6	20.3	--
Philippines	13	20.1	16.9	16.1	15.0	15.9	--
Singapore	14.6	20.2	18.1	19.9	22.9	22.3	--
Thailand	19.8	19.5	20.1	20.2	21.1	21.1	--
Total Govt. Exp. % GNP							
Hong Kong	--	--	--	--	--	--	--
Indonesia	23.1	20.2	20.4	20.7	19.2	18.9	--
Japan	18.4	17.8	16.7	15.8	15.8	--	--
Korea, Rep. of	17.9	18.4	15.7	17.3	17.6	17.1	--
Malaysia	29.6	--	31.3	30.6	29.4	26.7	--
Philippines	13.4	10.8	19.8	19.1	19.4	18.1	--
Singapore	20.8	26.3	23.3	22.1	22.7	19.7	--
Thailand	19.0	21.8	15.1	15.5	15.4	16.3	--

Sources:

World Bank, *Education Statistics* (Version 2.0), Washington, D.C. [Note: EdStats (short for Education Statistics) is a component of the Knowledge Management System of the World Bank's Human Development Network. It is a product of collaboration between the Network and the Development Data Group in the Bank's Development Economics Vice Presidency.]

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The Need to Raise Government Expenditure on Education in China

China needs to substantially increase its government expenditure on education in the coming years to: (1) address educational deficiencies as a result of a long period of low educational investment in the past, (2) meet the current educational needs of an expanding economy; and (3) develop a comparative advantage in human resources so that China can more effectively compete in a knowledge-based global economy.

Consider government education expenditure in China around the year 2020. To be comparable to other Asian countries, we need to define government education expenditure and total government expenditure in China. In this analysis, government education expenditure in China refers to education expenditure made through the government financial system. It includes educational spending financed by the government education budget (“in-budget educational spending”), education surcharges and levies, education spending by state enterprises, government tax subsidies for enterprises run by educational institutions, and other government education resources (that is, most of the “out-budget educational spending,” but not including tuition and education fees). In 1997, government education expenditure amounted to 2.49 percent of GDP. Similarly, total government expenditure includes both in-budget total government expenditure and most of the out-budget expenditure (out-budget expenditure made within the government financial system). Although a precise figure is not available, total government expenditure amounted to about 19 to 20 percent of GDP in 1997.

To provide an approximate guidance to government education spending in China in 2020, this analysis suggests that the experience of Malaysia and the Republic of Korea (and possibly Japan) is more relevant to China than that of Hong Kong and Singapore or that of other low-income Asian economies. If economic growth averages 6 to 7 percent annually, China’s GNP will be around US\$3,000-3,500 by the year 2020. At this income range, Malaysia spent 5.2 to 5.3 percent of GNP on education; and the Republic of Korea spent about 4.0 to 4.5 percent of GNP on education. Since education demand is likely to become more intensified in the global economy, a higher level of government education expenditure is more likely to be required in the future.

Thus, one can reasonably propose that, in the year 2020 in China, government education expenditure be about 5.0 percent of GDP. Total government expenditure can be raised to about 25.0 percent of GDP, a level between that of Malaysia and most of the east and southeast Asian countries. In that year, then, government education expenditure will amount to 20 percent of total government expenditure, a level similar to that of other east and southeast Asian countries. In the interim, the target for government education expenditure can be set at 4.5 percent by year 2010.

Changing Financing Sources for Education in China

Table 5.3 shows the amount and percentage distribution of financing sources for education in China in 1991 and 1997. It shows that: (a) the share of budgeted resources has decreased significantly over time, from 62.85 percent in 1991 to 53.63 percent in 1997; (b) much of the corresponding increase in the share of extrabudgetary resources has come from tuition and other education fees charged at the institutional level; and (c) since extrabudgetary resources are raised and utilized at the institutional and township levels, the increasing reliance on these resources has contributed to substantial financial disparities among educational institutions in different parts of the country.

TABLE 5.3: SOURCES OF EDUCATIONAL FUNDING (BILLION YUAN), 1991 AND 1997

Sources	1991		1997*	
	Amount	% of Total	Amount	% of Total
Government education budget	45.97	62.85	135.77	53.63
Levies and surcharges	7.52	10.27	26.78	10.58
Enterprise-run institutions	4.27	5.83	11.94	4.72
Institution-generated resources	3.72	5.09	9.91	3.91
Social contributions	6.28	8.59	17.07	6.74
Tuition and other education fees	3.24	4.42	32.61	12.88
Others**	2.16	2.95	19.10	7.54
Total	73.15	100.00	253.17	100.00

* Preliminary estimates only.

** Include resources from institutions run by NGOs and individuals.

Source: Based on information from Ministry of Education, China.

ANNEX 6: ESTIMATION OF EARMARKED FUNDS FOR COMPULSORY EDUCATION IN POOR AREAS

This annex summarizes the findings of a study that estimates the magnitude of earmarked funds needed for compulsory education in poor areas. The estimation is based on the assumption that earmarked funds from central and provincial levels will be distributed to poor counties to ensure that all the poor counties will meet the minimal recurrent spending levels deemed necessary for effective schooling. The study includes 520 nationally designated poor counties in 1997 and the analysis covers the 1997-2020 period. It consists of three parts: (1) defining a minimal level of per-student recurrent expenditure at the primary and lower-secondary education levels; (2) projecting enrollment and the earmarked funds needed for primary and lower-secondary education for the 1997-2020 period; and (3) distributing the financing of the earmarked funds among central and provincial levels. Note that the study does not estimate capital costs (which will be financed primarily by governments at and below the county level and by the local communities); it also does not consider variation among schools and areas within a county.

A. DEFINING A MINIMAL LEVEL OF PER-STUDENT RECURRENT EXPENDITURE

Recurrent expenditure in primary and lower-secondary education consists of spending on teachers and retired staff, direct subsidies for students, school maintenance and minor repairs, and other nonpersonnel items. The key parameters for defining the minimal per-student recurrent expenditure in poor counties are listed in Table 6.1. It is assumed that the basic personnel and nonpersonnel inputs will be provided as necessary conditions for effective teaching and learning in primary and lower-secondary schools in poor areas in China [see Chapter 3 of Shanghai Institute of Human Resource Development (1998) for an explanation of how the parameters are selected].

**TABLE 6.1: KEY PARAMETERS FOR DEFINING MINIMAL LEVEL OF
PER-STUDENT RECURRENT EXPENDITURE**

Components of Recurrent Expenditure	Primary Education	Lower-Secondary Education
Student-teacher ratio	22	16
Average annual salary (yuan)	4,829	5,665
Salary of retired personnel as % of total salary	16.9	10.7
Administrative & instructional cost (nonpersonnel) per teacher (yuan)	93.3	166.5
Maintenance & minor repair cost as % of fixed asset	7.6	7.5
Per-student subsidy (yuan)	6.2	10.4

In 1997, the minimal per-student recurrent expenditure in poor counties was estimated to be 324 yuan at the primary level and 523 yuan at the lower-secondary level. Because of tremendous diversities across regions and areas in China, a single minimal amount at each education level is

inappropriate. Additional analysis suggests that the minimal level should be higher for Han counties in the mountainous areas of northwestern China (1.3 times the national level) and for minority counties in the mountainous areas of northwestern China (1.4 times the national level). Minimal per-student recurrent expenditure is then assumed to increase by 7 to 8 percent in real terms over time.

B. AMOUNT OF EARMARKED FUNDS NEEDED TO MEET MINIMAL RECURRENT SPENDING LEVEL

Analysis of 1997

In 1997, 40 percent of the 520 poor counties did not meet the minimal spending level at the primary level; and 34.4 percent did not meet the minimal spending level at the lower-secondary level. To meet the minimal level, 1.012 billion yuan were needed in primary education and 0.382 billion yuan in lower-secondary education. The total gap of 1.394 billion yuan amounted to 1.14 percent of the total budgeted education expenditure of the country. If the concerned counties had increased the proportion of education expenditure in their budget to 3 percent, then the gap would have been reduced to 0.698 billion yuan. This gap could have been addressed by additional central and provincial earmarked funds for this year.

Analysis of the 1997-2020 Period

In this analysis, projections were made about: (a) the number of school-age children based on a population model; (b) the number of students based on assumptions regarding educational coverage; and (c) the funding gaps based on assumptions on recurrent education revenue and expenditure [see Chapter 3 of study by Shanghai Institute of Human Resources Development (1998) for details]. The results are shown in Tables 6.2 and 6.3.

TABLE 6.2: FUNDING GAP IN COMPULSORY EDUCATION, 1997-2020 (1997 PRICES)

Year	Minimal spending primary (yuan/student)	Minimal spending lower-secondary (yuan/student)	Education spending of county as % of county spending	Funding gap (billion yuan)	Funding gap as % of total national budgeted spending on education
1997	324	523	27.6		
2000	408	641	35.6	1.349	0.81
2005	628	941	35.6	2.792	1.20
2010	966	1,383	35.6	4.933	1.51
2020	2,086	2,986	35.6	13.172	2.05

Table 6.2 shows that the gap in recurrent funding increases from 1.349 billion yuan in 2000 to 13.172 billion yuan in 2020. Over the same period, the funding gap as a proportion of total national budgeted spending on education will rise from 0.81 percent to 2.05 percent.

Disparity in per-student recurrent spending among counties will decrease during the 1997-2020 period. For example, Table 6.3 shows that the "10-percent ratio" (spending of top 10 percent counties to bottom 10 percent counties) will drop from 4.56 in 1997 to 1.97 in 2020 in primary education, and from 5.94 to 2.99 over the same period in lower-secondary education. Similarly, the standard deviation will be reduced from 0.49 to 0.34 in primary education, and from 0.67 to 0.57 in lower-secondary education.

TABLE 6.3: REDUCTION IN DISPARITY IN PER-STUDENT RECURRENT SPENDING AMONG COUNTIES, 1997-2020

Year	"10-%" ratio	"10-%" ratio	Standard deviation	Standard deviation
	Primary	Lower-secondary	Primary	Lower-secondary
1997	4.56	5.94	0.49	0.67
2000	2.60	3.28	0.41	0.60
2005	2.48	3.28	0.39	0.60
2010	2.37	3.28	0.38	0.60
2020	1.97	2.99	0.34	0.57

Financing Responsibility of Central and Provincial Governments

It is assumed that earmarked funds for compulsory education from central and provincial governments will be allocated to fill the gap in recurrent spending in poor counties. The financing responsibility for the two levels of governments is shown in Table 6.4. Two scenarios are considered: (a) a one-to-one matching ratio between the two levels of governments; and (b) a two-to-one match ratio between the two levels.

TABLE 6.4: AMOUNT OF EARMARKED FUNDS TO BE FINANCED BY CENTRAL AND PROVINCIAL GOVERNMENTS, 1997-2020 (BILLION YUAN)

Year	Total earmarked funds needed	Scenario One		Scenario Two	
		Central	Provincial	Central	Provincial
1997	-	-	-	-	-
2000	1.349	0.675	0.675	0.899	0.450
2005	2.792	1.396	1.396	1.861	0.931
2010	4.933	2.467	2.467	3.289	1.643
2020	13.172	6.586	6.586	8.781	4.391

Funding Gap Based on Alternative Assumption

The above analysis assumes that poor counties will raise their share of education spending to 35.6 percent of total county spending. Table 6.5 indicates what the funding gap will be if the county education spending remains at an average of 27.6 percent of total county spending. Since the central government plans to raise education spending significantly in the next several years, Tables 6.2 and 6.5 indicate that, in the near term, it is quite feasible for the central government to meet the funding gap in recurrent spending.

TABLE 6.5: FUNDING GAP BASED ON AN ALTERNATIVE ASSUMPTION, 1997-2020 (1997 PRICES)

Year	County education spending as percent of total county spending	Funding gap (billion yuan)	Funding gap as percent of national budgeted spending on education
1997	27.6	-	-
2000	27.6	2.750	2.03
2005	27.6	5.202	2.22
2010	27.6	8.672	2.69
2020	27.6	20.974	3.26

ANNEX 7: NATIONAL EDUCATION WORKING CONFERENCE

The State Council and the Chinese Communist Party jointly hosted the National Education Working Conference in Beijing on June 15-18, 1999. The third of its kind since China began its reform and opening policies in the late 1970s, the conference was chaired by Premier Zhu Rongji, and Vice Premier Li Lanqing presented a report entitled "Deepening Educational Reform, Promoting Quality-Oriented Education and Striving for China's Revitalization." At the end of the meeting, the Central Committee of the Communist Party and the State Council issued the Decision entitled "Further the Education Reform and Promoting Quality-oriented Education" (a brief summary of this decision follows).

DECISION ON "FURTHER THE EDUCATION REFORM AND PROMOTING QUALITY-ORIENTED EDUCATION (PRELIMINARY DRAFT OUTLINE ONLY)

The decision reconfirmed the targets promulgated in the Action Plan for Education Development issued by the State Council early in 1999. The decision differs from the Action Plan by stressing changes of education ideology, that is, away from the exam-oriented education toward quality-oriented education.

To promote the fundamental change, the Decision pointed out some practical directions, targets and measures:

- Quality-oriented education should be implemented at all stages of the education system, namely, kindergarten, basic education, vocational education, adult education and higher education.
- Teaching methodology should be reformed and changed. Heuristic and discussion method should be used widely to cultivate the independent thinking and also the sense of creativeness of students. The teaching quality should be improved through fostering the students' capacity in collecting and processing information, gaining new knowledge, analyzing and solving problems, expressing clearly and team working spirit.
- National Compulsory Education Program in the Poor Areas (aimed at providing financial support to the poor areas in universalizing nine years' compulsory education) should be sustained after year 2000 with increased levels of funding.
- The enrollment size of high schools and universities should be enlarged to ease the pressure on lower secondary and primary schools. By year 2010, the enrollment rate for higher education should be around 15 percent.
- Provincial governments will have more power with higher education affairs, especially with the two- and three-year colleges (in terms of enrollment size and college entrance examination). To quicken the development of tertiary vocation education, the provincial

governments will have full authority in establishing vocational colleges, entrance examinations and enrollment size, etc.

- The education system should be more open and flexible to satisfy the people's life-long education needs. For example, vocational colleges could admit graduates from all kinds of high schools, and the graduates of vocational colleges should have access to other universities; the students of university and vocational secondary schools should enjoy the flexibility in choosing the best time for them to graduate, etc.
- The development of private schools should be encouraged to provide alternatives to parents; the entrance examination of universities should be reformed, and twice yearly exams should be piloted. Local governments should enjoy the power of conducting graduation tests for primary and secondary school students. A new mechanism for education quality evaluation should be developed.
- Teacher education should be reformed by encouraging the non-normal universities to set up teacher colleges, and the qualification standards of teachers should be increased to the college level, also by the year 2010 in the areas with good conditions.
- New laws and regulations should be drafted and promulgated to promote quality-oriented education.
- The allocation for education from the central budget should be increased by 1 percentage point annually from 1998 to 2002, and the provincial governments also should increase their budget allocation for education in consideration of their own actual situation.