

Strategies for Excellence and Competitiveness

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Outline

- ◆ Introduction
- ◆ Trends in Higher Education
- ◆ The State of Chinese Higher Education
- ◆ Strategies for National Excellence and Competitiveness
- ◆ Strategies for Institutional Excellence and Competitiveness
- ◆ Concluding Remarks

Introduction

- ◆ Strategies for achieving national excellence and competitiveness are not necessarily the same as strategies for achieving institutional excellence and competitiveness and vice versa.
- ◆ An educational institution can achieve excellence and competitiveness without the entire nation achieving excellence and competitiveness.
- ◆ Excellence does enhance competitiveness; and competitiveness creates the potential of further excellence.
- ◆ Excellence begets excellence because excellence tends to attract excellent faculty members and students, which in turn leads to an even higher level of excellence.
- ◆ Intangible capital, such as human capital and R&D capital, not cheap labor, is the most important source of national competitiveness.

Introduction

- ◆ An institutional initiative for excellence may fail without national coordination.
- ◆ For example, in order to achieve institutional excellence, a university may decide to adopt a policy that it refrains from hiring its own new Ph. D.'s unless they are good enough to be hired on a tenured basis and begins to hire the new Ph. D.'s of other universities. However, such unilateral action on the part of any single university, while laudable, is doomed to failure. This is because unless other comparable universities also adopt the same policy, they will continue to hire only their own new Ph. D.'s, most likely their best. What this means is that the university that adopts such a policy unilaterally will be unable to either hire good new Ph. D's from the other universities or place their own new Ph. D.'s with them. Over time, such a University will have to either start hiring its own new Ph. D.'s once again, or face the prospects of closure--it will have little or no new faculty members and few if any new Ph. D. students, at least no good ones. The only way a “not hiring your own new Ph. D. policy” can work is to have a national policy, “enforced” by the Ministry of Education (perhaps with the support of the individual universities).

Introduction

- ◆ A national initiative may fail without institutional compliance and cooperation.
- ◆ For example, in order to achieve national excellence, a government may adopt a policy of role differentiation, designating some universities to be comprehensive and research-oriented and others to be purely teaching institutions. Such a national policy often fails because all universities aspire to become a research-oriented university and may choose to ignore or circumvent the national policy on role differentiation.

Trends in Higher Education

- ◆ Worldwide, and in China in particular, the fertility and birth rates are both declining while the life expectancy has been rising.
- ◆ Total enrolment as well as enrolment rates of undergraduates in developing economies, including China, have been rising rapidly, whereas total enrolment have been relatively constant and enrolment rates rising more gradually in developed economies.
- ◆ The rising enrolment rates in developed economies are driven in part by rising demand for tertiary education (as a minimum job qualification) but also by rising excess capacity of the institutions of tertiary education in these economies due to declines in the college-age populations.

Trends in Higher Education

- ◆ The gender gaps in terms of enrolment of undergraduates have greatly narrowed in developing economies. The declining fertility rates and rising female enrolments in tertiary education mutually reinforce each other in the form of a virtuous cycle—a lower fertility rate enables women to take advantage of educational and economic opportunities and higher education for women generally leads to a lower fertility rate.
- ◆ Among the developed economies, the United States, Australia and Canada are already over parity—that is, a higher proportion of age-eligible women attend tertiary educational institutions than men.

Trends in Higher Education

- ◆ Competition in the job markets and the requirements of professional qualifications and specialization drive the expansion of demand for second and higher degrees, for example, MBAs, especially in developed economies.
- ◆ There is also an explosion of demand for extension or continuing studies due both to changes in employment practices (caused by technological obsolescence) and to rising life expectancy.
- ◆ There is also growing demand for manpower to serve the rapidly expanding geriatric segment of society (medicine, nursing, retirement communities, home care services).

The Changing Role of Higher Education

- ◆ A college education has become almost universal in the developed economies in the sense that anyone who wishes to have one can always find a way to do so. It has also become the minimum requirement for many entry-level jobs in developed economies. This is, however, far from the case in developing economies.
- ◆ In developed economies, the bachelor degree has evolved from being a person's last (terminal) degree to being a person's first degree.
- ◆ Various kinds of (earned) second degrees, for example, master degrees, have become quite common.

The Changing Role of Higher Education

From the Last Degree to the First Degree

- ◆ Due to the rapid advances in knowledge and the resulting skill requirements in the job market and to the high rate of technological obsolescence, general and flexible skills, adaptability and a capacity to learn are much more important than specific knowledge and skills.
- ◆ Liberal arts (translated as 通識教育 in China and 教養教育 in Japan) education is likely to become once again the preferred form of undergraduate curriculum—because it provides a broad foundation upon which additional capabilities can be acquired as needed. Serious professional training, with the exception of engineering, is likely to be postponed to the second degree. This has already occurred in North America, for business administration, law and medicine.

The Changing Role of Higher Education

- ◆ There has long been and continues to be a debate on whether higher education is only a filter or a screening or a signaling device. It is not our purpose to revisit the debate here. However, it is important to note that providing the opportunities for networking among similar-aged and similar-ability individuals is also a function of undergraduate education. Again, a liberal arts environment is probably most conducive to networking among undergraduate students.
- ◆ Universities will probably eventually bifurcate into research-oriented and teaching-oriented ones. Non-degree courses may become increasingly common in the latter.

The State of Chinese Higher Education

- ◆ There has been a very rapid expansion in both the total number of tertiary educational institutions and total enrollment. The students at the leading Chinese universities such as Peking University and Tsinghua University are truly the “cream of the cream,” among the top 10,000 students from a cohort of more than 20 million.
- ◆ However, employment opportunities for the average graduate are becoming more scarce and the salary premium for university graduates is gradually diminishing.

The State of Chinese Higher Education

- ◆ It is still a wide-spread practice for universities to hire back their own new Ph. D's. In-breeding is a very common problem at Chinese universities. In some universities, the teachers are already into the fourth generation, leading to cliques and blocking the inflow of fresh ideas.
- ◆ There is a shortage of good teachers, especially supervisors of Ph. D's. However, in many universities, candidates for advanced degrees of Masters and above must publish in Science Citation Index (SCI) journals before they are awarded their degrees. This requirement has been quite successful in increasing the number of scientific publications produced at Chinese universities.

The State of Chinese Higher Education

- ◆ The quality of the faculty has been gradually improving as more and more faculty members are recruited from among Mainland students who have gone overseas (Haigui). However, it is still not uncommon for faculty members to have multiple jobs at multiple universities.
- ◆ The tuition remains low, approximately 5,000 Yuan (less than US\$800) a year; and there are scholarships for students who cannot afford the tuition..

The State of Chinese Higher Education

- ◆ The central government has been increasing their grants (through projects such as 211, 863, 973 and major projects) to the nine leading universities in China (Peking, Tsinghua, Fudan, Shanghai Jiaotong, Nanjing, Zhejiang, Xian Jiaotong, Harbin Industrial University and the Chinese University of Science and Technology). These universities are often also subsidized by the local municipal and provincial governments. However, the total central and local government subsidies together still fall far short of the total expenditures of these universities. And the universities have little endowment to speak of.
- ◆ The central government has been raising its expenditures on R&D, some of which are allocated to the universities.

The State of Chinese Higher Education

- ◆ Most of the undergraduate students are first-generation college goers in their families.
- ◆ For most undergraduate students, this is not only their first university degree, it is also their last university degree.
- ◆ Liberal arts education has at this time limited appeal. The emphasis of most undergraduate students and their parents is on employability after graduation. (Undergraduate students at Peking, Tsinghua, Fudan and the other leading universities may be exceptions.)

Strategies for Achieving National Excellence and Competitiveness

- ◆ Investment in basic as well as higher education
- ◆ Investment in R&D; support for basic as well as applied research; R&D grants and contracts awarded competitively
- ◆ Provision of incentives for funding of R&D by firms whether at the firms themselves or at universities and research institutes
- ◆ Promotion of university/industry/government cooperation and collaboration
- ◆ Role differentiation of tertiary educational institutions reinforced by budget differentiation

Strategies for Achieving National Excellence and Competitiveness

- ◆ Encouragement of institutional competition (for grants and contracts, for awards, honors and prizes)
- ◆ Establishment of a compensation and incentive system (that is in part performance-based), national standards of educational quality, and open and credible mechanisms for assessment, accreditation and quality assurance
- ◆ Broadening the financial base of support for higher education--encouragement of the establishment of private non-profit tertiary educational institutions
- ◆ Encouragement and facilitation of the use of technology in educational institutions
- ◆ Facilitating the adjustment to a globalized world
- ◆ A national program of teaching of culture, ethics and values, which should begin at a very early age

Investment in Education

- ◆ Basic education generates positive social externalities through the network effect—It is like the telephone—the more people with basic education, the higher the individual and social rates of return to basic education.
- ◆ Those who do not receive a good basic education will eventually become a social burden for many years. Someone who is 18 and has not had a secondary school education is likely to have a difficult future but is also likely to live for another 60 years.
- ◆ Investment in human capital enables citizens to take care of themselves.
- ◆ Creation of comparative advantage through human capital as a substitute for the lack of natural endowment of resources

Investment in Education

- ◆ Investment in education/human capital, especially basic education, is a proven effective method for redistribution, much more effective and durable than transfer payments. It narrows the inequality in the income distribution and greatly improves employability in the long term. It thereby reduces long-term social costs, enhances social harmony and strengthens long-term sustainability.
- ◆ Investment in education/human capital is complementary to investment in other forms of intangible capital such as Research and Development (R&D). Investment in education, especially higher education, and investment in R&D enhance the returns of each other.
- ◆ Investment in education/human capital itself and its complement, R&D capital, helps to raise the marginal productivity of tangible capital over time and thereby also enhances long-term sustainability.

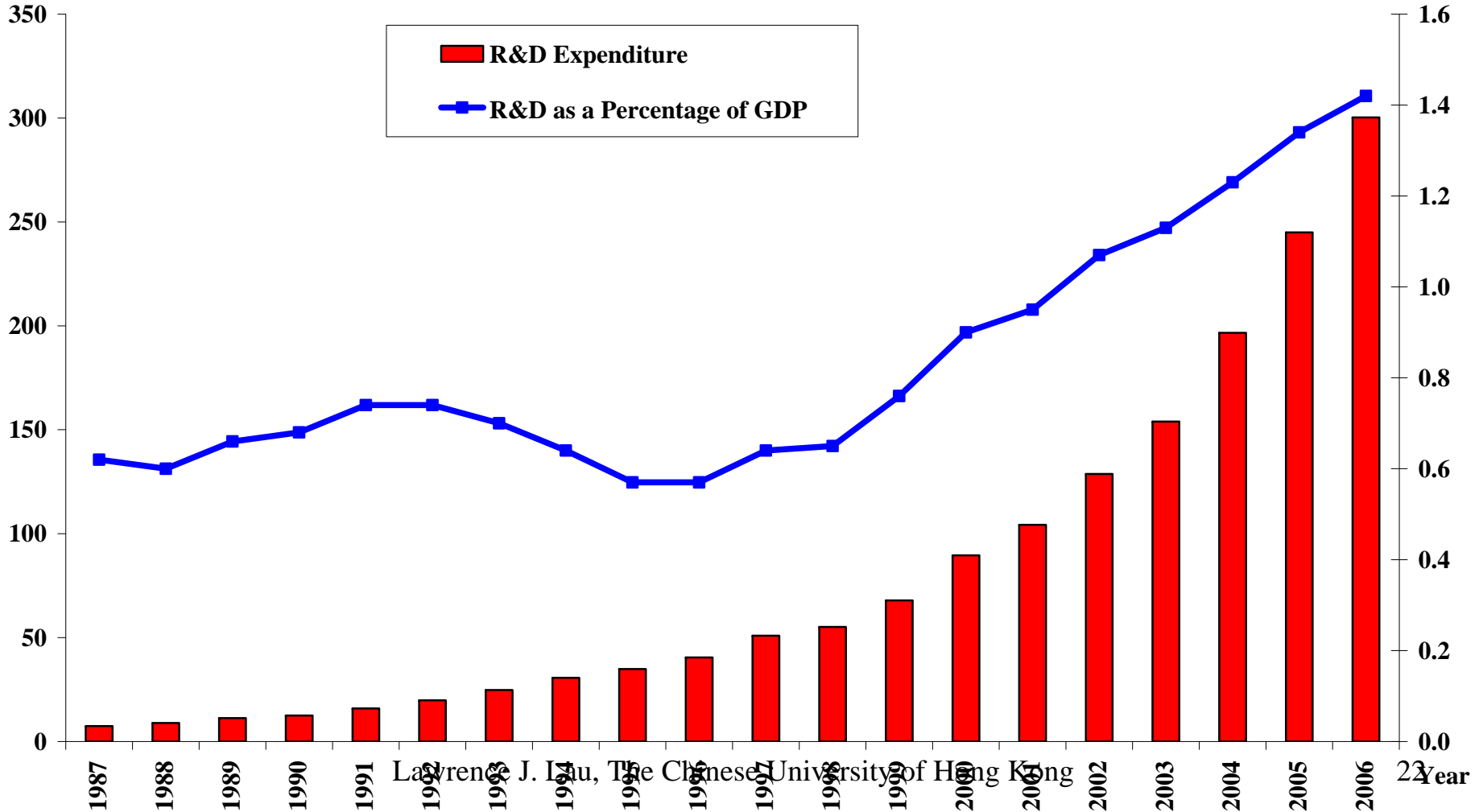
Average Human Capital--Years per Working-Age Person

- ◆ One measure of the average level of human capital is the number of years of formal education per person in the working age population, defined as all those between the age of 16 and 64 inclusive.
- ◆ China lags behind significantly not only the developed economies but also the other developing economies in East Asia.

Investment in R&D: R&D Expenditures in China

China's R&D Expenditure and Its Share of GDP

Billion yuan



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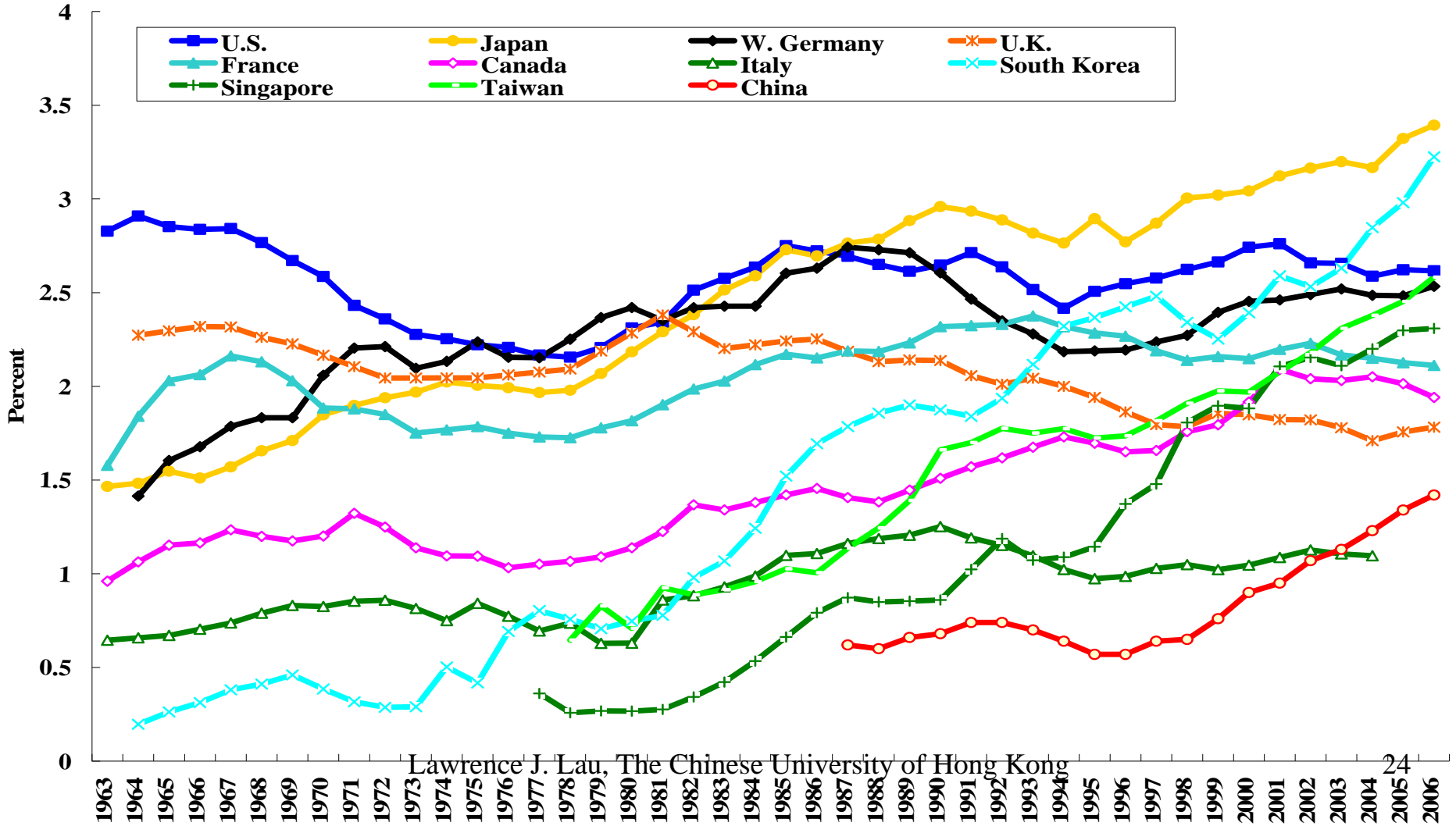
23

R&D Expenditures as a Ratio of GDP: G-7 Countries, 3 East Asian NIES & China

- ◆ R&D expenditure as a ratio of GDP has been rising in the People's Republic of China but still lags behind Japan and other developed economies as well the newly industrialized economies of South Korea, Singapore and Taiwan.
- ◆ It will take a couple of decades for the R&D capital of PRC to build up.

R&D Expenditures as a Ratio of GDP: G-7 Countries, 3 East Asian NIES & China

Figure 8.1: R&D Expenditures as a Percentage of GDP: G-7 Countries, 3 East Asian NIES and China



The Protection of Intellectual Property Rights

- ◆ The protection of intellectual property rights is absolutely essential to the promotion of innovation.
- ◆ Students must be trained to respect intellectual property. Cheating and plagiarism should be strongly discouraged.
- ◆ The increased use of site licenses for software by the central and provincial/municipal/regional governments and universities should help reduce economic friction between PRC and the developed economies and over time can also induce a change in the permissive culture towards pirated software.

Role Differentiation of Tertiary Educational Institutions

- ◆ Role differentiation of the tertiary educational institutions (e.g., research and non-research oriented) is essential for achieving excellence. Different universities should specialize in their individual niches. Role differentiation, supported by budget differentiation, allows resources to be concentrated and focused and efficiently deployed without duplication and waste.
- ◆ The public higher education system of the State of California as an example of successful role differentiation. There is the University of California system of comprehensive research universities, with campuses at Berkeley, Los Angeles, San Diego, Santa Barbara, etc. There is the California State University System, with campuses in San Francisco, San Jose, Los Angeles, etc., with the principal focus on undergraduate degree programs and only limited research support. Finally, there is the City and Community College System, supported locally, offering Associate and sometimes full Bachelor degrees, but requiring almost no research on the part of their teachers.

Role Differentiation of Tertiary Educational Institutions

- ◆ Role Differentiation--not every university or college should aspire to become a comprehensive research university of world class excellence. Students with different abilities, aspirations and interests, need different tertiary educational institutions to meet their needs.
- ◆ Nor should all universities and colleges be provided the same degree of public subsidies (per student for the same discipline). Not even all publicly supported institutions need necessarily be supported on an equal (per student) basis.
- ◆ Tertiary educational institutions that do primarily teaching can have a much lower cost structure than comprehensive research universities.

Role Differentiation of Tertiary Educational Institutions

- ◆ Some tertiary educational institutions can also specialize in providing education and training to students of the specific knowledge and skills that are needed for employment in certain specific industries, through the collaboration between universities and industries in the design of curricula, the provision of internship opportunities, and in early recruitment of graduates, especially for the professional schools.
- ◆ This approach matches the content of education and training to actual market demand of the employers and is win-win-win all the way around. The universities can place their graduates much more easily; the graduates can more easily and readily find suitable employment; and industries will be more ready and willing to employ new graduates with no prior employment experience.

Meeting the Demand for Teachers

- ◆ The training of a sufficient number of qualified teachers to support the nationwide expansion of basic education is a matter of urgency.
- ◆ Establishment of an “educational service corps” of volunteers drawn from the graduates of major universities. Each will spend three years teaching in schools in the rural areas after graduation. In return, the government will provide scholarships to enable these volunteers to pursue programs of advanced study abroad, or alternatively, students who attend the university on student loans can have their loans forgiven after three years of serving in the “educational service corps”.

Incentive Systems

- ◆ Regular salaries for faculty members at universities should be raised so that they can afford to devote their full time at one and only one tertiary educational institution. Currently many faculty members lecture at several universities because that is the only way they can make ends meet.
- ◆ By raising salaries simultaneously at most universities, faculty members can then devote their full-time commitment and loyalty to a single university. The social resources expended are actually constant—each faculty member is now paid by only one institution, but since each institution now pays much fewer faculty members, the overall budget can remain the same.

Incentive Systems

- ◆ Salaries can also be made more performance- and merit-based rather than seniority-based.
- ◆ Reform of the system of retirement of faculty members and teachers--60 is far too early an age to retire given all the investment in human capital in a faculty member in a tertiary educational institution. The options include recalling the retired to active duty; or a second or third career at a different university as is frequently done in Japan.

Will the Tenure System Survive?

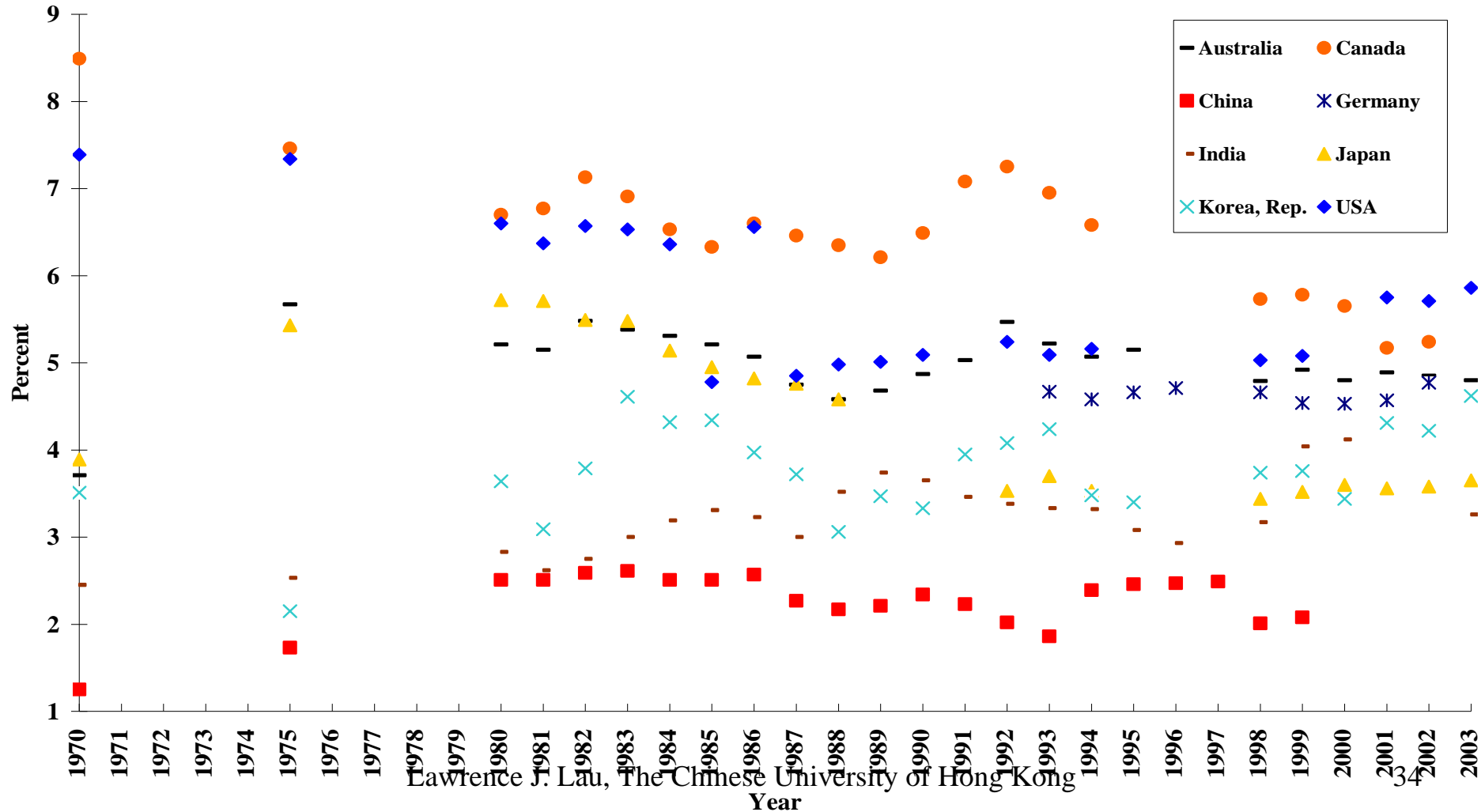
- ◆ Increasingly rapid technological obsolescence and rising life expectancy will eventually make lifetime tenure untenable in most fields at universities. In the United States there is no mandatory retirement in the higher education sector any more.
- ◆ With the disappearance of lifetime tenure, the reward for good performance will have to be current rather than deferred. The salary-age profile will be more closely parallel to the productivity-age profile. For example, the salary of a professor of mathematics will be at a peak somewhere between the ages of 25 and 30; the salary of a professor of history will be at a peak somewhere between the ages of 65 and 70. Today, most faculty members are paid based on past achievements/productivity rather than current achievements/productivity.
- ◆ Without the institution of tenure, academic freedom will need to be protected in different ways—a culture of tolerance, global mobility, etc.

Public Finance of Higher Education

- ◆ There are wide disparities across countries in terms of public expenditure on education as a percent of GDP, reflecting partly the ability and willingness of the government to pay, and partly the relative costs of provision of education. Both China and India are towards the low end of the scale and the United States and Canada are towards the high end.
- ◆ Similarly, large disparities exist among the shares of tertiary education in public expenditure on education. Here, China, Japan and the Republic of Korea have the lowest shares of tertiary education in their total public expenditures for education.

Public Expenditure on Education as a Percent of GDP, Selected Countries

Public Expenditure on Education as a Percent of GDP



Public Finance of Higher Education

- ◆ The changes in demographics also drive changes in public expenditures on social welfare services.
- ◆ There is increased competition within the government budgets among education, health care, pension (retirement), and other social welfare expenditures.
- ◆ There is also competition within the government budget for education among primary, secondary and tertiary education. For many developing economies, compulsory secondary education for all is an important policy goal and a proven effective redistributive instrument.
- ◆ As a population in a country ages, there is a shrinking constituency for public expenditures on education.

Private Funding of Higher Education

- ◆ Public funding for research and development (R&D) in the developed economies, already quite high, is probably unlikely to be increased significantly, except possibly in the medical and health care fields. R&D funding from the private sector, while desirable, is unfortunately unlikely to be of much help to leading universities the primary interests of which lie in basic research. Public funding for R&D in developing economies remain relatively low but has been rising. For example, China intends to raise R&D expenditure to 3 percent of its GDP by 2020.
- ◆ Universities will need to rely increasingly on private donations and endowment income. The networks of alumni will need to be mobilized.
- ◆ Universities will also need to use their resources more efficiently, through cost reduction. This is an area where use of technology can help.

Encouraging the Establishment of Private Non-Profit Universities

- ◆ The demand for higher education in China can only increase in the future. In 2008, 11 million secondary school graduates took the nationwide university entrance examination and more than half of them were placed in some tertiary educational institution.
- ◆ If the experience of the other East Asian countries/regions is any guide (Japan, Taiwan, South Korea) public tertiary institutions cannot meet all the demand. Non-governmental, non-profit organizations should be allowed, in fact encouraged, to establish institutions of higher learning. In South Korea, most of the tertiary educational institutions are private, e.g., Yonsei University and Korea University, the second and third best university in South Korea, after Seoul National University are private. In Japan, Keio, Waseda and Sophia are all excellent private universities.

Who Should Pay?

- ◆ An important question is how much of the cost of a university education should be paid by the student himself or herself, and how much by the public (different levels of governments and non-profit organizations).
- ◆ Related is the question: How are the benefits of a university education distributed between the individual graduate and the society at large? To the extent the benefits mostly accrue to the individual graduate, then the individual graduate should have the incentive to bear most of the costs either currently, or by taking out a student loan.
- ◆ In the U.S., the leading private universities have all adopted a high tuition policy, coupled with scholarships and loan funds and merit-based, need-blind admission. It is important to assure equal and equitable access at all levels of the educational system.
- ◆ It is a matter, on the margin, of whether available government resources should go into basic education or tertiary education.

The Use of Technology: The Delivery of Education

- ◆ Technological change can affect the system for the delivery of education, and in particular, undergraduate education. With the widespread use of the computer and the internet, and the increasing prevalence of broadband, wired or wireless, new and better methods for the creation, dissemination, delivery and storage of knowledge, as well as collaboration, exchange and sharing are possible. This opens up tremendous opportunities in higher education.
- ◆ Electronic books that can be updated continuously; books can carry with them their own dictionaries, available in all pairs of languages, thus greatly facilitating learning.

The Use of Technology: The Delivery of Education

- ◆ The use of interactive video-conferencing and web-video techniques, not to mention DVDs, can revolutionize the way lecture courses are given. A “star” system is likely to emerge—each large lecture course, for example, Economics 1 or Physics 1, will be dominated by a few great teachers of worldwide reputation—with the lectures being available through the internet, cable television, DVDs or simply down-loading from the web. For example, Introductory Physics by Richard Feynman and Introductory Economics by Milton Friedman, and Monetary Economics by Alan Greenspan. This is similar to the phenomenon of the “electronic church in the U.S.”

The Use of Technology: The Delivery of Education

- ◆ The Massachusetts Institute of Technology has already made available all of its course material on the Internet. Other universities are following suit.
- ◆ What this means is that eventually most undergraduate students will have access to lectures given by the highest-caliber teachers no matter where they are enrolled. Leading universities must differentiate their products from the more ordinary ones in order to compete effectively.
- ◆ What distinguishes two universities will no longer be the lectures, but the quality of the small classes and seminars that provide close contact and interaction between the faculty members and the students.

The Use of Technology: The Delivery of Education

- ◆ Since every student, no matter where he or she is enrolled, will have access to the same lectures, leading universities must differentiate their products from the more ordinary ones in order to compete effectively.
- ◆ What can they offer?

The Use of Technology: The Delivery of Education

- ◆ It is back to the system of colleges as practiced by the Universities of Cambridge and Oxford, which emphasizes small classes and seminars, tutorials, the “apprenticeship” system of research training, and generally close personal contact between the faculty and students. This is going to be the way through which leading universities can add value.
- ◆ Research achievements of a university will be the key to attracting faculty, students and external support.
- ◆ The demand for residential education at the leading universities will rise as the importance of personal interactions in learning increases.
- ◆ The networking and socialization functions of universities will gain relative importance.

The Use of Technology: The Delivery of Education

- ◆ With the use of the technologies of interactive video-conferencing and the internet, the potentials for tele-teaching and distance learning are greatly enhanced, and many more undergraduate students can be trained at relatively low marginal costs. For example, the University of Phoenix in the United States, now has an enrolment of 250,000 students, scattered all over the United States.
- ◆ Home-schooling is now a real possibility.
- ◆ Global collaboration and cooperation in the training of Ph. D.'s is possible—it is now possible to transcend the differences in space and time. Seminars and oral examinations can be conducted via video-conference.

The Use of Technology: The Delivery of Education

- ◆ Huge opportunities exist for innovative applications of information and communication technologies in higher education, and especially in developing economies, where there are many possibilities for leap-frogging (for example, there is no need to establish physical libraries; experimentation of new modes of teaching and learning).
- ◆ The internet can be a great equalizer—faculty and students everywhere can potentially have equal access to the same information that hitherto is only available to those at the leading centers of learning.

The Use of Technology:

The Required Aptitudes and Skills

- ◆ Technological change also affects the aptitudes and skills required of students for certain specializations.
- ◆ For example, it used to be that one had to be a good draftsman before one could become an architect. With the software available for three-dimensional renderings, drafting skills are no longer as important, whereas original, creative designs can be readily accommodated.
- ◆ The teaching of design can make use of multimedia capabilities.
- ◆ The teaching of languages can be revolutionized as grammar and spelling become less critical with the availability of grammar and spelling checks.
- ◆ There can be templates for the teaching of poetry writing, e.g., Elizabethan sonnets and Tang poems and Song “ci”.

The Use of Technology:

The Required Aptitudes and Skills

- ◆ The relative values of different aptitudes and skills will also undergo significant changes.
- ◆ The ability to do calculations becomes less important than the ability to reason logically.
- ◆ The ability to memorize becomes less important with the possibility of better and better search engines on the internet; the ability to organize and synthesize and induce, and the ability to recognize patterns become much more important.
- ◆ Calligraphic skills also become much less important.
- ◆ Analytical ability and research aptitude will be greatly sought. The Senior Thesis will return as a vehicle for training in the process of research.
- ◆ Original ideas and creativity have become much more important than skills!

The Use of Technology: The Customization of Education

- ◆ It is every teacher's dream to be able to cater to each individual student as an individual—to teach in accordance with the specific ability and needs of the student.
- ◆ In practice, customization is difficult to achieve because of the high student to teacher ratio in each class. Few universities can afford to individualize undergraduate education. The Universities of Cambridge and Oxford may be the only exceptions with their supervision and tutorials.
- ◆ However, it is possible to provide for some customization with the use of technology. For example, exercises and problem sets and even examinations can be individualized, based on the student's revealed ability and past performance. This can be done for courses in languages, mathematics, and in other subjects. For example, a student who is not good at division can be assigned more problems of division.

The Use of Technology: The Customization of Education

- ◆ Technology can also be used for administering different examinations of the same degree of difficulty to different students, whether in the same location or in different locations, thus reducing the opportunities for cheating or collusion. Such examinations can also be held at different times. Of course, technology can also be used to identify plagiarism and collusion.
- ◆ The more mundane tasks, such as grading and recording, can be taken over by technology, leaving more time for the teachers to do more imaginative things.

The Use of Technology: Creation, Dissemination and Storage

- ◆ With the availability of vast amounts of information on the internet, accessible in an instant, the traditional methods of dissemination, storage and retrieval of information will be completely transformed. Physical libraries are only useful for rare, original documents. Information and knowledge (including databases and publications) can be shared globally with almost zero marginal costs. Electronic books are becoming more common.
- ◆ The computer can be harnessed to prove theorems, as it has already done so, and to perform other tasks of artificial intelligence.
- ◆ Robots can potentially be used as research assistants.
- ◆ Collaborative research, whether intra-university or inter-university, is greatly facilitated.

The Use of Technology:

Exploitation of Virtual Reality

- ◆ A teacher can take students on virtual field trips. For example, the student can visit the Louvre, the Smithsonian, the City of Beijing, the Great Wall, the Caves at Dunhuang, without the costs of traveling, in the comfort of the classroom or home, and guided by an experienced teacher.
- ◆ Experiments can also be done virtually as well as actually.
- ◆ Medical students can study anatomy and practice surgery with the help of virtual reality.
- ◆ Architecture and engineering students can design and build structures virtually and test them out, without the costs of constructing a real scaled model.
- ◆ Many games can be simulated.

The Impact of Technological Change

- ◆ The fast pace of technological obsolescence, the intense global competition and rising footlooseness of industries imply that no employer can credibly offer lifetime employment (except possibly the government). In fact, even an industry cannot be assured of its continued existence over time. An average person can reasonably expect to change not only employers but also industries at least a couple of times during his or her life.
- ◆ Universities must therefore teach general rather than specific skills; they must teach students the art of learning and self-learning rather than the knowledge itself, which in any case will become obsolete in a matter of years.

Adjusting to a Globalized World: Internationalization

- ◆ Encouragement of internationalization—recruitment of faculty and students, overseas experience, exchange of faculty and students, research collaboration (the principle of comparative advantage)
- ◆ Overseas exchange experience for undergraduate students has become a must—Harvard University requires all of its undergraduates to spend one year at an educational institution abroad. At the Chinese University of Hong Kong, our goal is to assure that every student who wishes to spend a semester or a year at another institution of tertiary education outside of Hong Kong will be able to do so.
- ◆ Promotion of bilingualism or multilingualism
- ◆ Promotion of cultural and ethnic diversity on campus

Adjusting to a Globalized World

- ◆ Globalization implies global competition and the increased impermanence of industries and firms in a given locality or country.
- ◆ Globalization also implies global consolidation of industries-- expertise and know-how are more industry-specific than geography-specific, especially in manufacturing. For example, shoe manufacturers in Taiwan would rather move to mainland China than to shift to manufacturing computers in Taiwan; Cemex invests in cement plants around the world; Mittal invests in steel mills around the world; and named hotel chains now operate globally. (However, in some service sectors, e.g., the professions, there can be unique local knowledge requirements (e.g., law) or licensing requirements (e.g., law and medicine).)
- ◆ Globalization also implies global employment opportunities and increased labor mobility.
- ◆ Leading universities now compete globally for faculty, students, and resources (through salaries, fringe benefits, scholarships, opportunities).

Adjusting to a Globalized World: The Use of English

- ◆ The Chinese University of Hong Kong is strongly committed to bilingualism—our mission is “to combine tradition with modernity; to bring together China and the West.”
- ◆ The use of English around the world as the language of business and the language of science and technology is increasingly widespread. The use of language is subject to what is called the network externality—the larger the number of people who can use the language, the more useful it is for others to learn the language. Thus, the more popular a language is, the even more popular it will become.
- ◆ If one were to learn a second language, it is most natural to learn a second language that is spoken by the largest number of people.

Adjusting to a Globalized World: The Use of English

- ◆ There is also a lock-in effect that is not easily overcome. Once people have learned English as their first or second language, they are unlikely to want to learn a third. It is thus very difficult for another language to replace English. English will remain the most popular language even though it may not be the easiest to learn. Other examples of such lock-in effects include the qwerty keyboard versus the dvorak keyboard for the typewriter; and Windows versus Linux for the personal computer operating system.
- ◆ However, changes in the use of language do occur from time to time. For example, German used to be the language of science and engineering in the early 20th Century, and Russian used to be a popular second language in Eastern Europe before 1990.

Teaching of Culture, Ethics and Values

- ◆ A national program of teaching of culture, ethics and values, which should start at a very early age
- ◆ Nurturing of citizenship and character building should be part of the socialization process at the university
- ◆ Teaching of societal fundamentals and global responsibilities

Strategies for Institutional Excellence and Competitiveness

- ◆ The financing of education and research
 - ◆ Excellence in research is critical for the establishment of the reputation of a university, and this depends in part on the availability of adequate public as well as private support
- ◆ The complementarity between research and teaching, and in particular between success in research and graduate, especially Ph. D., training
- ◆ The system of recruitment, assessment, tenure, promotion and retirement
- ◆ Enhancing the faculty/student ratio
 - ◆ Privately endowed professorships
- ◆ University/Industry/Government collaboration
 - ◆ Patenting, technology licensing, and incubators

Strategies for Institutional Excellence and Competitiveness

- ◆ Excellence enhances competitiveness
- ◆ Quality competition—brand building—what is unique about a University?
 - ◆ Research excellence
 - ◆ Bilingualism and biculturalism
 - ◆ Faculty/student ratio
 - ◆ Residential university
 - ◆ College system
 - ◆ Exchange programs
 - ◆ Internship programs
 - ◆ Placement programs
 - ◆ Financial aid (need-blind admission)
- ◆ Cost competition—taking advantage of the information and communication technology revolution to lower the cost of delivery of education

The Goals and Expectations of the University

- ◆ What is the minimum that a University graduate should know, in this 21st Century, besides his or her own major specialization?
- ◆ What are the qualities (素质) that a University graduate must possess?
- ◆ The education of the whole person (全人)—not just knowledge and skills—but a well-rounded person
- ◆ The development of an individual to his or her fullest potential
- ◆ The preparation of an individual for life and work in a globalized world

The Goals and Expectations of the University

- ◆ Language ability—expressiveness and communication skills (bilingual or multi-lingual)
- ◆ Breadth of knowledge, interest, horizon and perspective
- ◆ Socialization—accepting and co-existing and working with people that are different and that one does not necessarily like
- ◆ Professionalism—doing and completing tasks that one does not like to do
- ◆ Leadership capability
- ◆ Ethics, morals and values and aesthetics— compassion, honesty, integrity, loyalty, perseverance, and responsibility
- ◆ Critical and independent thinking
- ◆ Physical education

Learning How to Learn on One's Own

- ◆ The rapid pace of change of technology, broadly defined to include not only scientific and engineering knowledge but also business models and methods, implies rapid depreciation and obsolescence of what is taught and learned at the universities.
- ◆ Global competition and technical progress imply both increasing footlooseness of industries and firms and the lack of certainty on their long-term prosperity and survival. No employer in a competitive market can credibly offer lifetime employment. Only a government can, and even then perhaps not forever. In fact, even an entire industry cannot be assured of its continued existence over time.
- ◆ There must be continual learning and renewal of knowledge on the part of individuals in order to remain employable. Thus one important goal for undergraduates is to learn how to learn effectively on one's own.

Teaching General Rather Than Specific Knowledge and Skills

- ◆ Today, no individual can expect that he or she will work for only one firm or in only one country or even in only one industry in his or her lifetime. A typical person can reasonably expect to change not only employers but also industries at least a couple of times. Many household names—Pan Am, NCR, RCA, are gone.
- ◆ For employees, general and flexible skills that are not firm- or industry-specific, and the capacity to learn and adapt are therefore especially valuable.
- ◆ Universities must therefore teach more general rather than specific skills; they must place more emphasis on teaching students the art of learning and self-learning rather than the knowledge itself, which in any case will become obsolete in a matter of years.
- ◆ As information has become explosively available through the internet, students must also be taught and trained to discriminate—to learn not to believe everything he or she reads or hears.

Continuing Education

- ◆ Knowledge creation has greatly accelerated. So has knowledge obsolescence.
- ◆ There is no assurance that a university graduate today will stay with the same enterprise, or even the same industry, for the rest of his or her working life.
- ◆ Students must therefore also try to acquire human capital that is general and flexible rather than specific.
- ◆ Students must therefore learn how to self-teach and learn effectively on one's own in addition to acquiring any specific knowledge while at a university.
- ◆ Lifelong learning and re-training are the rule rather than the exception.
- ◆ Continuing education will no longer be a luxury but a necessity.

Concluding Remarks

- ◆ Higher education and universities in the Greater China region face great challenges.
- ◆ However, Mainland Chinese, Hong Kong, and Taiwan universities face different challenges.
- ◆ The Chinese University of Hong Kong aspires to be not just a university of Hong Kong but a leading international university serving the entire Greater China region and East Asia.
- ◆ That means we must achieve world-class excellence in selected fields, we must internationalize, and we must try to attract the best faculty and students in these fields.
- ◆ We have chosen to focus on Chinese Studies, Bio-Medical Sciences, Information Sciences, Economics and Finance and Geo-Information Sciences.

The Natural Advantages of Hong Kong

- ◆ Hong Kong is an ideal place to capitalize on the World's interest in the China and other East Asian countries and regions in general. It is an excellent place to learn about the China.
- ◆ In addition, it has the following advantages:
 - ◆ A non-Chinese speaker can live, study and work in Hong Kong using only English without any problem.
 - ◆ There is complete academic freedom in the educational institutions in Hong Kong.
 - ◆ There is also complete freedom of access to information—the internet is entirely open and the press is among the freest in the world.
 - ◆ There is also easy access to China and to other parts of East Asia.